

# Mitel 5000 gateways XD–XL–XS–500 and MiVoice 5000 Server

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AMT/PTD/PBX/0080/14/4/EN

OPERATING MANUAL



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# 1 ABOUT THIS DOCUMENT

## 1.1 PURPOSE OF THIS DOCUMENT

This document describes the MiVoice 5000 Web Admin user interface known as "iPBX Management", as of software release R5000.1.

## 1.2 TARGET AUDIENCE OF THIS DOCUMENT

This document is intended for installation technicians responsible for configuring the system and implementing the telephony features introduced in this software release.

## 1.3 SCOPE OF THIS DOCUMENT

This document is applicable to MiVoice 5000 series Mitel PBXs: XS, XL, XD, Mitel 500/A50 and to MiVoice 5000 Server as of software release R5000.1.

## 1.4 DOCUMENT CONTENTS

This manual describes all the tools available to the administrator for configuring iPBXs from a management terminal.

All the user interface screens described in this manual are used to deploy and manage iPBXs.

This manual is composed of chapters, organised according to the tree structure of the user interface as presented on the management console screen.

## 1.5 TERMINOLOGY

### 1.5.1 TERMS AND EXPRESSIONS

<b>Mitel 5000 Gateways</b>	This term refers to all XS, XL and XD PBXs.
<b>Mitel 500/A50</b>	This term refers to all NeXspan 500 and M6550 systems upgraded with the new USV cards as of R5.3 SP1.
<b>MiVoice 5000 Server</b>	Telephone switching system hosted on a PC running with Linux Redhat
<b>XS, XL, XD</b>	MiVoice 5000 series physical gateways
<b>XS</b>	This term includes XS, XS12 and XS6 systems
<b>MiVoice 5000 Manager :</b>	Systems management centre

## 1.5.2 ABBREVIATIONS

<b>DHCP</b>	Dynamic Host Configuration Protocol.
<b>IP</b>	Internet Protocol. This is a protocol used to route packets on networks. IP is an OSI-model level 3 protocol which offers a single addressing service for all connected terminals.
<b>GDB</b>	<b>GNU DeBugger</b>
<b>PPP</b>	Point-to-Point Protocol.
<b>MMC</b>	Man Machine Command (in this document: MiVoice 5000 Web Admin)
<b>SSO</b>	Single Sign On: function which enables a user to open one TWP and MiCollab Client session with the login/password defined for Windows.
<b>TDM</b>	Time Division Multiplexing. Multiplexing through time division. Time is divided into intervals each of which is assigned to a communication channel. This is the principle of signal transport in digital telephony.

## 1.6 REFERENCE DOCUMENTS

Refer to the technical documentation provided on the Mitel.com site.

## 1.7 REMINDER CONCERNING THE LAW ON INFORMATION TECHNOLOGY

***It is the responsibility of the PBX user to check that it is used in accordance with the applicable laws, standards and directives.***

***Therefore, the user is reminded that the use of PBXs in the workplace must comply with the specifications, standards and recommendations of the IT law in force.***

***The user's attention is also drawn to any clauses applicable in laws relating to the confidentiality of calls transmitted by means of electronic communications, which he must comply with.***

## 2 ACCESSING THE SYSTEM USER INTERFACE

This first part describes the items necessary for hitch-free working of MiVoice 5000 Web Admin.

The second part is devoted to the characteristics of the user interface and, in particular, the different work screen areas.

The third part describes the role of the buttons used on the screens to facilitate parameter input in the corresponding fields, validation, repetition of tasks and, of course, navigation between the different user interface screens.

### 2.1 SOFTWARE ENVIRONMENT

Regarding compatibility with operating systems and browsers, see the Document “MiVoice 5000 Product - Version Compatibility” available with software version on this document.

## 2.2 USER INTERFACE

Before describing the characteristics of the user interface, it is necessary to explain how to access MiVoice 5000 Web Admin.

### 2.2.1 ACCESSING MITEL MANAGEMENT PORTAL

Access to the MiVoice 5000 Web Admin user interface is only via a web browser (see the section “Supported browsers”).

The web browser is available for accessing the user interface of an XS, XL, XD type MiVoice 5000 series PBX and MiVoice 5000 Server.

Definition: a web browser is a software application specially designed to access the world-wide web, that is the internet. From a technical point of view, this is an http client in a client / server architecture.

The HTML / HTTPS interface is secure.

Before accessing Web Admin, you must first validate the certificate provided by Mitel. This procedure is described in the appendix to the *Installation and Maintenance Manual* [1].

### 2.2.2 ADVANTAGES

The web interface allows access to all the MiVoice 5000 Web Admin screens, to configure the MiVoice 5000 series PBXs.

This interface offers the navigation possibilities offered by all web sites: last page, next page, defining bookmarks, printing out screens, etc.

Moreover, the web interface of MiVoice 5000 Web Admin offers the following advantages:

- Repetition function with condition
- Export function for the current element
- Export function for all the MMC components
- Search by keyword
- Session marking
- Access to marked pages
- Presentation in tabs
- Integrating display MMCs visible on several pages
- Access to screens by menu number
- Wait messages

*These functions are handled in detail in the part "Pop-up window and command buttons", in this chapter.*

## 2.2.3 CHANGES IN THE DISPLAY OF LABELS IN WEB ADMIN MENUS AS OF RELEASE R5.3

As of release R5.3, the fixed labels (menu, lists, etc.) are displayed with small letters and accents making the abbreviations more understandable.

For the free entry fields, there are no changes compared to previous releases. Accented characters are not taken into account.

## 2.2.4 HOMEPAGE

### 2.2.4.1 *Accessing the web page*

First enter the system IP address in the navigation bar: example <https://122.122.32.32>

The HTTPS access port is set to 443, for optimum connection.



**CAUTION:** After a pre-configuration without IP address setting, access through the web interface is allowed by the system, and port 433 is configured correctly and associated with the system canonical IP address (192.168.65.1).

### 2.2.4.2 *Opening a session*

The login window opens once the system IP address is entered:



**Login window**

This window allows you to enter a username and password which protect access to the screens and system management functions.

The operator is identified when the session is opened. The operator is also automatically prompted to log in after a specific period of inactivity (10 minutes by default).

If the operator enters an incorrect password, the entry field is reset. The operator must then enter the password again. If the operator wishes to identify himself again while the session is open (change of profile, for instance), he must open a new session.



**Note:** the default login parameters are admin:admin

## Password policy, and changing the password immediately

### At first login:

The default password is the one issued by the administrator. This password must be changed and customised immediately by the user if the administrator has enabled a password policy. Refer to Section **Erreur ! Source du renvoi introuvable.**

### Later:

The user can also change the password from the welcome page, in the menu by the left: **Password modification** (if the policy is enabled).

If the password expires, a message appears indicating that it must be changed (if the policy is enabled).

However, if the user forgets this password, he/she must contact the administrator.

After login, the Web Admin welcome screen is displayed.

## Changing the password

If a policy has been defined (see Paragraph 4.4.3), the login window opens differently as follows:

**Your password has expired**

Login

Old password

New password

New password

Enter a new password with at least 8 characters including 1 latin letter(s) in upper-case, 1 latin letter(s) in lower-case, 1 digit(s) and 0 specific character(s)

List of special characters: "()+-\*/@%#<>.,:

Depending on the user's profile, this window then prompts him to modify his password according to the rules of syntax described in Paragraph 4.4.3.

This window comprises four fields, including three input fields.

- The first, non modifiable, field contains the login used by the operator to log on.
- The second one is for entering the old password: the expired password or the password the operator wishes to change.
- The last two fields are for entering the new password. The same input must be made in both fields.

To be valid and thus activate the menu validation button, the old password field must be filled in; the new password entered in the two fields must be identical and respect, in terms of length and type of characters, the policy (specified in the last paragraph of the screen) defined in Menu **SYSTEM>Security>UsWeb admin policy** – See.4.4.3.

The new password must be different from the old password.

If the screen is opened for a change of password, a Cancel button is available to return to the Web Admin welcome screen without modifying the password.

If the password has expired, the **Cancel** button is not available as the operator does not have any other choice than to enter and confirm a new password.

### 2.2.4.3 Welcome screen

Once the username and password are recognised by the system, the MiVoice 5000 Web Admin main window opens:



Welcome screen



**Note:** If a password modification link is displayed on the left side in the menu bar, see Paragraph 2.2.7

If a red "warning" is display on the left side in the menu bar, see Paragraph 2.2.5.



The main functions of MiVoice 5000 Web Admin available are:

TELEPHONY SERVICE: system management

DIRECTORY SERVICE: access to directory

DHCP SERVICE

TERMINALS SERVICE

For the DHCP SERVICE, this feature is provided to manage the parameters of the following equipment:

Mitel terminals MiVoice 5300 IP Phone

Mitel SIP terminals Mitel 6700 SIP Phone

IP terminals i7xx

(WiFi) terminals 312i

MiVoice Conference terminals

TA7102i and TA7104i

IP DECT base stations

See document [4] in section 1.6.

For the TERMINALS SERVICE, this menu gives access to the TMA application integrated into the iPBX.

### Case of Mitel 5000 Gateways

The terminal service is enabled by default during a first installation in R5.2. If this latter is enabled in the previous release R5.1C, it will remain active after an upgrade to R5.2.

### Case of MiVoice 5000 Server

The terminal service is disabled by default during a first installation in R5.2. If this latter is enabled in the previous release R5.1C, it will remain active after an upgrade to R5.2.

To enable the terminal service, in Telephony service select the menu **SYSTEM>Setting>Services** and on the line **Terminals service** click **START** in the list area.

Concerning the integrated TMA and its operation, refer to document [4].

The TMA integrated into Mitel 5000 Gateways and MiVoice 5000 Server systems allows the deployment and management of the following terminals:

Proprietary IP terminals MiVoice 5300 IP Phone

SIP terminals Mitel 6700 SIP Phone

Digital terminals 53xx.



**Note:** After ten minutes of inactivity, the on-going session is automatically closed. More precisely, the http client is disconnected from the system. This timeout (600 seconds maximum) can be defined using the function **System>setting>Operating terminals>Characteristics** (see the chapter “System management”). This timeout concerns Telephony service only.

### Refreshing display

When sessions are opened, it may be necessary to delete cookies and temporary files from the browser in order to obtain a correct display in the web browser.

## 2.2.5 MITEL'S LEGAL WARNING CONCERNING WEB ADMIN ACCESS

To alert site users to the risks of piracy and to the security constraints, a warning message to the different users is displayed on Web Admin.

This message is displayed when you first log on to Web Admin or remains accessible later in form of a link if it has not yet been validated.

The full operating mode is described in the appendix to the document MITEL 5000 RANGE - Installation and Maintenance Manual - AMT/PTD/PBX/0151.

## 2.2.6 WARNING CONCERNING EXPIRY OF SOFTWARE ASSURANCE

Updating in a minor, major or Delta batch software version, if submitted to a software subscription, is associated with a period of validity (Software Assurance or SWAS).



### Note : Security patches are not affected

A banner concerning the expiry of software assurance (Warning type) can be displayed above the menus in the following cases:

- **Software insurance expires in XY days:** The number of days remaining before SWAS expires, this information appears as soon as SWAS remains less than 30 days in the PBX.
- **Software assurance expired:** When the SWAS has expired.

A message will also be displayed in case of expiration in the menus of Upgrade. Refer to paragraphs 4.5.4.

The software assurance expiration date (SWAS) is indicated in the menu **SYSTEM> Info> Licenses**.

## 2.2.7 PASSWORDS

Different user profiles have been defined in advance to take into account the needs of each person handling the user interface. These profiles are mainly based on the user's tasks: installation technician, operator, maintenance technician.

The System functions (**SYSTEM>Setting>Users**) may be used to modify existing profiles or to create new profiles. See section 4.3.3.

Profile name	Telephony	Directo.	DHCP	Terminals
INSTALLATEUR	INSTALLER	YES	YES	YES
EXPLOITANT	OPERATOR	YES	NO	YES
MAINTENANCE	MAINTENANCE	NO	NO	NO
TAXATION	CHARGING	NO	NO	NO
ANNUAIRE	FORBIDDEN	YES	NO	NO

### Predefined user profiles

Depending on the password entered, the user may have restricted access, compared to the description given in this document (some menus will not be accessible).

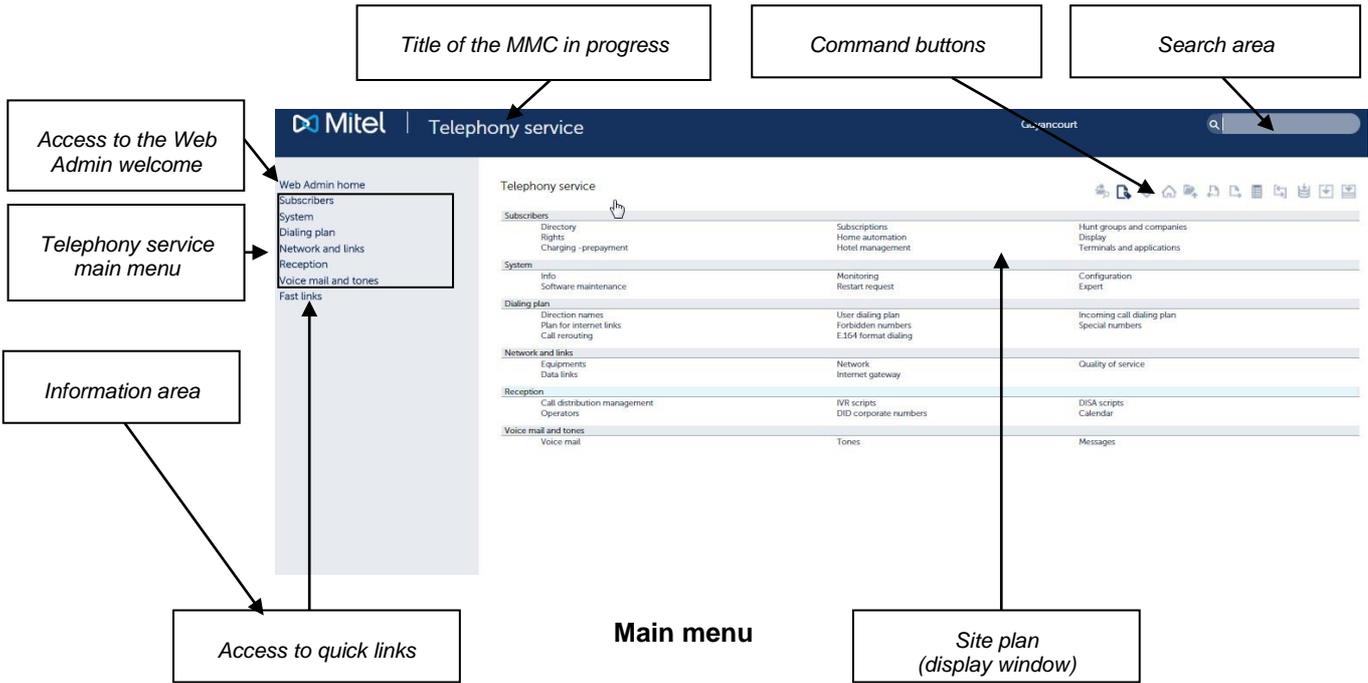
### Applying a security policy on passwords

In this case, the user will have to change his password after it expires.

## 2.2.8 MAIN MENU

Selecting **TELEPHONY SERVICE** displays the main menu.

The figure below shows the main areas of the **TELEPHONY SERVICE** user interface main menu.



 **Note:** When the message “Session expired” appears, the login window opens automatically after this message is confirmed.

## 2.2.9 THE DIFFERENT AREAS IN THE MAIN MENU

### Information area

This window contains information about web connection on the system:

- Name of the system (MiVoice 5000 by default) to which the http client is connected. This name may be customised thanks to the system functions (“Parameters management”) to facilitate immediate site or system identification.
- The type of system to which the http client is connected as well as the system software version.

### Search area

This area allows you to quickly search for one or more user interface screens using two different criteria:

- By keyword
- By menu number.

*This area is described more precisely in the section “Menus and buttons”.*

### TELEPHONY SERVICE MAIN MENU

All the TELEPHONY SERVICE functions available from a particular context. The user may click any of the functions at any time to display (develop) the sub-functions or to reduce access to these sub-functions.



- Web Admin home
- Subscribers
- System
- Dialing plan
- Network and links
- Reception
- Voice mail and tones
- Fast links

### List of available functions

This menu represents the **tree structure** of the user interface functions and screens. It is always an important navigation tool for this tree structure.

### PORTAL

This link returns you to the Web Admin homepage. This link is available in all the Web Admin services.

### FAST LINKS

This area gives direct access to certain columns:

- Identification of the software release loaded on the device
- Maintenance
- Creation of backup
- Restore
- Massive data import.

### Site plan

Main display area for viewing available functions and sub-functions. This area permanently displays two tree structure levels on only one page, if these two levels exist. This display area disappears when a menu / screen is selected.

The site plan display changes when the mouse is placed on the different columns: greyed out background for the current selection and for adding a tooltip. Clicking on the current selection opens the corresponding screen.



**CAUTION:** The main menu and site plan are continuously synchronised, no matter the navigation mode chosen by the user. In other words, the menu on the left shows the location tree of the screen selected on the right. It is possible, at any time, to continue the navigation with any of these tools.

## 2.3 POP-UP WINDOWS AND COMMAND BUTTONS

No matter the level on which the user is in the management portal, a lot of tools (search and export functions, listing and repeat functions, pop-up windows, navigation bar) are made available to the user to facilitate access to the various input screens, and the search for information. These tools are described in the following sections.

### 2.3.1 POP-UP WINDOWS

#### 2.3.1.1 Associated Actions Or Zoom Pop-Ups

The list of “zoom” actions associated with a parameter is henceforth displayed in a pop-up window which appears when the operator left-clicks the corresponding parameter.

The pop-up window is displayed when the mouse is placed over it and disappears when a link is activated, either when the mouse is used outside the pop-up window or when the red cross in the pop-up title bar is pressed. In these two latter cases, when the window is closed, the operator returns to the initial MMC as if he had not enabled the parameter’s hypertext link.

Note that if only a single action is available, left-clicking the corresponding parameter does not display the pop-up but moves directly to the zoom menu.

Popup for subscription 200

Web Admin home | Telephony service | Guyancourt

Display by internal numbers  
Telephony service>Subscribers>Subscriptions>Display by local number (1.2.2)

Directory	Name	Type	Elements number	E-mail	User Portal account	IVB	SIP authentication
2800	ABO 2800	INTERNAL	1-00		NO	YES	YES
2800	ABO 2800	INTERNAL	1-01		NO	YES	YES
2800	ABO 2800	INTERNAL	1-02		NO	YES	YES
2800	ABO 2800	INTERNAL	1-03		NO	YES	YES
2800	ABO 2800	INTERNAL	1-04		NO	YES	YES
2800	ABO 2800	INTERNAL	1-05		NO	YES	YES
2800	ABO 2800	INTERNAL	1-06		NO	YES	YES
2800	ABO 2800	INTERNAL	1-07		NO	YES	YES
2800	ABO 2800	INTERNAL	1-08		NO	YES	YES
2800	ABO 2800	INTERNAL	1-09		NO	YES	YES
2800	ABO 2800	INTERNAL	1-10		NO	YES	YES
2800	ABO 2800	INTERNAL	1-11		NO	YES	YES
2800	ABO 2800	INTERNAL	1-12		NO	YES	YES
2800	ABO 2800	INTERNAL	1-13		NO	YES	YES
2800	ABO 2800	INTERNAL	1-14		NO	YES	YES
2800	ABO 2800	INTERNAL	1-15		NO	YES	YES
2800	ABO 2800	INTERNAL	1-16		NO	YES	YES
2800	ABO 2800	INTERNAL	1-17		NO	YES	YES
2800	ABO 2800	INTERNAL	1-18		NO	YES	YES
2800	ABO 2800	INTERNAL	1-19		NO	YES	YES
2800	ABO 2800	INTERNAL	1-20		NO	YES	YES
2807	ABO 2807	INTERNAL PROPRIETARY	1-02-01		NO	YES	YES
2808	ABO 2808	INTERNAL PROPRIETARY	1-02-02		NO	YES	YES
2809	ABO 2809	INTERNAL PROPRIETARY	1-02-03		NO	YES	YES

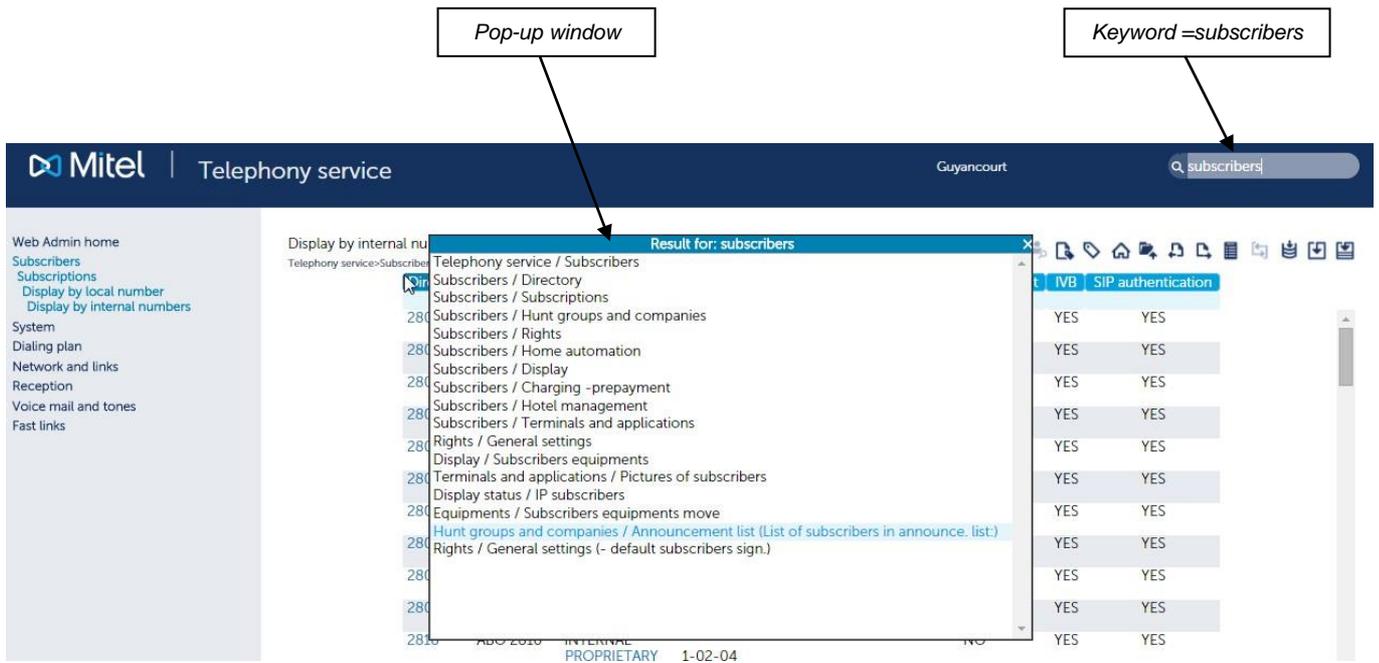
Display by internal numbers

- Subscriptions / Create
- Subscriptions / Characteristics
- Subscriptions / Copy of subscriber characteristics
- Subscriptions / Copy of keys
- Subscriptions / Re-assignment
- Subscriptions / Delete
- Hunt groups and companies / Teleconference
- Display / By DID directory number
- Display / By name
- Display / Terminals
- Charging -prepayment / Individual charging
- Charging -prepayment / Display extension counters
- Display status / Telephone extensions

#### Zooming in on subscription 200

### 2.3.1.2 The search by keyword pop-up window

A pop-up window opens in the same way as during a search by keyword.



## 2.3.2 COMMAND BUTTONS

### 2.3.2.1 Changing to advanced or basic mode (SIP trunk configuration)

The  icon is used to change, for a particular configuration, from basic (simplified) mode to advanced mode (for installers who want a more comprehensive configuration).

The icon represents the mode to which you change when you click on it.

At the moment the change of mode is only proposed in the SIP trunk configuration (Menu **Telephony service>Network and links>Network>Trunk groups>Characteristics**):

In basic mode, a simple frame is proposed with the minimum parameters required to quickly and simply configure trunk.

In advanced mode, more fields are proposed and they allow a more extensive and comprehensive configuration.

### 2.3.2.2 Bookmarks / accessing bookmarks

The  button is used to mark pages while browsing, and to store the various screens visited. It is possible to store a maximum of 9 bookmarks. Beyond this, the oldest bookmark is erased and replaced by the new one.

To access the bookmarks, click the  button then in the bookmark pop-up window select the menu to start.

The screenshot shows the Mitel Telephony service web interface. The top navigation bar includes the Mitel logo, 'Telephony service', and the location 'Guyancourt'. A search bar is on the right. The left sidebar contains a menu with items like 'Web Admin home', 'Subscribers', 'Hunt groups and companies', 'Hunt groups', 'Display', 'Hunt group display', 'System', 'Dialing plan', 'Network and links', 'Reception', 'Voice mail and tones', and 'Fast links'. The main content area is titled 'Hunt group display' and shows a breadcrumb trail: 'Telephony service>Subscribers>Hunt groups and companies>Hunt groups>Display (1.3.1.3)'. A table with columns 'Directory', 'DID', 'Type', and 'Hunt group name' is visible. A 'Marked pages' dropdown menu is open, showing 'Date and time management' and 'Subscriptions creation'. A tooltip 'Access to the marked pages' is also present.

### Example of bookmarks



**Note:** The bookmarks are kept as long as the web session is open. The pages are not preserved when the session is closed.

#### 2.3.2.3 *Returning to the telephony service homepage*

The  button is used to return to the **TELEPHONY SERVICE** homepage.

#### 2.3.2.4 *Moving up one level*

The  button is used to move up one level in the MMC.

#### 2.3.2.5 *Changing to a previous or next item*

The  button is used to return to the previous item.

The  button is used to move to the next item.

These scroll arrows are used to select the next or previous item on the same screen. The arrows remain greyed out if they are inactive in the context.

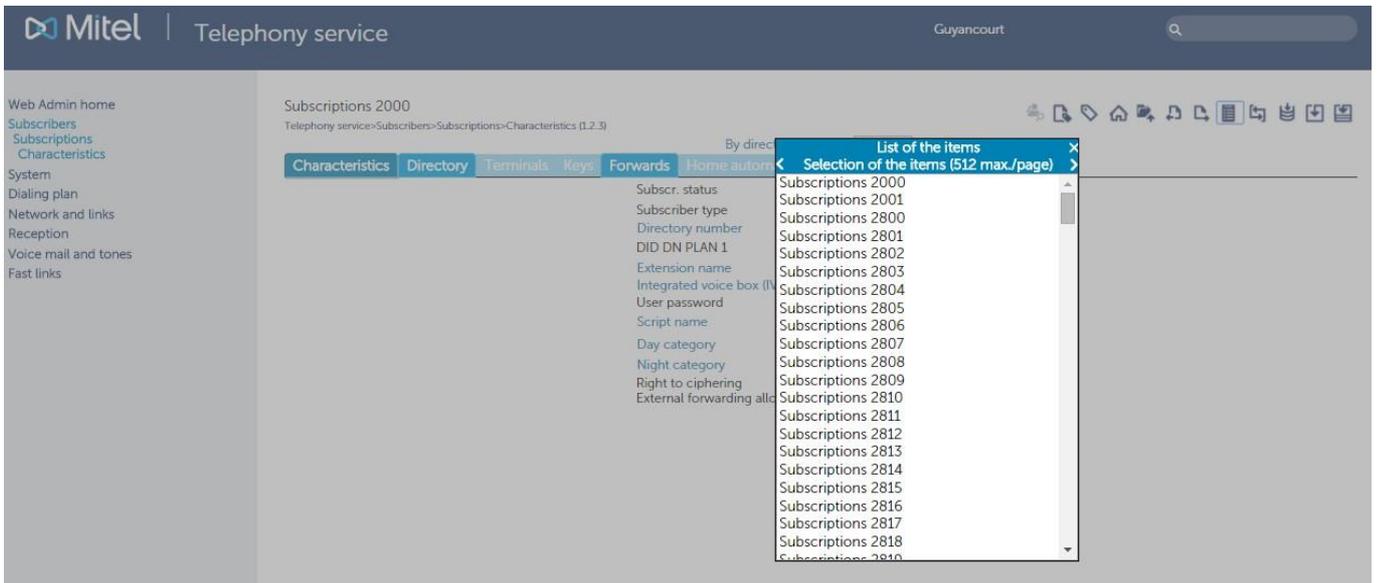
#### 2.3.2.6 *Loading the list*

The  button is used to display, by page of 512 items, the elements handled by an MMC.

This button is coloured when a list exists, and greyed out if it is inactive in the context.

The extension characteristics menu, for instance, gives the list of existing subscriptions as shown in the figure below.

In this window, the two small arrows on each side of the item table are used to change to the next or previous 512 items. To move on an item, just click on it.



The pop-up window only disappears when the operator clicks on the red cross of the title bar, and any action with the mouse outside the window is disabled.

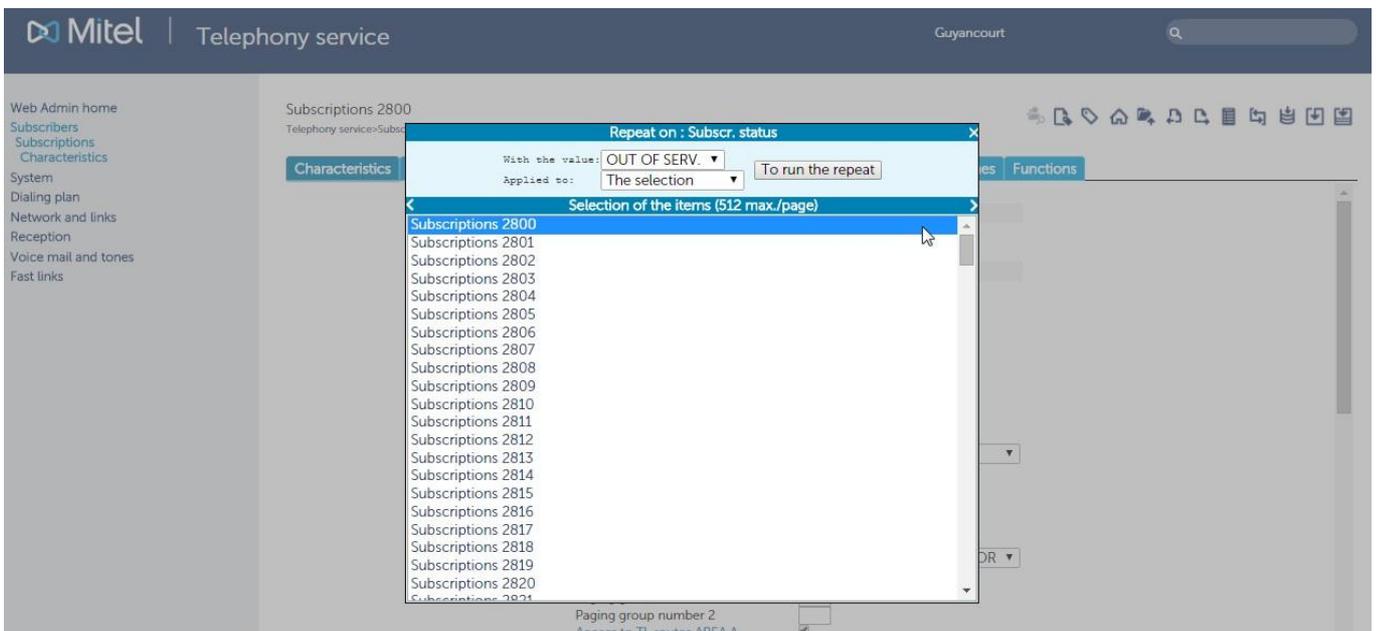


**Note:** In Internet Explorer 6, the parameters display area is completely hidden when the pop-up window opens.

### 2.3.2.7 Repetition function

This function is accessible thanks to the  button. If it is inactive in the context, the button is greyed out.

This function is used to apply the value of the selected field to the next elements or to a set of elements selected on the same type of list.



#### Example of repetition

In this example, the night category value of the first subscriber on the list (200) is modified.

At this stage, the repetition function is used to apply the value **INTERNATIO**. according to two different modes:

- To SELECTION
- To **ANY NEXT ELEMENT**

#### Apply to: THE SELECTION

In this case, just make the selection in the list by pointing to the elements in question (using the standard key combination "Maj" and "Ctrl"). The selected elements are highlighted in a dark colour. Then click **TO RUN THE REPEAT** to apply the changes. Wait for the on-hold message window to close automatically before closing the repetition window.



**Note:** By default, no window is selected.

#### APPLY TO: ANY NEXT ELEMENT

In this case, when you click the **To run the repeat** button, all the next elements on the list will be activated. Wait for the on-hold message window to close automatically before closing the repetition window.



**Note:** In Internet Explorer 6, the parameters display area is completely hidden when the pop-up window opens.

### 2.3.2.8 *Exporting the current element*

This function is accessible thanks to the  button. If it is inactive in the context, the button is greyed out.

This function is used to export information about the current item in a file in .csv format.

For menus organised into several tabs, the button is used to export one or more tabs into a single "archive" file containing N .csv files which describe each tab. The archive is in TAR format.

The TAR archive is also created with files possibly related to the exported item. In other words and as an example, for the tone definition menu, this action is used to recover the tone-related ".wav file".



**Note:** At the moment, this concerns IVB, IVR and tone files only.

#### Other examples:

In the IVR script management menu (Menu **CALL DISTRIBUTION>IVR scripts**), this operating mode allows the entire script definition to be retrieved in only one operation.

In the tone definition menu (Menu **VOICEMAIL AND TONES>Tones**), this operating mode allows the tone-related ".wav file" to be retrieved.

The .csv file can easily be modified with the help of a spreadsheet and then imported into the system using Menu **DEVICE>Software maintenance>Massive import**, thus facilitating quick upgrade of the iPBX data.

This function is available in all the menus.

For example, if the operator is in the programmed key edit menu of subscriber 200, the unit diskette will only export the keys of subscriber 200, while the multi-diskette will export all the keys of all the system subscribers.

From a subscription's characteristics selection screen, click the **Keys** tab then the  button.

A hold message opens then closes automatically. The window then opens:

Click "**Save file**" to save the file so you can use it again later, or click "Open with" to see the content of the export:

Reference	AnnuAbo	NumTouche	UpdateKeys	AnnuEcr	TypeProg	Parametre	NomDirectic	Signal	ProtecTouch	LibelTouche	Confirm
4142	4142-21190-C	4143-28790-C	4144-31679-C	4144-21233-C	4144-21220-C	4144-21219-C	4144-21221-C	4144-21222-C	4144-21228-C	4144-20515-C	4144-21230-0-0-0
1	2800	1		2800	Not programmed				NO		NO
2	2800	2		2800	Not programmed				NO		NO
3	2800	3		2800	Not programmed				NO		NO
4	2800	4		2800	Not programmed				NO		NO
5	2800	5		2800	Not programmed				NO		NO
6	2800	6		2800	Not programmed				NO		NO
7	2800	7		2800	Not programmed				NO		NO
8	2800	8		2800	Not programmed				NO		NO
9	2800	9		2800	Not programmed				NO		NO
10	2800	10		2800	Not programmed				NO		NO
11	2800	11		2800	Not programmed				NO		NO
12	2800	12		2800	Not programmed				NO		NO
13	2800	13		2800	Not programmed				NO		NO
14	2800	14		2800	Not programmed				NO		NO
15	2800	15		2800	Not programmed				NO		NO
16	2800	16		2800	Not programmed				NO		NO
17	2800	17		2800	Not programmed				NO		NO
18	2800	18		2800	Not programmed				NO		NO
19	2800	19		2800	Not programmed				NO		NO
20	2800	20		2800	Not programmed				NO		NO
21	2800	21		2800	Not programmed				NO		NO
22	2800	22		2800	Not programmed				NO		NO
23	2800	23		2800	Not programmed				NO		NO
24	2800	24		2800	Not programmed				NO		NO
25	2800	25		2800	Not programmed				NO		NO

**Key data export file for subscription 200**

The first line of the file gives the names of the exported parameters.

The second line gives the internal codes of these parameters which will be used to update some parameters during a later import.

The next lines indicate the parameter values for each exported element.

The menus organised into several pages contain an additional column for indicating the page number.



**WARNING:** During file import, the parameter codes (second line of the file) should not be modified. To prevent a parameter from being updated in the system (for any of the elements), just delete the corresponding column in the file. You can delete the lines of unmodified items before importing the data.

### 2.3.2.9 *Exporting all mmc elements*

This function is accessible thanks to the  button. If it is inactive in the context, the button is greyed out.

This function is used to export information about the current item in a file in .csv format.

For menus organised into several tabs, the button is used to export one or more tabs into a single "archive" file containing N .csv files which describe each tab. The archive is in TAR format.

For menus with a selection menu and which, thus, define several identical items, a multiple export function was deployed to export all the following items from the one on which the command is run.

Just as indicated in the previous section **Erreur ! Source du renvoi introuvable.**, the export function will be used to recover all the files concerned.

The .csv file can easily be modified with the help of a spreadsheet and then imported into the system using Menu **System>Software maintenance>Massive import**, thus facilitating quick upgrade of the iPBX data.

The function is available in each selection screen from a list of options, and in each screen with a list of elements.

The example below illustrates export in the call distribution name definition menu. From the call distribution definition screen, click the  button. At the end of export, a window opens.

Click **Save file** to save the file so you can use it again later, or click **Open with** to see the content of the export:

The first line of the file gives the names of the exported parameters.

The second line gives the internal codes of these parameters which will be used to update some parameters during a later import.

The next lines indicate the parameter values for each exported element.

The menus organised into several pages contain an additional column for indicating the page number.



**WARNING:** During file import, the parameter codes (second line of the file) should not be modified. To prevent a parameter from being updated in the system (for any of the elements), just delete the corresponding column in the file. You can delete the lines of unmodified items before importing the data.

## 2.3.3 IMPORT FUNCTION

### 2.3.3.1 *Massive import*

For more details, see Section 4.5.6.

Menu **Device>Software maintenance>Massive import** features an options list so a choice can be made between generic massive import and IVB signature import.

Massive import mode is used to define the item(s) identified through the selection criteria available in the import file. Therefore, it was not possible, without changing the imported file, to define items other than those exported unlike explicit modes in the following sections.

The files are in.csv format or in TAR, TAR.GZ or ZIP format for the files stored in the archive.

### 2.3.3.2 Importing data in the context

For the import, the first mode consists in offering the import function directly in the menu defining the imported item.

On these conditions, the .csv file data taken at the input are used to configure the item being edited and not the one defined by the selection criteria available in the import file which are then ignored.

For menus defining several identical items, this operating mode is also used to modify, in only one operation, a series of items (selected when the command is run), taking into account the parameters of the item described in the imported file.

Finally, for the menus organised into several tabs, this command takes at the input a TAR type archive file which describes all the tabs of the menu. These latter are all modified during this action.

For instance, it is possible to retrieve from one site the definition of Subscriber 3000 to reimport it into another site as Subscriber 4000.

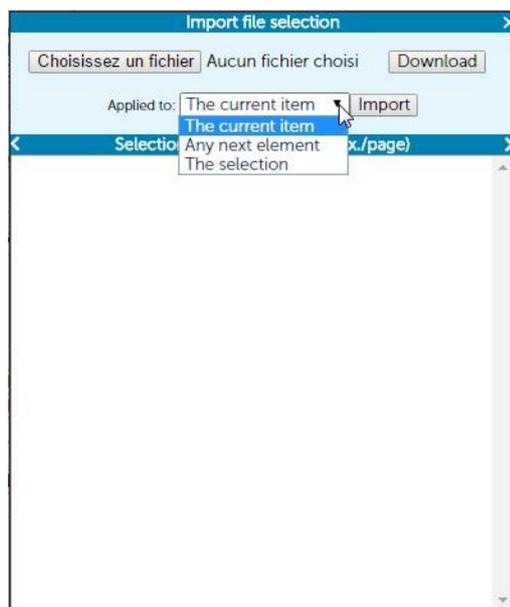
As shown in the figure below, the import command in the context is active in all the menus with an export command.

The command is activated using the database icon located just before the individual export command in the command bar.

The screenshot shows the Mitel Telephony service web interface. The top navigation bar includes the Mitel logo, 'Telephony service', and the user 'Guyancourt'. A search bar is on the right. The left sidebar contains a navigation menu with categories like 'Web Admin home', 'Subscribers', 'System', 'Network and links', 'Reception', 'Voice mail and tones', and 'Fast links'. The main content area is titled 'Subscriptions 2800' and 'Telephony service>Subscribers>Subscriptions>Characteristics (1.2.3)'. It features a tabbed interface with 'Characteristics' selected. The 'By directory number' field is set to '2800'. The form displays various fields for subscriber configuration, such as 'Subscr. status' (OUT OF SERV.), 'Subscriber type' (INTERNAL), 'Directory number' (2800), 'Extension name' (ABO 2800), 'Terminal authentication - value' (IWZjuUDwUkTOLyZz), 'User password' (\*\*\*\*\*), 'Service bearer' (SPEECH), and 'Day category' (INTERNATIO.). In the top right toolbar, the 'Database' icon (a cylinder) is circled in red.

Clicking this icon opens the window below.

The action can be compared to the existing window for the **Repeat modification** icon in the following elements concerning the selection of the items which will be modified through import.



In this popup window the first line will be used to select the import file on the local disk of the client's PC.

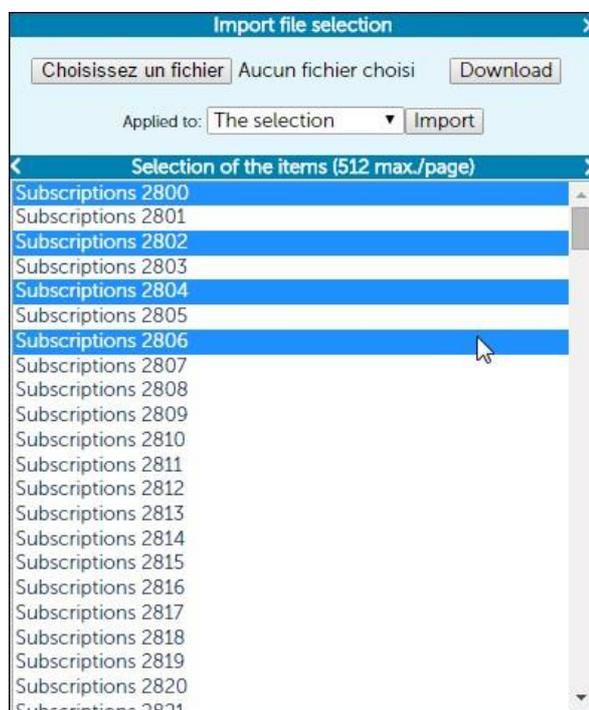
Once selected, the file is "downloaded" via the corresponding button.

The accepted formats of the imported file are those already existing for the import menu (.csv file and TAR, TAR.GZ or ZIP archive files).

In case of error, the error message "incorrect format" is displayed and the command is cancelled. Otherwise, the **Import** button of the second line is inactive.

The second line is for selecting the repetition mode.

- Either the import command is executed on the only current item,
- Or it is executed on all the next items,
- Or it is executed on the items selected in the lower frame as illustrated in the figure below.



Click **Import**.

In return, a popup window opens, just like the one obtained via the massive import commands of the corresponding menu.

### **2.3.3.3** *Importing files linked to the processed item*

This second import mode is similar to the previous mode but allows the related file(s) to be taken into account, if any.

The edited item is then entirely defined (with the related files) only through the import command, without any need to download the additional file(s) in a second phase.

For instance, in the IVR script management menu, this operating mode is used in a single operation to define an entire script.

Using the import function in the context, it is possible to create a script from the export of another script.

### 2.3.3.4 Import possibilities according to executed import

	MASSIVE IMPORT MMC	INDIVIDUAL IMPORT IN THE CONTEXT	MULTIPLE IMPORT IN THE CONTEXT
EXPORTING AN ITEM INDIVIDUALLY	Defining the identified item by the selection criteria of the exported item	Defining the edited item using the data on the exported item	Defining the selected items from the data on the exported item
MULTIPLE EXPORT OF SEVERAL ITEMS	Defining the items corresponding to those exported	<b>Prohibited</b>	<b>Prohibited</b>

## 2.3.4 SEARCH FUNCTION

Two search modes are available: by keyword / by screen number.

### 2.3.4.1 Search by keyword

You can perform a search by keyword by entering a word or part of a word (40 characters maximum) in the search area.

When you click the  button, the search engine returns in a pop-up window all the links pointing to a screen concerned by the word entered (cf 1.2.1.2).

The principles for use are:

- Upper and lower cases are handled in the same way.
- If a character string contains several words, the search is based on the complete string.
- The search result displays the first 38 occurrences found.
- The search can also be made on a part of the word. For instance, the character string “subscriber” also concerns the occurrence “subscription”.



**Note:** The search engine does not accept accented characters. To be recognised by the search engine, the terms entered in this area should not contain any accents.

The result display order is as follows:

- First the menus whose title contains the keyword: the menu, as well as its parent menu, is displayed in the format <parent menu>/<menu found>
- Then the menus whose keyword is contained in the name of one of its lines: The line concerned is displayed in brackets.



**Note:** If there is no result, a “no answer” pop-up window opens.

TIP

The search engine may return a large number of occurrences of the term entered. It is, therefore, advisable to use search by word only, to obtain a better result.

### 2.3.4.2 Search by screen number

This possibility is offered to an operator who knows the screen numbers and who wishes to access them directly.

The search is made by entering a screen number (without separator or space) in the search area.

Then click the  button, or press "Enter" to confirm.

Example: enter 22 to search the **SYSTEM>Monitoring** menu.

The menu is directly displayed and no search result pop-up window opens.

If the menu does not exist, or is not accessible, the **Telephony service** menu is displayed.



**CAUTION:** In view of the dynamic screen management, the numbers vary according to the type of configuration declared: multi-company, multi-site, and the type of device (case of MiVoice 5000 Server). The numbers also depend on the operator's access rights, which equally depend on the login / password entered.

## 2.3.5 THE NAVIGATION BAR

Under the MMC title and command buttons a navigation bar displays the tree structure followed to reach the MMC and allows you to directly return to one of the menus used, through a simple mouse click.

The screenshot shows the Mitel web interface. At the top, there is a navigation bar with the Mitel logo, 'Telephony service', and 'Guyancourt'. Below the navigation bar, there is a search bar and a set of icons. The main content area is titled 'Subscriptions 2800' and 'Telephony service>Subscribers>Subscriptions>Characteristics (1.2.3)'. A navigation bar is visible below the title, with tabs for 'Characteristics', 'Directory', 'Terminals', 'Keys', 'Forwards', 'Home automation', 'Phone book', 'Multi-lines', and 'Functions'. The 'Characteristics' tab is selected. The configuration page shows various fields and their values, such as 'Subscr. status' (IN SERVICE), 'Subscriber type' (INTERNAL), 'Directory number' (2800), 'DID DN PLAN 1', 'Extension name' (ABO 2800), 'Integrated voice box (IVB)', 'Terminal authentication - value' (IWZjuUDwUkTOLyZz), 'User password' (\*\*\*\*\*), 'User Portal account', 'Authorized association of set', 'Enabled internal sets', 'Enabled external sets', 'Right to class service', 'Service bearer' (SPEECH), 'Day category' (INTERNATIO.), 'Night category' (INTERNATIO.), 'Forbidden numbers list', 'Hot line type', 'Intercom type' (MONITORED AND MONITOR), 'Pick-up group number', 'Paging group number 1', 'Paging group number 2', and 'Access to TL routes AREA A'. A box labeled 'Navigation bar' with an arrow points to the navigation bar in the screenshot.

### Navigation bar

An example is given in the above figure for the MMC: **Telephony service>Subscribers>Subscriptions>Characteristics (1.2.3)**

Clicking the **Subscriptions** field in the navigation bar brings you directly to this menu.

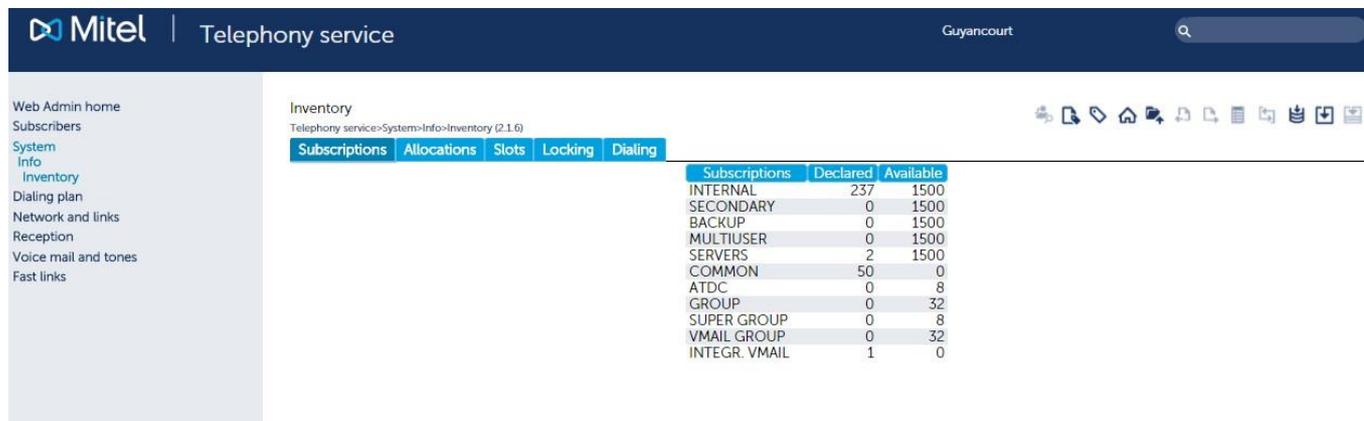
The digits indicated at the end (here 1.2.3) represent the sequence you need to enter in the search area to move directly in MMC. In fact, it is the succession of options in the tree structure as it is presented.

## 2.3.6 PRESENTATION IN TABS

### 2.3.6.1 Internal MMC tab

Some MMCs display their parameters in form of tabs.

An example of a display menu organised into tabs is the **inventory** menu.



The screenshot shows the Mitel web interface for 'Telephony service' in 'Guyancourt'. The left sidebar contains a navigation menu with 'Inventory' selected. The main content area is titled 'Inventory' and shows a breadcrumb path 'Telephony service>System>Info>Inventory (2.1.6)'. Below the breadcrumb are five tabs: 'Subscriptions', 'Allocations', 'Slots', 'Locking', and 'Dialing'. The 'Subscriptions' tab is active, displaying a table with three columns: 'Subscriptions', 'Declared', and 'Available'.

Subscriptions	Declared	Available
INTERNAL	237	1500
SECONDARY	0	1500
BACKUP	0	1500
MULTIUSER	0	1500
SERVERS	2	1500
COMMON	50	0
ATDC	0	8
GROUP	0	32
SUPER GROUP	0	8
VMAIL_GROUP	0	32
INTEGR. VMAIL	1	0

**Tabs in the inventory menu**

### 2.3.6.2 MMC-based tab

The notion of MMC-based tab is implemented in order to limit tree structure levels. The aim is to group together in a single MMC the MMCs handling the same subject and having the same selection if they have any.

An example may be taken with the management of PSTN categories in which a first MMC defines the names; a second one defines the properties associated with a category while a third one gives the list of users of the selected category.

This makes it possible to have a category selection menu, and to display underneath the previous three MMCs in form of a tab as shown in the figure below.



The screenshot shows the Mitel web interface for 'Telephony service' in 'Guyancourt'. The left sidebar contains a navigation menu with 'Categories' selected. The main content area is titled 'Category INTERNATIO.' and shows a breadcrumb path 'Telephony service>Subscribers>Rights>Categories (1.4.2)'. Below the breadcrumb are three tabs: 'Names', 'Characteristics', and 'Users'. The 'Characteristics' tab is active, displaying a list of characteristics for the 'INTERNATIO.' category. A dropdown menu is set to 'INTERNATIO.' and a search box is labeled 'Directory beginning with'.

Internal calls allowed	<input checked="" type="checkbox"/>
Int. and TL incoming calls allowed	<input checked="" type="checkbox"/>
Pstrn incoming calls allowed	<input checked="" type="checkbox"/>
Delayed ringing after ann msg	<input type="checkbox"/>
Console transfer allowed	<input checked="" type="checkbox"/>
Forbidden numbers list restriction	<input checked="" type="checkbox"/>
NATIONAL allowed	<input checked="" type="checkbox"/>
DOM allowed	<input checked="" type="checkbox"/>
INTER. allowed	<input checked="" type="checkbox"/>

**Tabs in the categories menu**



**Note:** Depending on the selection criteria, all or just one part of the tabs will be accessible.

After a tab is opened, emphasis is on the first field of the tab, or, by default, on the button used to implement the tab.

The session is generally frozen for all the tabs, such that one operator may be in the category names menu and another in the category definition menu.

The commands Next and Previous work as usual; i.e. if a tab is open, the items in the active tab are used.

Tab mode has been implemented for the following MMCs:

- Extension characteristics menu
- PSTN category management menu
- Feature class management menu
- TL class management menu
- Call distribution management menu
- IVS script management menu.

Subscriptions 2800  
Telephony service>Subscribers>Subscriptions>Characteristics (1.2.3)

By directory number 2800

Characteristics Directory Terminals Keys Forwards Home automation Phone book Multi-lines Functions

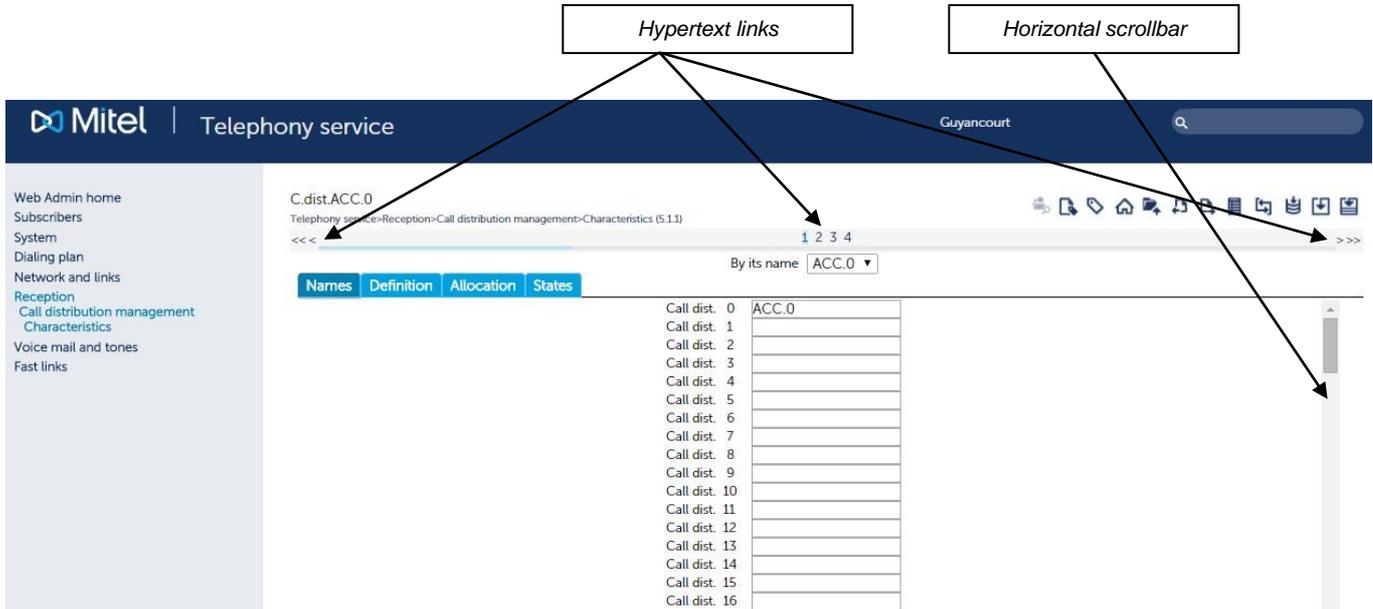
Subscr. status OUT OF SERV. ▾  
Subscriber type INTERNAL  
Directory number 2800  
DID DN PLAN 1  
Extension name ABO 2800  
Integrated voice box (IVB)   
Terminal authentication - value IWZjuUDwUKTOLyZ  
User password \*\*\*\*\*  
User Portal account   
Authorized association of set   
Enabled internal sets   
Enabled external sets   
Right to class service   
Service bearer SPEECH ▾  
Day category INTERNATIO. ▾  
Night category INTERNATIO. ▾  
Forbidden numbers list ..... ▾  
Hot line type ..... ▾  
Intercom type MONITORED AND MONITOR ▾  
Pick-up group number ..... ▾  
Paging group number 1  
Paging group number 2  
Access to TL routes AREA A   
Paging access   
Drivlenard cat

### Tabs in the menu Subscriptions>Characteristics

### 2.3.7 INTEGRATING MMCS DISPLAYED ON SEVERAL PAGES

For menus the total number of which exceeds the limit imposed by the system, a page selection bar is added under the command button bar, as shown in the figure below.

The display and input menus are concerned by these changes.



**Display on several pages of an MMC**

In this example, total display is on four pages numbered 1 to 4. Page N can be selected by clicking the hypertext link implemented through the corresponding number in this new bar.

The two hypertext links available at the end of the page selection line respectively take you to the first page displayed; the page before the one displayed, the page after the one displayed and the last page of the document. In all cases, the number of the currently displayed page is written without a link.

Moreover, a scrollbar summary drawing is placed under the page selection numbers. For Internet Explorer, the “black line” represents the area displayed in the entire document. For Firefox, the “black point” represents the location of the end of the page displayed in the entire document.

## 2.3.8 PROGRAMMED KEY MMC

The key programming MMC now exists in form of a tab in the extension characteristics menu.

Moreover, to limit menu chaining, the last intermediate menu, which gives the existing key programming and allows you to select the key to be programmed, is integrated into the programming screen in form of a selection table.

The programming type option list is enhanced with feature types, and the parameter field is used to enter additional information, available in form of an ASCII or numeric string.

The screenshot shows the Mitel Web Admin interface for 'Telephony service' under 'Subscriptions 2800'. The 'Keys' tab is selected, displaying a table of programmed keys. The table has three columns: 'Number', 'Label', and 'Programming'. Key 01 is protected (indicated by a padlock icon) and has the label '2800 FORWD ON BUSY 3000'. Keys 02 through 10 are unprogrammed and have the label 'THIS KEY IS NOT PROGRAMMED'.

Number	Label	Programming
01	2800 FORWD ON BUSY 3000	Protected
02	THIS KEY IS NOT PROGRAMMED	Not Programmed
03	THIS KEY IS NOT PROGRAMMED	Not Programmed
04	THIS KEY IS NOT PROGRAMMED	Not Programmed
05	THIS KEY IS NOT PROGRAMMED	Not Programmed
06	THIS KEY IS NOT PROGRAMMED	Not Programmed
07	THIS KEY IS NOT PROGRAMMED	Not Programmed
08	THIS KEY IS NOT PROGRAMMED	Not Programmed
09	THIS KEY IS NOT PROGRAMMED	Not Programmed
10	THIS KEY IS NOT PROGRAMMED	Not Programmed

### Programmed key MMC

In the programming table, a “padlock” icon on the left of the key number indicates a protected key (the “protected key” checkbox has been ticked).

The keys not yet programmed appear in black. Already programmed keys appear in green.

Validating a program automatically updates the display table. If emphasis is on the table, the “up” and “down” cursor keys allow you to change from one key to the other. The functions “Next” and “Previous” run on the different subscribers. The “repeat” function is disabled.

The terminal is deactivated once a program is confirmed. The terminal is automatically reactivated when you close the tab or scroll through the subscriber list.

The table below indicates the lines which are visible for each programming type, the lines not mentioned are still visible.



**Note :** Monitoring your number (CCO) type key programming is only applicable for proprietary terminals (53xx, 675x) and SIP terminals (6700, 6800 & 6900).

	PARAMETER	DIRECTION	SIGNAL
No programming			
Dialling	Number dialled		
Cancel all forwarding			
Predefined forward			
Forward on busy	Terminal directory		
Forward on no answer	Terminal directory		
Immediate forward	Terminal directory		
Activate agenda	Time		
Deactivate agenda	Time		
Locking			
General standby			
Filtering	Terminal directory		
Do not disturb			
Anti-intrusion			
Monitoring your number (CCO)			
External line supervision	External line directory	X	X
Monitor filtered calls	Terminal directory		X
Subscriber management	Terminal directory		X
Privileged intercom (buzz)	Terminal directory		
Phone box			
DTMF numbering	Number dialled		
your personal external line			
In / outside hunt group			
Voicemail monitoring			X
Messages deposit			
Close room			
Room wakeup			
Open room			
Alarm monitoring			
Call supervision internal			X
Call supervision PSTN inc 1			X
Call supervision PSTN inc 2			X
Call supervision tie line inc			X
Overload signalling			X
Reservation signalling			X
Console active			
Hold			
Save/repeat			

## 2.3.9 WAIT MESSAGE

### 2.3.9.1 Loading Windows

When it takes some time to load or open a window, the window displayed by the browser contains an animated image prompting the operator to wait.

This type of wait message may be displayed:

- When a page is opened
- In the MMC parameter input area
- When a tab is opened (the wait image appears in the tab content).



### 2.3.9.2 Progress messages

If it takes some time to modify a parameter or to download a file, a pop-up window opens, prompting the operator to wait. The display is automatic and the page displayed automatically becomes normal again at the end of the processing.



**Note:** When the pop-up is displayed, the operator's actions are ignored and ineffective.

If a file is downloaded, the message "please wait, work in progress" is replaced by a counter which increments every second.



**Progress message when subscriptions are created**

## 2.3.10 OTHER BUTTONS

This paragraph describes the different buttons that facilitate parameter input and navigation between the user interface screens.



When displayed in certain contexts (error messages, warnings, prohibitions, etc.), this button is used to close an open window or to stop an action in progress.



These buttons are used to validate actions taken previously: parameter input, changes made to a value, choosing an element from a list, etc., depending on context.

## 2.3.11 INFORMATION POP-UP

When the cursor is moved over the different user interface fields and buttons, pop-up type information is displayed if available.



**Example of pop-up information**

## 2.3.12 LOGBOOK DISPLAY WINDOWS

The permanent window at the bottom left of the screen is used to display the latest items recorded in the logbook.

Clicking the header of this window gives direct access to Menu **System>Monitoring>Display logbook**.

## 3 SUBSCRIBER MANAGEMENT

### 3.1 INTRODUCTION

Subscriber management includes the following actions:

- Directory management
- Subscription and subscriber management
- Creation of hunt groups and multi-company configuration
- Assignment of rights
- Activation of home automation functions
- Selection of subscriber display modes
- Implementation of charging
- Definition of the special features of hotel management
- Configuration of terminals Mitel 6700 SIP Phone deployable by the TMA application.

These different subscriber management operations can be performed from the menu **TELEPHONY SERVICE>SUBSCRIBERS**.

### 3.2 DIRECTORY



**Note:** For a description of the directory and its different components, see the **MiVoice 5000 operating manual: Multi-site management [2]**.

Each company has its own characteristics: internal and external directories, barring lists, speed dialling, outgoing and incoming trunk groups, call distribution service and operator group.

The LDAP directory has the following functions:

- management of subscriber records (internal numbers),
- management of alias records,
- management of contact records (external numbers),
- assignment of parameters (attributes) used to complete individual records, including:
  - Title
  - Function
  - The person's hierarchical position.
- personalisation of subscriber and contact records (additional 10 columns).



**Note:** The creation of subscriber records (internal records) is directly linked to the creation of the subscribers themselves. For more information, refer to “Subscriber creation” in this chapter.

Moreover, this directory serves as base for terminals i2052, i2070, etc. These terminal types can access different directories.

#### Definitions:

**LDAP** (Light Weight Directory Access Protocol) is a protocol used to query and modify directory services. This protocol is TCP / IP based. An LDAP directory is based on a tree structure each node of which is made up of attributes associated with their values.

**TWP** (Telephony Web Portal) is a web portal that gives access to various external directories with different formats, including contact directories.

The directory record is the entry point for subscriber management. It concerns either a natural person or an item to be characterised (fax, corridor set, etc.). It comprises a personal record with one or more directory numbers.

To access the directory functions:

Select the menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory**.

## 3.2.1 PARAMETERS

The management portal handles the directory configuration: configuring the directory structure, access rights, the topology of the different directories distributed on the infrastructure and the different synchronisations to make.



**Note:** The servers that access the directory set up cache mechanisms to optimize processing (name search, forbidden numbers, speed dials, SDN).

### 3.2.1.1 *Connections*

Menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory>Parameters>Connections**

This menu is used to define the location of the directory to be used later. It is also used to define search priorities in existing databases.

All information about directory records is available in the LDAP directory from this screen.

This menu comprises three tabs:

- **Configuration** - tab used to define the local or remote LDAP database
- **Name resolution** - tab used to locate the database used by the directory service
- **Numbering service** - tab used to deploy the numbering server, for processing abbreviated and barred numbers and DID numbers resolution.



**Note:** For information about multi-site management in the real sense of it, see the document **AMT/PTD/PBX/0081/EN**.

### 3.2.1.2 *Configuring directory service transmission*

The directory service is in charge of search by name and number resolution. It is available on each iPBX, but it is only unlocked if the software licence allows this. If it is unlocked on the iPBX, it can be used locally by the site but also by other sites, provided its availability is configured. This availability is configured on the site(s) on which it is active, via the menu **SUBSCRIBERS>Directory>Parameters>Connections**.

The directory server is activated for the iPBX in question from the **Directory in use** field of the **Name resolution** tab.

The directory service is active if the box is ticked. If the box is not ticked, another service must be defined in the menu **NETWORK AND LINKS>Multi-sites>Localisation of the services**. Refer to the multi-site documentation AMT/PTD/PBX/0081/EN.

### 3.2.1.3 *Database location*

The location of the following two databases can be configured:

- The "basic directory exp" database
- The directory database used by the directory service.

The configuration of the "basic directory exp" database is correlated with the configuration of the directory database used by the directory service.

#### 3.2.1.3.1 "basic directory exp" database location

Configuration tab of Menu **SUBSCRIBERS>Directory>Parameters>Connections**

The "basic directory exp" database is a local or remote LDAP database.

The following services are connected to this database:

- **Directory Service**, for consulting and modifying the directory,
- **Number Resolution** Service, used in particular for:
  - SDN (resolution of the DID numbers)
  - barred numbers (based on an administrative hierarchy)
  - speed dial numbers
- **XML** server: call by name on terminals 67xxi
- **Web Admin Telephony Service**, for **configuring the directory**.

The location of this database must be defined on each of the sites on the multi-site network, from the Configuration tab of Menu **SUBSCRIBERS>Directory>Parameters>Connections**.

The location of the "basic directory exp" database is configured from the following fields:

- Server type: **INTERNAL** or **EXTERNAL**

This parameter indicates the database location.

- On the site hosting the database, the value of this parameter must be **INTERNAL**.
- If the database is not internal on the iPBX, the value of this parameter must be **EXTERNAL**.
- **Server name or IP address**

Name or IP address of the server hosting the "basic directory exp" database.

IP address refers to the actual internal IP address. Access to this database is in LDAP or LDAPS, depending on whether or not the TLS parameter has been enabled.

- **TLS**

When the box is ticked, the MiVoice 5000 client connects to the remote LDAP database in LDAPS.

To validate the secure remote connection, the client checks, in the local certificate base, whether the certification chain used to verify the LDAP server certificate is present.

LDAPS server certification authorities are imported from the Certification authorities tab.

- **Port**

Port for LDAP connection (389 is the default value for LDAP protocol) or 636 if the access is secure (TLS ticked).

- **database or url**

Connection point in the LDAP tree.

The default value of this parameter (ou=local,o=MITEL,dc=DOMAIN,dc=com) corresponds to a configuration without MiVoice 5000 Manager.

- **login**

Login for access to the LDAP database.

The default login (cn=Manager, dc=DOMAIN,dc=com) corresponds to an account created in the LDAP database during installation.

- **Password**

Database access password. Leave the default password proposed: it corresponds to the iPBX user account preconfigured in the LDAP database.

If the database is a remote database (SERVER TYPE = EXTERNAL), configure the access parameters:

- **Max number of answers by request**

This field is used to define the maximum number of requests for displaying search by name.

Possible values are between **50** and **200** for Mitel 5000 Gateways systems and between **50** and **1500** for MiVoice 5000 server

- **personalisation**

**BASED ON  
MULTISITE**

**GLOBAL**

This parameter defines where the **pbxPerso** branch of directory record personalisation is declared. Refer to the multi-site documentation AMT/PTD/PBX/0081/EN.



**WARNING:** In R5.2 and R5.3, this parameter must never be set to GLOBAL.

- **INTERNAL RECORD REGENERATION**

Checkbox. Used to directly regenerate directory records in the (external or internal) LDAP server without using the **Load list** icon located  in the menu **SUBSCRIBERS>Subscriptions /Characteristics>General characteristics**.

After ticking the box, to start the action, click **Validation**.

- **REDUCED DIRECTORY**

An internal directory database (called reduced directory) can be configured in WebAdmin for each iPBX. This database is used by the SDN service, Directory service and XML proxy when the main directory databases are no longer available.

This option is available for all Mitel 5000 Gateway type sites and all the nodes of a cluster.

This database is synchronised with the main database and contains the directory data of the site subscribers (local subscribers and backup subscribers).

In Community mode (see Chapter 5) the database contains the directory data of all the Community subscribers (limited to 3000 records on Mitel 5000 Gateways).

It is activated from Menu **Telephony service>Subscribers>Directory>Parameters>Connections – Configuration** tab.

**Note:** When the reduced directory database is active, it is accessible in read mode only. The directory records cannot be modified.

### 3.2.1.3.2 Location of the directory database used by the directory service

**Name resolution** tab of the menu **SUBSCRIBERS>Directory>Parameters>Connections**.

The different sites on which the directory service is operational (**Directory in use** checkbox ticked) must be configured for access to the network's active database.

This location is configured on the remote databases via the **Configuration** tab of the menu **SUBSCRIBERS>Directory>Parameters>Connections**.

The location of the database used by the directory service is configured from the following fields:

#### **THRESHOLD BEFORE ALARM (in %)**

This field is used to define a threshold before alarm and display of alarms when the number of directory records on MiVoice 5000 Server and Mitel 5000 Gateways is exceeded.

When the threshold is reached, a message is displayed in the logbook to alert the user.



**Note:** When this limit is exceeded, the call by name and search by name functions name -> number and number -> name are blocked (they stop working).

#### **SEARCH BASE DIRECTORY PRIORITY 0 / 1 / 2**

These parameters indicate the location of the databases to be used by the directory service in the order of priority (0 to 2).

##### **DATABASE FALLBACK EXP**

The database used by the directory service is the management database (defined in the **Configuration** tab).

##### **LDAP**

The database used by the directory service is the LDAP database instance defined by the next parameters.

The database used by the directory service is the LDAP database instance defined by the next parameters.

The description of the parameters used to define an access to a replica of the directory database is the same as the one given above for **Configuration**.

When the server type is LDAP, the operator can configure access to a local or remote database.

For a remote LDAP database, access can be secured in LDAPS by ticking the TLS box.

With the TLS checkbox ticked, LDAP access remains available via port 389.

To block this access and use only the secure LDAPS access, go to Menu **SYSTEM>Security>Firewall** and tick Close port 389 (see Section 4.4.3).

#### **- MAX NUMBER OF ANSWERS BY REQUEST**

Field used to define, for each priority 0 to 2 directory database, the maximum number of names proposed during an LDAP request on terminals when users are searching for internal or external names.

### 3.2.1.3.3 Numbering service

**Numbering service** tab of the menu **SUBSCRIBERS>Directory>Parameters>Connections**.

Ticking the **Service in use** box allows you to define the LDAP database used to resolve problems of abbreviated numbers, barred numbers and DID numbers.

This service provides a read access to this LDAP database, possibly secured by a second LDAP database.

By default, the box is ticked (service in use).

The **Broadcast** field contains the following values:

- **Internal:** the numbering server can only be used for the iPBX concerned.
- **Multisite:** the server can be used by all the sites on the multi-site network.

If the service cannot be rendered (numbering server not in use or failure upon request prompt):

- The translation of an abbreviated number fails; the call is rejected.
- The list of barred numbers cannot be returned; in this case, the external number **is authorised by management**.



**Note:** For the specific implementation of this service, refer to the [DID number management document - AMT/PTD/PBX/0099/EN](#).

The description of the parameters used to define an access to a replica of the directory database is the same as the one given above for Configuration.

When the server type is LDAP, the operator can configure access to a local or remote database.

For a remote LDAP database, access can be secured in LDAPS by ticking the TLS box.

### 3.2.1.4 Genders

Menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory>Parameters>Genders**

This menu is used to create the titles which will be used while creating directory records.

### 3.2.1.5 Functions

Menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory>Parameters>Functions**

This menu is used to create the functions which will be used while creating directory records.

### 3.2.1.6 Customization

Menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory>Settings>Customization**

This menu is used to define some additional attributes which will appear in the internal and/or external directory records.

#### FOR RECORD TYPE

**INTERNAL**

**EXTERNAL**

For selecting the type of record to customise.

Select the value then click **Select item**.



**Note:** The procedures for defining attributes and configuration fields are the same for both types of records (internal and external).

Up to 10 additional attributes can be defined.

#### ATTRIBUTE NAME N

Attribute Screen name. This name will appear on the records concerned, after the attributes that make up the directory records by default.

#### - TYPE

.....

**TELEPHONE**

**E MAIL**

**PHOTO**

Attribute type.



**Note:** The PHOTO type is not operational in this version.

#### - COMMENTS

Text field. This command will appear in the directory database and may be used by external applications.

#### - NUMBERING

**OFFICE**

**HOME**

**MOBILE**

Number type for a TELEPHONE type attribute.

The value of this parameter will complete the name display on these terminals.

#### - DIALABLE

If the box is ticked, the numbers defined in the field corresponding to this attribute in the records must be directly diallable.



**Note:** The NUMBERING and DIALABLE fields only make a meaning for a TELEPHONE type attribute.

## - ROUTER MODE (SPECIFIC TO SIP URI)

### CHECKBOX

This box is used to activate or deactivate SIP router mode. This mode allows some routing SIP URIs to be entered in external records.

During a first use or during an upgrade, router mode is deactivated by default.

This parameter can be modified from any site of a multi-site network, except a Cluster node.

### 3.2.1.7 *User accounts*

The menu **TELEPHONY SERVICE>SUBSCRIBERS>Directory>Parameters>User accounts** is used to modify the password for LDAP root and user accounts of the local database, especially in the absence of an MiVoice 5000 Manager Management Centre.

The modifications are only taken into account if the LDAP access is read-authorized (condition automatically checked by the system using the Directory service interface function).

### 3.2.1.8 *Root accounts*

By default, the password has the same value as the login indicated.

#### Authorised characters:

- 24-character password
- The characters authorised for passwords are "a" to "z", "A" to "Z", "0" to "9" and "\_".

Existing passwords are not displayed; they are replaced upon display by the character \*, for the maximum length (24 characters).

### **3.2.1.9**    *User accounts*

These different fields are used to modify the passwords for LDAP user accounts.

The login for the different accounts is not modifiable. The characters authorised for passwords are:

- 24-character password
- The characters authorised for passwords are "a" to "z", "A" to "Z", "0" to "9" and "\_".

By default, the password has the same value as the login indicated.

The list of accounts is defined in a fixed manner with the following columns:

#### **Charging application**

- Login
- Password

#### **Hotel / hospital application**

- Login
- Password

#### **I2052**

- Login
- Password

#### **I2070**

- Login
- Password

#### **Twp**

- Login
- Password

#### **CC**

- Login
- Password

#### **MICOLLAB**

- Login
- Mot de passe

### **UC360**

- Login
- Mot de passe

### **LIFESIZE**

- Login
- Mot de passe

### **A340W**

- Login
- Mot de passe

## 3.2.2 EXTERNAL RECORDS

External records are used to describe the characteristics of a company's external "contacts".

Five operations are available to manage external records from the directory: create, modify, deletion, display records, and display abbreviated numbers.

The operations on external records are also available from the White Pages Service (via the "**DIRECTORY SERVICE**" menu on the Web Admin welcome page).

### 3.2.2.1 Create



**WARNING:** This solution is used to bypass the subscriber's rights (a subscriber without the right to international numbers may call an international number via an abbreviated number).

To create an external record, select the menu **SUBSCRIBERS>Directory>External records>Create**.

This screen is used to complete the columns that describe a new external contact.

This information (or administrative attributes) define the identity of the person inside the company.

#### NAME

Enter the contact name.

#### FIRST NAME

Enter the contact's first name.

#### GENDER

The drop-down list contains the genders previously defined via the menu **SUBSCRIBERS>Directory>Parameters>Genders**.

Select a value (optional).

#### CONFIDENTIALITY

This parameter indicates the level of access to the contact's directory record:

**GREEN LIST** Public access

**ORANGE LIST** Limited access inside the company

**RED LIST** Access forbidden

#### ABBREVIATED NUMBER

Short number to be dialled, preceded by the access code for the "common abbreviated number" feature, used to call the contact's number (entered in the next field).

The length of abbreviated numbers depends on the number of abbreviated numbers to be defined on the system. This number is defined in the menu "**SUBSCRIBERS>Rights>General parameters**". If the number is 1000, for example, the abbreviated number length is 3 digits.

## NUMBER

Contact number

Supported formats are the dialable format (for example 0123456789, 004912345678) and the E.164 format (for example +33123456789, +4912345678).

## ENTIRE DIALING

If the box is ticked, the number indicated in the **Number** field is complete.

Otherwise, it must be completed with a suffix.



**Note:** This field is only available if an abbreviated number is defined.

## NUMBER OF DIGITS TO BE ADDED

For indicating the number of digits to be dialed after the abbreviated number.



**Note:** This field is only available if the preceding number is not complete (box not ticked).

## HIERARCHY

For restricting access rights to the external number from the abbreviated number. Only the subscribers belonging to the selected administrative hierarchy will have access to the abbreviated number.

The drop-down list contains all the administrative hierarchies previously defined on the system using the menu **SUBSCRIBERS > Directory > Administrative hierarchies**.



**WARNING:** This solution is used to bypass the subscriber's rights (a subscriber without the right to international numbers may call an international number via an abbreviated number).

## EMAIL

For indicating the e-mail address of the external contact.

## SIP URI AND ROUTING SIP URI

These fields are used to enter an SIP URI and, possibly, a routing SIP URI in external records.

SIP URIs are limited to 120 characters.

Routing SIP URI is hidden if router mode is not activated in Menu **Subscribers>Directory>Parameters>Customisation**.

SIP\_URIs must contain only one "@" character; unauthorised characters are "(<>,:;>[]\\"", and they must end with a "character "." followed by at least two characters.

## LOCATION

For giving information about the contact's company, for instance (name, address, etc).

The additional fields which may appear on the external record correspond to the attributes defined in advance via the menu **SUBSCRIBERS>Directory>Parameters>Customization**.

After entering the parameters, click "Confirmation" to validate the creation of the external record.

### 3.2.2.2 *Modify*

To modify an external record, select the menu **SUBSCRIBERS>Directory>External records>Modify**. The screen below is used to select the record to modify based on several criteria:

The four fields on this screen are used to limit the list of external records proposed for modification.

#### **NAME BEGINS WITH**

Beginning of the contact's surname.

#### **FIRST NAME BEGINS WITH**

Beginning of the contact's first name.

#### **NUMBER BEGINS WITH**

Beginning of the contact's number.

#### **ABBREVIATED NUMBER BEGINGS WITH**

Beginning of the abbreviated number associated with the contact.

After entering the selection criteria, **click Select item**:



**Note:** If the selection criteria have not enabled a single record to be selected, the << and >> scroll arrows can be used to access the other records.

This screen is used to change one or more parameters associated with an external record.

The description of the fields is the same as the one given for creating an external record (see Section 0).

All the fields can be modified, including the name of the person.

### 3.2.2.3 *Delete*

To delete an external record, click **SUBSCRIBERS>Directory>External records>Delete**. The screen below is used to select the record to delete based on several criteria:

The four fields on this screen are used to limit the list of external records proposed for deletion.

#### **NAME BEGINS WITH**

Beginning of the contact's surname.

#### **FIRST NAME BEGINS WITH**

Beginning of the contact's first name.

#### **NUMBER BEGINS WITH**

Beginning of the contact's number.

#### **ABBREVIATED NUMBER BEGINGS WITH**

Beginning of the abbreviated number associated with the contact.

After entering the selection criteria, **click Select item**:



**Note:** If the selection criteria have not enabled a single record to be selected, the << and >> scroll arrows can be used to access the other records.

On this screen, all the parameters associated with the external record are displayed and greyed out. No input is possible.

To delete a record, click **Confirmation**.

### 3.2.2.4 *Display records*

Menu **SUBSCRIBERS>Directory>External records>Display**.

This screen is used to define the criteria for selecting the external records to be displayed.

If the fields are completed, the different criteria are entered to define the selection. For example, only the records in which the surname starts with a D, the first name with J and the abbreviated number with 4 may be displayed.

Click **Select item** to confirm the operation.



**Note:** Only record display is authorised at this stage.

## 3.2.3 ALIAS RECORDS

Alias records are internal records of persons without a subscription but who share a terminal with a subscriber.

MiVoice 5000 Web Admin is used to create, modify, delete alias records and view existing alias records using certain filter criteria.

### 3.2.3.1 *Creating an alias record*

To create an alias record, select the menu **SUBSCRIBERS>Directory>Alias forms>Create**.

This screen is used to describe an alias.

The parameters which will be used by telephony are the last name, first name and number of the main subscriber. The other parameters are for information only.

#### **GENDER**

For associating a civil status with the person.

The drop-down list contains the genders declared via the menu **SUBSCRIBERS>Directory>Parameters>Genders**.

#### **NAME**

Alias name. This name is used for search by name.

#### **FIRST NAME**

Alias name. This first name will be used in addition to the last name for search by name.

#### **FUNCTION**

For assigning a function with the person.

The drop-down list contains the functions declared via the menu **SUBSCRIBERS>Directory>Parameters>Functions**.

**EMAIL**

For indicating the person's e-mail address.

**LOCATION**

For defining the geographic location of the person in the company.

**MAIN SUBSCRIBER NUMBER**

Indicates the directory number of the subscription with which the alias shares the terminal.

After entering the parameters, click "Confirmation" to confirm the creation of the alias record.

**3.2.3.2 *Modifying an alias record***

To modify an alias record, select the menu **SUBSCRIBERS>Directory>alias forms>Modify**.

The three fields on this screen are used to limit the list of alias records proposed for modification.

**NAME BEGINS WITH**

Start of the alias last name.

**FIRST NAME BEGINS WITH**

Start of the alias first name.

**NUMBER BEGINS WITH**

Start of the number of the main subscriber with which the alias is associated.

After entering the selection criteria, **click Select item**.



**Note:** If the selection criteria have not enabled a single record to be selected, the << and >> scroll arrows can be used to access the other records.

The TITLE, LAST NAME, FIRST NAME, FUNCTION, E-MAIL, LOCATION and MAIN SUBSCRIBER NUMBER parameters are those detailed in the previous section (Creating an alias record).

**HIERARCHY**

The administrative hierarchy of the main subscriber was selected by default while creating the alias record. You can assign another administrative hierarchy to the alias, but this information will not be used.

The drop-down list contains all the administrative hierarchies existing on the system.

**LABEL/MAIN SUBSCRIBER LAST NAME**

Read only field indicating the last name of the main subscriber.

**MAIN SUBSCRIBER FIRST NAME**

Read only field indicating the first name of the main subscriber if this has been declared in its internal record.

After modifying the parameters, click "Confirmation" to validate the modification of the alias record.

### 3.2.3.3 *Deleting an alias record*

To delete an alias record, select the menu **SUBSCRIBERS>Directory>alias forms>Delete**.

The three fields in this screen are used to limit the list of alias records proposed for deletion.

#### **NAME BEGINS WITH**

Start of the alias last name.

#### **FIRST NAME BEGINS WITH**

Start of the alias first name.

#### **NUMBER BEGINS WITH**

Start of the number of the main subscriber with which the alias is associated.

After entering the selection criteria, **click Select item**.



**Note:** If the selection criteria have not enabled a single record to be selected, the << and >> scroll arrows can be used to access the other records.

All the parameters in this screen are read only.

To delete a record, click “Confirmation”.

### 3.2.3.4 *Displaying alias records*

To display alias records, select the menu **SUBSCRIBERS>Directory>Alias forms>Display**.

This screen is used to define the criteria for selecting the alias records to be displayed.

#### **NAME BEGINS WITH**

Start of the last name of the aliases to be displayed.

#### **FIRST NAME BEGINS WITH**

Start of the first name of the aliases to be displayed.

#### **NUMBER BEGINS WITH**

Start of the main subscriber number with which the aliases to be displayed are associated.

After entering the selection criteria, **click Select item**.

In this example, only the alias records of subscriber 3004 have been requested.

### 3.2.4 ADMINISTRATIVE HIERARCHIES

The directory presents a hierarchical structure comprising different administrative entities. An administrative entity may be a company, a department, management, a service, etc.

An entity may have subscribers regardless of its hierarchical level, on condition that it is at a terminating level in the tree structure.

A subscriber's administrative hierarchy refers to the administrative level of the directory to which it is attached. It is defined in the menu **SUBSCRIBERS>Subscriptions>Characteristics>Directory information**.

In the external record of a contact with an abbreviated number, the administrative hierarchy refers to the subset of subscribers with access to this contact's abbreviated number. It is defined in the menu **SUBSCRIBERS>Directory>External records>Create** (and **Modify**).

This command is used to describe the administrative hierarchy tree of the iPBX directory, thanks to a graphical tool.

To access this command, select the menu **SUBSCRIBERS>Directory>Administrative hierarchies**.

This screen describes the administrative hierarchy tree.

#### Icons:



First level node icon.



Second level node icon



Terminal node icon.

#### Tree and actions display:

Clicking an item selects this item.

The "up" and "down" arrows of the keypad are used to move the selection.

Clicking a **+** or **-** icon located in front of a node reduces or expands this node. The "left" and "right" arrow keys have the same effect on the selected node.

The **\*** key on the numeric keypad develops all the child nodes of the selected node.

Double-clicking an item or pressing the **F2** key when an item is selected changes to edit mode for its label.

In node label edit mode, pressing the **Enter** key validates the modification, while pressing the **Esc** key cancels the last action taken since the last entry in edit mode.

**Buttons:****NEW**

If a node is selected, this button inserts a child node under this node. If no node is selected, it inserts the child node of the first node. In both cases, the insertion is made following the last existing child node.

**DELETE**

Deletes the selected node as well as its descendant.

**SAVE**

Saves the tree in the iPBX data.



**Note: all the changes made since this button was last used (or since entry in the graphic tool) are local and will be lost if they are not backed up).**

This button is only active if some modifications have not yet been backed up.

**CANCEL**

Cancels all the modifications made since the last backup operation (or since entry in the graphic tool if no backup has been made). This button is only active if some modifications have not yet been backed up.



Refreshes the display with the information backed up.

**BARRED NUMBERS LIST**

For associating a list of barred numbers with an administrative hierarchy level. When a list is associated with a hierarchy level, it is associated with all the subscribers attached at this level or any lower level.

The drop-down list contains the names of the declared barred numbers lists (the declaration and definition of the barred numbers lists is done in the numbering plan).



**Note: This parameter appears at the bottom of the screen once a hierarchy level has been selected.**

**3.2.5 DISPLAYS****3.2.5.1 External records**

This command is the same as the one described in 0.

**3.2.5.2 Speed dial (or abbreviated) numbers**

This screen is accessible from the menu **SUBSCRIBERS>Directory>Displays>Common abbreviated dialling**.

Enter the beginning of the numbers to display (or leave blank to obtain the entire list, then click **Select item**).

The display then gives all the external records with an abbreviated number.

Only abbreviated number display is authorised at this stage.

It is, of course, possible to limit the display by filling in the field "Abbreviated number starting with".

## 3.3 SUBSCRIPTION MANAGEMENT

Menu **SUBSCRIBERS>Subscriptions**.

This menu includes 9 functions used to:

- Create subscriptions
- Display subscribers from their internal number
- Define (display / modify) subscription characteristics.
- Assign set authentication keys
- Copy a subscriber's characteristics
- Copy keys
- Dial numbers
- Assign terminals automatically
- Delete subscriptions.



**Note:** In the user interface, just like in this document, the terms **Subscriber** and **User** are interchangeable because they have the same meaning.

### 3.3.1 CREATING SUBSCRIPTIONS

In most cases, for a subscriber, a subscription is defined to which a physical set (or telephone set) is assigned.

It is nevertheless possible to define a subscription, regardless of individual assignment to a set. This assignment may be done in a second phase.

As a rule, assignment consists in defining a subscription/equipment pair. In this case, it is all about a simple subscription. It is also possible to associate several terminals with the same subscription, for example an analogue set and a DECT terminal; for this, the subscription must have the "sets association authorised" property (see General characteristics of a subscription in Section 0).

Select the menu **SUBSCRIBERS>Subscriptions**.

Creation of a new subscription requires knowing at least the type of subscriber to define and a directory number available for this subscription.

#### SUBSCRIBER TYPE

Subscriber type is the first parameter to select. The choice of subscriber type determines the next operations to perform.

Select any of the following subscriber types:

#### INTERNAL

Internal subscriber. The LOCAL type is proposed by default. Most subscribers are associated with this type of subscription which allows the assignment of a wide range of terminals.

#### HUNT GROUP

Subscription used to group a set of subscribers who can all be called by the hunt group's call number.

<b>(SUPER) GROUP</b>	Subscription used to group a set of HUNT GROUP type subscribers or associated with a multi-key set. The number of SUPER GROUP type subscriptions is limited to 8 per IPBX.
<b>MULTIUSER</b>	Subscription sharing the same set as another subscription.
<b>ATDC</b>	Attendant console subscriber. Has special functions (see the chapter "Call distribution").
<b>AUTOMATED ATTENDANT</b>	An automated attendant (IVS) routes incoming calls to call distribution stations (voice mail box, operator console, predefined numbers, etc). The extension is activated as soon as it is created.
<b>DISA (Direct Inward System Access)</b>	Server used to set up calls and program features from an external set (not connected to the system)
<b>V MAIL GROUP</b>	For declaring voice mail groups outside the voice mail box and the groups associated with the voice mail box
<b>INTEGRATED MAIL</b>	Server dedicated to the company's messaging system
<b>NORMAL MODE CONF</b>	Teleconference function. Service called from a specific number (see note at the end of the table).
<b>COMMON MODE CONF</b>	Standard teleconference. Service called from a predefined prefix in the numbering plan (see note at the end of the table)
<b>SYSTEM MODE CONF</b>	Teleconference with reinforced surveillance. For setting up a conference between subscribers belonging to a predefined list (see note at the end of the table).
<b>TELECONFERENCE</b>	Teleconference managed by a conference master who determines the subscribers authorised to participate in the conference (see note at the end of the table).

**FIRST DIRECTORY NUMBER**

Enter on this line the new subscriber's number. It must be a number not assigned to another subscriber in the directory.

**NUMBER OF SUBSCRIBERS REQUIRED**

Enter the number of subscribers to create. By default, the number is set to 1. If the number of subscribers required is above 1, the system automatically creates a series of subscribers from the first directory number indicated. For example:

- First directory number indicated: 6000
- Required number 10
- Subscribers created: 6000 to 6009.



**Note:** This column is used to create a large number of subscribers while creating the company network.

## USER PASSWORD

For more information about user password management, see the USER PASSWORD field in the characteristics tab of Menu SUBSCRIBERS>Subscriptions >Characteristics, in Section 3.3.3.1.

The user password displayed is the default password of the PBX. It will be assigned to all the subscribers to be created.

If the proposed "user password" is modified, this new password becomes the default password of the PBX after the subscriptions are created.

After this user password is modified, click **Confirmation**.

The "User password" line is only displayed for the following types of subscriptions: LOCAL, MULTIUSER, ATDC, DISA, AUTOMATIC ATDC

## VERIFY UNIQUE NUMBER IN MULTISITE

When a subscriber is being created, the system checks whether the subscriber exists already in another site, for a multi-site configuration.

If the box is checked, this control is enabled (timeout of about two seconds if control is enabled).

## AUTOMATIC CREATION OF DID NUMBER

If the box is checked, a DID (Direct Inward Dialling) number is created which is the same as the internal directory number and prevents creation later in the menu: "Extension characteristics".



**Note:** DID is a system which allows direct access from the outside to a subscriber's set without going through the switchboard.

## AUTOMATIC CREATION MOBILELINK FUNCTION

If the box is ticked, two keys are programmed in the following order for each subscription (local type) created:

- Key 1 Supervision of main line (CCO). The label assigned to the key is initialised with the subscription number.
- Key 2 MobileLink. The label associated with the key is initialised with the **MobileLink** string for SIP phones 6900 only.

## CONFIRMATION

Clicking "Confirmation" validates the content of the screen.

## 3.3.2 DELETING SUBSCRIPTIONS

Select the menu **SUBSCRIBERS>Subscriptions>Delete**.

### SUBSCRIBER TYPE

The list of subscriber types is the same as the one proposed for creation (see Section 3.3.1).

### FIRST DIRECTORY NUMBER

Directory number of the first subscriber to be deleted.

### LAST DIRECTORY NUMBER

Directory number of the last subscriber to be deleted. For deleting several subscriptions with successive numbers.



**Note:** If certain numbers between the **FIRST** and **LAST** do not belong to the type of subscriber selected, subscriber deletion does not take place. An error message is displayed.

### DELETE DIRECTORY RECORDS

If the box is checked, the directory records associated with the subscribers will be deleted from the directory. This action updates the system directory or the multi-site configuration at the same time.

### DELETE INTEGRATED VOICE MAILBOX

If the box is checked, the voice mailboxes of the subscribers are deleted.

Otherwise, the messages are kept until the next message deletion audit and will only be accessible if the subscription is created again.



**Note:** In normal operation mode, check the integrated voice mailbox deletion box.

Click "**Confirmation**" to validate the operation.

### DELETE BLUSTAR FILES

If the box is ticked, no matter the origin of the request (including from MiVoice 5000 Manager), the configuration files `<N°>_local.cfg` and `<N°>.cfg` associated with the subscribers in question are deleted.

### 3.3.3 EXTENSION CHARACTERISTICS

Menu **SUBSCRIBERS>Subscriptions> Characteristics**.

This menu proposes different functions used to define the main characteristics of an extension (or subscriber).



**CAUTION:** For an internal subscriber, his subscription is complete when the following items are defined: directory record, subscriber type, terminal type, characteristics, set model.

Certain functions, such as "General characteristics, are used to individually complete the main parameters associated with a subscription. They are also used to modify or duplicate these characteristics.

#### 3.3.3.1 General characteristics

Menu **SUBSCRIBERS>Subscriptions /Characteristics>General characteristics**.

After entering the directory number, click **Select item**. The "General characteristics" screen is used to define all the parameters of a given subscriber.



**Note:** The number of parameters available in "General characteristics" depends on the type of subscriber declared previously.  
 For the COMMON MODE CONF or INTEGRATED V MAIL types, there are fewer parameters to enter than for LOCAL, for example.  
 For the BACKUP type, these are information fields, the configuration of the subscription only being authorised on the reference site.  
 The number of parameters to enter is limited if feature management is done via feature classes (see the FEATURE CLASS MANAGEMENT parameter in SUBSCRIBERS>Rights>General parameters).

#### SUBSCR. STATUS

**IN SERVICE**

**OUT OF SERV.**

For enabling and disabling the subscriber. To remove a subscriber's card from the system (associated with a fixed TDM set), first disable the sets attached to this card.

When the subscriber has a call set up, "IN COM" is displayed next to the status



**Note:** If the subscriber is BACKUP type, the SUBSCR. STATUS label is completed by the subscription activation status:  
 - INACTIVE means that the call handling takes place on the reference site of the subscription (normal operation status),  
 - ACTIVE means that the reference site of the subscription cannot be accessed and that call handling is done on the backup site.  
 For a description of the Dual Homing feature, see the MiVoice 5000 operating manual: Multi-site management [2].

#### DIRECTORY NUMBER

Recalls the subscriber's number in the directory.

#### LOCATION

In case of specific DID number management, see the document AMT/PTD/PBX/0099/EN).

#### DID DIRECTORY NUMBER PLAN 1

This field is repeated for each declared plan (8 plans maximum).

This field is used for ISDN DID systems: give the MCDU (last 4 digits of the DN) which will reach the set directory number (DID --> set).

**EXTENSION NAME**

The extension name is made up of 12 alphanumeric characters (for forwarding, the name of the digital Attendant Console or the M7855 Attendant Console is limited to 6 characters).

The name is saved in the LDAP database. It can be used during a call by name.

**COMPANY**

Name of the company to which the subscriber is attached. The drop-down list contains the names of the companies declared on the system (the companies are declared via the menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Company names**).



**Note:** This field is only displayed in multi-company configuration.

**DEPARTMENT**

Name of the department to which the subscriber is attached. The drop-down list contains the names of the departments declared on the system for the selected company (the departments are declared via the menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Department names**).



**Note:** This field is only displayed in multi-company configuration.

**ROOM SET DIRECTORY**

Number of the main subscription with which the subscription shares the set.



**Note:** This field is only displayed in multi-company configuration.

**PASSWORD**

Password to enter to use the shared set (in the case where the shared set has a short or long signature).



**Note:** This field is only displayed for a MULTIUSER type subscription.

**INTEGRATED VOICE BOX (IVB)**

If the box is ticked, it allows a voice mail box to be assigned to the subscriber.

Not ticking the box results in deletion of the voice mail box, that is, all the messages that it contains, the voice signature, the customised message and the password.

**- CLASS NAME**

This line is displayed only if the previous box has been ticked. It is used to assign a class to the voice mail box. When a box is created, class 0 (IVB 0) is automatically assigned to the subscriber. The class can be changed later, provided a name had been previously assigned to this class (it is possible to create 10 classes, menu "Name of box classes").

**SET AUTHENTICATION KEYS**

**ABSENT**

**PRESENT**

Information field indicating whether a password is defined for the authentication during recording or during call set up. This authentication is not related to recording, but it may be required any time by the system. The function used to associate an authentication password with the subscription can be accessed via **SUBSCRIBERS>Subscription>Set authentication keys**.

## BACKUP SITE

This parameter is only present in a multi-site configuration and for a LOCAL type subscriber.

It allows the subscription to take advantage of the Dual Homing (secure subscription) feature by assigning it a backup site.



**Note:** The Dual Homing feature is available as of software release R5.1B.

.....

The subscription is not secured.

**Site Name**

The subscription is secured on the site indicated.

The drop-down list contains all the multi-site sites with software release  $\geq$  R5000.1. It is necessary to check that the selected backup site is running with software release  $\geq$  R5.1B.



**Note:** For a description of the Dual Homing feature, see the MiVoice 5000 operating manual: Multi-site management [2].

## REFERENCE SITE

This parameter is only present in a multi-site configuration and for a BACKUP type subscriber.

It indicates the reference site of the subscription.



**Note:** For a description of the Dual Homing feature, see the MiVoice 5000 operating manual: Multi-site management [2].

## MULTIUSERS: DEFINED 0, AUTHORIZED

0 = number of multi-users defined already.

To return to 0, firstly erase the multi-user declared. This line is only proposed for analogue or digital sets.

The authorised value cannot be different from 0 if the set features a DID directory number different from its internal directory number.

## USER PASSWORD

### GENERAL INFORMATION

This 4-digit password is the same for the subscription and for the integrated voicemail.

It can be modified by the user, unlike the previous versions in which it could only be reset.

The types of subscriptions concerned are:

- LOCAL (and multi-line with a unique password)
- MULTIUSER
- ATDC
- DISA (Direct Inward System Access)
- AUTOMATED ATTENDANT

The default user password for the subscription is 0000.

## DESCRIPTION OF THE USER PASSWORD FIELD

The value is displayed unencrypted when the password is entered, and then replaced with eight "\*" when the field is validated (by pressing the return key or clicking outside the field).

When the user cancels the field (by deleting the "\*\*\*\*\*"), the password is automatically reassigned its default value (value displayed in Menu **Subscribers>Subscriptions>Create**) when the field is validated, and the "\*\*\*\*\*" are displayed.

For multi-line subscriptions, the password can only be modified from the main subscription (which is automatically copied to all the secondary subscriptions). For an ATDC subscription, the password field only appears when the subscription is declared as a multi-line subscription (because the password only applies to the secondary numbers).

For DISA subscriptions, the password remains displayed unencrypted after this latter is validated.

## USER PORTAL ACCOUNT

Checkbox

If the option is ticked, the operator allows the subscriber access to the User Portal using a password defined on the next line.

User Portal (MiVoice 5000 User Portal) is an MiVoice 5000-integrated application which enables the subscriber to manage his telephone terminal himself, such as programming the keys or forwarding calls.

The User Portal service must be activated (see Menu **Subscribers>Rights>General parameters, Application** tab).

User Portal is accessible via a web browser, at this address: <https://@iPbx:4446/userportal>

## -USER PORTAL PASSWORD

This field is only visible if the User Portal ACCOUNT option is selected.

The password input policy is defined in Menu **Subscribers>Rights>General parameters, Application** tab.

Creating or modifying the User Portal password generates the transmission of an automatic e-mail to the subscriber concerned if this option is activated. See Menu **System/Setting/E.mail, User Portal password** tab.

## AUTHORIZED ASSOCIATION OF SET

Terminal association is only possible with INTERNAL EXT. ISDN and i2052 VOIP terminals cannot be associated with a subscription.

Generally, terminal association is not possible on a subscription that does not accept physical terminals (for example, "server", conference subscriptions, etc.).



**Note:** ISDN and i2052 VOIP terminals cannot be associated with a subscription although they use an INTERNAL EXT subscription.

## INTERNAL TERMINAL ACTIVATED

Checkbox

This parameter is activated by default.

It is useful only if associated with several terminals. The notion of internal terminal represents all the terminals of the subscription inside the company's telephone network.

In contrast, the notion of external terminal represents the terminals defined as EXTERNAL TERMINAL and which cannot be reached via the company's network. See the TERMINALS tab.

**Parameter activated:** all the "internal" terminals receive calls.

**Parameter deactivated:** none of the internal terminals receives any call; only external terminals receive calls.

The terminals have typical function information, either in form of a message or an icon: for example INCOMING CALLS DEACTIVATED on a 39i.

Note: the operator can deactivate the internal and external calls; in this case, the subscription no longer receives any call.

## EXTERNAL TERMINAL ACTIVATED

The same as above but, in this case, for external terminals.

On the other hand, external terminals do not have the information if they cannot receive the subscription's calls.

## - PASSWORD STATUS

**RECORDED**

**ERASED**

This column only appears if a password has been defined (other than 0000) in the terminal menus. If you select ERASED, the secret code is deleted and the user can record a new password for terminal login/logout.



**Note:** This password is also used by the MiVoice 5000 dialer application.

## RIGHT TO CLASS SERVICE

This column is only available on analogue sets. CLASS service allows analogue sets to receive the following information about the current call:

- Caller number (if there is no call offering restriction)
- Time and date of the call (only available in V23 mode).



**CAUTION:** This column only appears for analogue terminals.

**SERVICE BEARER**

Indicate to the PBX the type of service used for this set (depends on information type).

**DAY CATEGORY**

Select the category assigned to the user.

The authorisations, limitations and prohibitions associated with each category are defined in the menu: Category management.

**NIGHT CATEGORY**

The difference between DAY and NIGHT is the switchover from day to night and vice-versa, which is carried out by the barring calendar (menu : Barring Calendar), in single-company configuration, or in menu : Company/department parameters in multi-company configuration.

**ROLE OF MICOLLAB**

This options field is displayed when the MiCollab server synchronisation parameters have been defined in Menu **Telephony service>Subscribers>Terminals and applications>MiCollab**. See also Section **Erreur ! Source du renvoi introuvable..**

For assigning a role to the subscription: if any of the roles (options) is entered in this field, the subscription will correspond to a MiCollab user and may be created or updated during the realignment phases (synchronisation with the MiCollab server).



**Note:** If the Windows login parameter for authentication in Menu **Telephony service>Subscribers>Terminals and applications>MiCollab** is not ticked and no entry has been made in the user login field in Menu **SUBSCRIBERS>Subscription>Characteristics>Directory**, the options list remains empty.

**RÔLE CLOUDLINK**

No applicable in this release.

**FORBIDDEN NUMBERS LIST**

Used to assign to the subscription a list of numbers that it cannot access. This list can also be configured based hierarchy / administration via the directory.



**Note:** The restrictions relative to the list of barred numbers will only be taken into account if the **FORBIDDEN NUMBERS LIST RESTRICTION** parameter in the category associated with the subscription is checked.

The drop-down list contains the names of the forbidden numbers lists declared via the menu **NUMBERING PLAN>Forbidden numbers>Forbidden numbers lists**.

**HOT LINE TYPE**

.....

**IMMEDIATE****DELAYED**

For defining the behaviour of the line, for the subscription, when the handset is picked up. This behaviour does not apply to all sets (ISDN, SIP, and H323).

A hotline call can be made in two ways:

*IMMEDIATE:* An internal or external number is dialled immediately and automatically on off-hooking.

*DELAYED:* An internal or external number is dialled automatically 5 seconds after off-hooking. This value may be modified from the menu **SYSTEM>Expert> Timeout management**.

**- DAY/NIGHT NUMBER**

These two fields are only displayed if the "hotline type" has been selected, either "immediate" or "delayed" line.

Enter the internal or external number corresponding to the hot line set, on this line.

The number entered can have a maximum of 17 digits, including direction access prefixes (0, 00).



**Note:** The DAY number is used when the system is in DAY or reduced day service.  
The NIGHT number is used when the system is in night service (calendar applicable).

**Restriction:** only the day number will be taken into account for EX, GX and TA systems.

**INTERCOM 1 GROUP/INTERCOM 2 GROUP**

The automatic assignment of Intercom group based companies is configurable and also applies to SIP extensions but does not apply to MiVoice 5000 Server or the Multisite.

INTERCOM groups 0 to 31:	supervision and interception by keystroke alone on the digital extension.
INTERCOM groups 32 to 252:	the same as 0 to 31 plus interception through feature *01. These groups are reserved for subscriber groups: they are used to intercept a call for the group.
INTERCOM group 253 and more (up to 2000):	intercom group with reduced function, used to intercept but not to call. Subscriptions belonging to this group can monitor users from any other group. They are not supervised themselves. Only applies to the 253 group.

Subscriptions in the same INTERCOM X group can supervise and be supervised.

**PAGING GROUP NUMBER 1**

You can assign sets to one or two paging zones so that people can page different parts of the office without disturbing the whole office.

- 1<sup>st</sup> case:** the user paging group numbers (called and calling parties) are identical (from 0 to 254): the pager rings (with call end forwarding).
- 2<sup>nd</sup> case:** the caller end paging number group is 255: the pager rings (with call end forwarding).
- 3<sup>rd</sup> case:** the user paging group numbers (called and calling parties) are different and the caller paging group number is not equal to 255: the called extension rings, but the pager does not, despite call end forwarding.

**PAGING GROUP NUMBER 2**

See paging group number 1.

**OUTGOING PARTITION CLASS**

This parameter is only available if partition class management is enabled in the menu **SUBSCRIBERS>Rights>General parameters**.

The drop-down list contains the partition classes defined in the system.

**INCOMING PARTITION CLASS**

This parameter is only available if partition class management is enabled in the menu **SUBSCRIBERS>Rights>General parameters**.

The drop-down list contains the partition classes defined in the system.

**PRIORITY CLASS**

This parameter is only available if partition class management is enabled in the menu **SUBSCRIBERS>Rights>General parameters**.

The drop-down list contains the priority classes defined in the system.

## ACCESS TO TL ROUTES X

Ticking this box validates access to TL (tie line) directions.

If you want to define a new private direction, first you must create a direction name (menu: **Direction name**) then define this direction (menu: **Access to directions**): A new field, **Access to TL route "x"**, then appears for the desired area.



**Note:** Tie-line trunks are not implemented. Consequently, some private directions can be specially configured at the factory for a client (one or more lines then appear on screen). For example, these 2 lines are displayed:

**LINE "ACCESS TO DIRECTION PRIVATEL"**

For accessing the PRIVATEL direction. See the screen NUMBERING PLAN>User numbering plan>Access to directions.

**LINE "ACCESS TO DIRECTION VNC"**

For accessing the VNC direction. See the screen NUMBERING PLAN>User numbering plan>Access to directions.

Management of up to 64 different tie-line directions, grouped into 8 access zones (geographic or other) by the operator. Access right is, therefore, zone based.

AREA ACCESS A (YES/NO), AREA ACCESS B (YES/NO)

There are as many lines as there are areas defined by the operator.

## ACCESS TO PAGING

If this box is ticked, the subscriber has access to three paging types (see descriptions of the paging function in the menu **Direction name** menu and in the menu **Access to directions**).

## PRIVILEGED SET

If this box is ticked, the user may call the operator in a privileged manner. It only works with the integrated attendant console.

## PICK UP PROTECTION OVERRIDE PICK-UP

If this box is ticked, the user can intercept all calls to all other sets, including calls to sets with a pick up protection feature.

## LOCKING ALLOWED

If this box is ticked, the user has the right to lock his or her set. In this case, certain functions (including external calls, set programming, and personal abbreviated dialling) require the use of a secret code.

## UNLOCKING ALLOWED

If this box is ticked, the user has the right to unlock his set by entering his secret code.

Otherwise, the set remains locked.

## USER MOBILE RECORDING

If this box is ticked, the subscriber's mobile (DECT) number may be registered.

## PICK UP PROTECTION

If the box is ticked, the set is protected against any pick up, including pick up using a key programmed for the intercom function. Pick-up only applies to users authorised by the parameter: "pick-up protection pick-up".

**NIGHT CATEGORY OVERRIDE**

If the box is ticked, the user is entitled to override his night service category using his secret code: for this call, the set is switched to the day service category. (Secret code = password).

The secret code is not required when in the numbering plan, the direction type is “password require=no”.

**CALL FORWARDING PROTECTION**

If this box is ticked, the extension is protected against all types of forwarding.

**DATA PROTECTION**

If the box is ticked, the user can protect himself throughout a conversation from a busy override or from call waiting (protection activated by feature code).

**DO NOT DISTURB ALLOWED**

If this box is ticked, the user is entitled to use the Do Not Disturb feature (MUTE message on digital sets).

**INTRUSION ALLOWED**

If the box is ticked, the user can execute a busy override procedure (OFFER) on another set in the busy status 1 (the other set must not have a call waiting).

The aspect of voice mail and charging of busy sets 1 & 2 is handled in the chapters “Network and Links”, section “Trunk characteristics”.

**INTRUSION ACCEPTED**

If the box is ticked, the set is protected against any busy override (OFFER) but waiting calls are indicated.

**LISTENING/INTERVENTION ALLOWED**

If the box is ticked, the user can intervene to listen to a call in progress (discrete listening or intervention).



**Note:** A system parameter is used to authorise the intervention service. The service is only accessible to sets with interactive keys.

**LISTENING/INTERVENTION ACCEPTED**

If the box is ticked, the user's calls may be listened to.

**RIGHT TO ENCRYPTION**

If this box is ticked, call encryption applies to this user.

**MASTER OF CONFERENCE**

If this box is ticked, the user is entitled to initiate a teleconference (by calling a conference directory number).



**Note:** The teleconference function is only available for a multi-site configuration with a CCB card.

**PC LOGIN ONLY**

If this box is ticked, the user is entitled to use the Login/Logout functions on a 6xxx terminal from an application (User portal or external application).

## PRE-EMPTIVE REROUTING TO VOICE MAIL

If the box is ticked, it is used to specify which voicemail to route the call to if the called set and the forwarding set have voicemail boxes.

## USE OF DISA FUNCTION

If the box is ticked, calls can be set up and certain features programmed from an external telephone set.

## CALL WAITING

Indicates the way in which an “incoming call” is processed when the user is busy.

### ACCEPT AND BEEP

Normal procedure: the call is placed on hold, and the user is advised.

### FORWARD->ON CONSOLE

The call is put on hold but forwarded immediately to the ATDC

### REFUSED

The calling party receives the busy tone.



**Note:** On a multi-key set, this parameter only applies when all the CCOs are busy.

## RETURN TO CONSOLE ON SPEC. TIME-OUT

If the box is ticked, the time-out for return to the ATDC on no answer, free or busy set, is modified from the standard value to a special value (see “Time-out management” screen).

## EXTERNAL FORWARDING ALLOWED

If the box is ticked, internal calls can be transferred to an external number.

Forwarding of an external call to another external number is subject to other rights.



**Note:** In the “Subscribers miscellaneous parameters” screen, tick the box for the parameter “Allow Tk – TK transfers”.

**In the menu Rights>Subscribers miscellaneous parameters: Miscellaneous parameters modification, set parameter 282 to 2: forwarding authorised without reading the table of forwarding rights on trunk lines and parameter 177 to 1: ISDN-ISDN transit authorised (with system reload).**

## ASSISTANT FORWARDING ALLOWED

This form of forwarding is used for a filtering application. This right makes it possible to activate a forwarding function for another set. All incoming calls to the other set are routed to the intercepting set. This parameter is also used to override call forwarding and DND. It authorises the user to forward a group of sets in predefined forwarding mode.

**BROADCAST CALL LIST**

If the box is ticked, the user can make a speaker paging call to terminals belonging to one of the paging lists (for digital TDM terminals and 6xxx terminals equipped with a loudspeaker).

The TDM user can make a speaker paging call (loudspeaker call) to just one terminal or to a list of TDM terminals.

Any user can make a speaker paging call to a 6xxx terminal.

Voice is one-way or both-ways, depending on the intrusion rights/intrusion acceptance.

**NETWORK SHIFT ALLOWED**

If the box is ticked, an attempt is made to route the call to “other network” if direct routing and rerouting attempts fail.

**NETWORK REROUTING ALLOWED**

If the box is ticked, an attempt is made to reroute the call if direct routing attempts fail.

**ID SENT TO PUBLIC NETWORK**

<b>AID</b>	<b>IID</b>	.....
------------	------------	-------

Used to indicate which number the user wishes to identify himself with to the external correspondent during an outgoing call to the public network.

AID: his own number, IID: the general call number of the system.

**ID SENT TO PRIVATE NETWORK**

<b>AID</b>	<b>IID</b>	.....
------------	------------	-------

Used to indicate which number the user wishes to identify himself with to the external correspondent during an outgoing call to a private network (for example, tie-line).

AID: his own number, IID: the general call number of the system.

**ID SENT CAN BE MODIF. FOR EACH CALL**

<b>NO</b>	<b>YES</b>
-----------	------------

If you enter YES, this line enables the user to send either his DID (AID) number or the general number of the system (IID) to a correspondent, when making outgoing calls from his extension (OPTION interactive key after the prefix) provided that, in menu “Miscellaneous parameters”, NON IDENTIFICATION AUTHORIZED is set to YES.



**Note:** If the user does not use the OPTION key, the value defined in the previous lines is sent.

**PRIORITY SET**

If the box is ticked, reserved line seizure is allowed (see the **Trunk group characteristics** menu).



**Note:** See Appendix for information about these terminals' power-saving function.

**RIGHT TO IMMEDIATE FORWARDING**

If the box is ticked, immediate forwarding is allowed for any call.

**FORWARDING ON BUSY ALLOWED**

If the box is ticked, the user is allowed to forward calls if the line is busy.

**FORWARD ON NO ANSWER ALLOWED**

If the box is ticked, the user is allowed to forward calls if he is absent.

**RING DURATION BEFORE FORWARD****STANDARD****SPECIFIC\_1****SPECIFIC\_2****SPECIFIC\_3**

Selection of 4 possible delayed forwarding ring timeouts programmed for a standard configuration duration of 15 seconds (see **Time-out management** menu).

**RECORDED CALL ALLOWED**

If the box is ticked, the user is allowed to save the last number dialled.

**AUTOMATIC CALLBACK ALLOWED**

If the box is ticked, the user may access the "AUTOMATIC CALLBACK" function through the "CALLBACK" function of digital sets or via the "Access to features" screen (Automatic callback activation).

**APPOINTMENT REMINDER ALLOWED**

If the box is ticked, the user can access the "WAKE-UP" function.

Each user has 4 appointment reminders unless it is a "hotel room set type", in which case he has just one appointment reminder.

**COMMON ABBREV. NUMBERS ALLOWED**

If the box is ticked, the user is entitled to use the general abbreviated dialling feature ("DIRECTORY" function on digital sets).

**PERSONAL ABBREV. NUMBERS ALLOWED**

If the box is ticked, the user is entitled to use his own abbreviated numbers list.

**PERSONAL CALLS ALLOWED**

If the box is ticked, personal calls are allowed.

**TRANSFER BEFORE ANSWER ALLOWED**

If the box is ticked, the user is entitled to transfer calls before the called party answers.

**HUNT GROUP SETTING ALLOWED**

If the box is ticked, the user can belong to a hunt group.

**FEATURES A MANAGER LINE**

- **LOCATED IN THE SITE**
- **AND IN THE CLUSTER**
- **LINE NUMBER**



**Note:** These three columns are only displayed in a multi-site configuration.

This user characteristic is used to reserve an outgoing and incoming external line by indicating the TDM network trunk reserved for this subscription. It does not concern VOIP type equipment.

**LOGOFF ACCEPTANCE**

If this box is ticked, it means that the user can log on to another terminal.

**PREDEFINED FORWARDING**

Enter the internal or external number to which the user wishes to forward his calls. Forwarding to an external number is only possible if the "Immediate Forwarding Allowed" box is ticked.

The number entered can have a maximum of 17 digits, including direction access prefixes (0, 00).



**Note:** Other forwarding operations are defined in the dynamic features menu.

**HOTEL ROOM SET TYPE**

If you tick the box, you authorise personal calls with no password requested, to limit the number of wake-up call requests recorded at any time to 1, and authorise the message deposit feature. This column is used for hotel/motel management.

**EXT. LAST CALLERS CALL BACK**

Activation of this feature is only valid for the network (display of external number) and for sets with interactive keys.

**MAINTENANCE SET**

The maintenance set confers the right to the "access restriction" command (manual switching of day/night mode) and to the "billing monitoring".

If the box is ticked, this feature authorises the launching of manual tests on trunks, and gives access to the functions available on the sets defined in the menu **RECEPTION>Operators>Parameters**.

These functions are accessible via the dynamic keys available on digital sets

**SPOKEN LANGUAGE**

This field is only displayed when several languages are defined in the menu **System>setting>Languages**. It is used to broadcast announcement messages in the user's language (see "**Spoken languages definition**").

**WRITTEN LANGUAGE**

Selecting the language to be displayed on sets with I interface (G2K, G2KIP): possibility to choose one of the languages defined in the menu **System>setting>Languages**.

**USABLE IN CALLS WAITING QUEUE**

If this box is ticked, it means that the call may be registered in a queue.

This allows the use of a subscription on which a digital set is "logged" but not necessarily connected or programmed to pile up calls.

**BUSY FOR HUNT GROUP ON 1ST CALL**

If the box is checked, this option is only used to route a call meant for the hunt group if the set is available (generally, a set which features several directory numbers and which belongs to one or more hunt groups).

**EMERGENCY CALLBACK SET**

If the box is ticked, the terminal is defined as an emergency callback terminal. Wire multi-line, "DECT" and "without terminal" sets cannot be configured as emergency callback sets.



**WARNING:** Once a subscriber has been configured as an emergency callback set, its directory number cannot be changed or deleted. The "Correct" command places the cursor on the line "Emergency callback set" so that the function can be set at NO, thus making it possible to change or delete the directory number.

#### **SHARING SET**

If this box is ticked, this selection means that the use of the set is shared by several persons (in a hospital room, for instance).

**SIGNATURE TYPE**

This field is only available if the SHARING SET box is ticked.

**NONE**

Access to the shared set does not require any identification (generally used in a hotel room).

**SHORT**

Access to the shared set requires a password (generally used for a shared set in a hospital room).

**LONG**

Access to the shared set requires a login and a password (generally used for a self-service set).

**MONITORING SUBSCRIBER (RECORD)**

If the box is ticked, a monitoring record is issued at the end of a user's communication.

***CASE OF A MODEM USER*****MONITORING SUBSCRIBER (RECORD)**

Ticking the box enables you to request for the generation of a monitoring record at the end of a communication with the remote maintenance MODEM.

### 3.3.3.2 *Directory information*

#### 3.3.3.2.1 **Selecting a subscription record**

Menu **SUBSCRIBERS>Subscription> Characteristics>Directory**

This screen is used to complete the columns not available while creating a new subscriber. This information, which defines the identity of the subscriber inside the company (or administrative attributes), will later be accessible when the directory is consulted.

This screen is also used to view information about a subscriber whose number is known.



**Note:** The directory record of a subscription is automatically created when the subscription is created. If this record is deleted subsequently, it is created again automatically by this command unless the subscription in question is **BACKUP** type.



**Note:** For a **BACKUP** type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

#### **GENDER**

For associating a civil status with the subscriber: Mr, Mrs or Miss (or if necessary, a place entitled "Conference room", for a device).



**Note:** The columns **Gender, Function and Confidentiality** are defined in the menu **SUBSCRIBERS>Directory>Parameters**.

#### **FIRST NAME**

For entering the subscriber's first name.

#### **FUNCTION**

Function exercised by the subscriber in the company. The following functions are available: Assistant, Technician, Engineer, Manager, or other function (.....).

#### **HIERARCHY**

The subscriber's hierarchical position in the company. This attribute will later be used to filter abbreviated numbers and barred numbers. Possibly used for charging applications.

#### **CONFIDENTIALITY**

Different types of lists are available to indicate the level of confidentiality for the subscriber: green list, orange list, and red list. Membership of any of these lists results in the filtering of certain calls to the subscriber.

#### **EMAIL**

For indicating the subscriber's e-mail address. This address is used to send a mail associated with a voice message left in the subscriber's mail box (see the menu **MESSAGES AND TONES**. Notion of e-voicemail).

**SIP URI**

Field used to enter an SIP URI in the number records enabling the definition of the subscriber's geographic location in the company.

The SIP\_URI must contain only one "@" character; unauthorised characters are "()<>;:>[]\\"", and it must end with a "character "." followed by at least two characters.

**LOCATION**

For defining the subscriber's geographic location in the company.

**LABEL**

Optional field attached to the notion of abbreviated number, describing the set's label. If it is entered, this field can be displayed while resolving the number.

**ASSISTANT**

Possibly for identifying the subscriber's assistant. It will be used to define an assistant / manager relation, to authorise call filtering.

**ABBREVIATED NUMBER**

For indicating that this number entered is associated with a common abbreviated number on the installation.

**USER LOGIN**

For assigning a login to a MiCollab user in the LDAP directory when SSO mode is enabled. See Menu Telephony service>Subscribers>Terminals and applications>MiCollab, Connection tab, Section 3.10.

This field in UTF8 format must contain a maximum of 120 characters.

In SSO mode, this login can only be deleted if no role is assigned in the subscription: Menu SUBSCRIBERS>Subscriptions>Characteristics. See Section 3.3.3.

As of release R6.2, the login can be used to access the User Portal (refer to paragraph 3.14.1.4).

**3.3.3.2.2 Display abbreviated numbers**

Menu **SUBSCRIBERS>Characteristics>Directory information**.

**ABBREVIATED NUMBER BEGINS WITH**

If this column is completed, only the abbreviated numbers above the number entered will be displayed on the next list.

Otherwise, all the abbreviated numbers will be displayed.

This screen displays the abbreviated numbers inserted previously in the "subscription record characteristics" of the director record.

**3.3.3.3 Assigning terminals**

Menu **Subscribers>Subscriptions>Characteristics – Terminals** tab

Assigning a subscription to a device is not a mandatory operation: assignment is performed automatically through the automatic login function, or manually from a terminal.

Subscription/device assignment is mandatory for the following systems:

- Analogue terminals (Z interface)
- AMT Legacy DECT
- ISDN terminals
- H323.

It is not mandatory for the following systems:

- M4/5/6/7xx,
- 53xx,53xxIP
- i2052
- SIP
- WIFI.
- DECT SIP terminals
- 6xxxi terminals

This screen is used to assign a "physical" terminal to a subscriber.

For other devices, there is an assignment of a terminal type (required eg for SIP DECT).

The notion of physical location does not apply to DECT handsets. It is the reference radio cell that must be entered (obligatory in case of DAS, optional for DECT). DECT management is handled in the chapter "Networks and links".



**Note:** For a **BACKUP** type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

### PHYSICAL TERMINAL TYPE 1

Options

Select the type of physical terminal assigned to the subscriber. The available types depend on the type of subscription and iPbx (Mitel 5000 Gateways or MiVoice 5000 Server).

For an Associated subscriber (In Characteristics: authorised association of set), the maximum number of terminals is four.

### TERMINAL TYPES

ANALOGUE

PROPRIETARY

H.323 TERM

IP\_OWNER

DS\_ON\_PC

VTI/XML IP  
SIP  
IP DECT  
Mitel OMM CONFERENCE  
MITEL VIDEO  
ISDN: S0 BRI  
ISDN S2  
MOBILE DECT  
MOBILE DAS  
MODEM  
MOD HSCX  
RINGER RELAIS  
EXTERNAL SET

Only the "Proprietary" type is proposed for an attendant console subscriber.



**Note:** The list of proprietary terminals can be displayed via Menu **SYSTEM>Expert>List of proprietary set names.**

#### **EQUIPMENT NUMBER**

This field only concerns the TDM terminals physically connected to an equipment card of the PBX.

In a multi-site environment, the terminal may be an internal terminal, or a remote terminal physically connected to a remote site.

#### **SITE**

Name of the site supporting the terminal

#### **NODE**

Node number (2 by default)

#### **EQUIPMENT NUMBER**

Equipment number (position of the card in the cabinet).

Enter a 5-digit number on this line, indicating:

- First digit: the cabinet number (from 0 to 3)
  - 0 : CPU card
  - 1 : main cabinet
  - 2 : first expansion cabinet
  - 3 : second expansion cabinet

- Second and third digits: card position number (from 00 to 15).
- Fourth and fifth digits: card equipment number

*Example:* 10802

This is equipment 02 of the digital extensions located on card 8 of the first cabinet.

### **SET MODEL**

This field is only displayed (greyed out), not modifiable, and indicates the terminal model after connection. The model is automatically recognised.

### **INFORMATION FIELD (READ ONLY)**

The following fields are displayed when the terminal sets up its first connection or makes its first calls.

#### **IP ADDRESS**

IP address assigned to the terminal.

#### **RTP PORT**

RTP port assigned to the terminal.

#### **ENCODING LAWS**

This field indicates the different encoding laws managed by the terminal in question (see Section 0).

#### **TERMINAL CAPACITIES**

This field indicates the different operating modes managed by the terminal in question, T38, video, encryption.

#### **SPECIAL CASES**

##### **EXTERNAL TERMINAL TYPE**

An external terminal is a terminal not connected to the company's network, but to an operator's network.

It may be a fixed terminal (at home, for instance), or a GSM-type mobile terminal.

Calling the subscription results in a call to the external network.

If the subscriber is associated with a terminal in the company, he may choose the right terminal to receive the calls. See the functions offered by MiVoice 5000 User Portal.

##### **EXTERNAL NUMBER**

Enter the external number used to reach the terminal on the external network.

Do not add the prefix.

This number will contain at least 10 digits, or it will be in E164 format:

For example : 0130969988 or +33 130969988

#### **3.3.3.4**

##### *Program keys*



**Note :** Monitoring your number (CCO) type key programming is only applicable for proprietary terminals (53xx, 675x) and SIP terminals (6700, 6800 & 6900).

Menu **SUBSCRIBERS>Subscriptions>Characteristics – Keys** tab

For a given directory number, the screen displays the status of programmable keys.

By default, if the key is not programmed, the programming column displays the message **This key is not programmed**.

#### **THIS KEY IS NOT PROGRAMMED**



**Note:** See the documentation on terminals for the list that indicates the number of programmable keys for each set type.

From this screen, click the number of the key to program (or re-program) to edit the corresponding key.

### 3.3.3.4.1 Programming terminal keys



**Note:** For a **BACKUP** type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

#### Number with the key

This field is present if the set is multiline. Select the Corresponding line.

#### Programming type

In the **Programming type** field, select the type you want (see below).

If the key is programmed already, these fields are filled in with the current values.

For programming, depending on the programming type, some additional fields appear below the list of keys.

#### Parameter

- The **Parameter** field for certain types allows you to enter the parameter required for the programming type. For some types, it is associated with the additional fields **Direction** and **Signal** (see list below).
- **Protected key:** The user cannot modify the key if this box is ticked. For some types, default protection is applied.

#### Update SIP sets

For a terminal Mitel 6000 SIP Phone, and if key configuration is entrusted to Web Admin (see Menu Subscribers>Terminals>Mitel 6000 SIP Phone parameters), the "Update SIP sets" key is proposed; the action updates the terminal keys.

#### Validation of programming

Validating a program automatically updates the display table. If the cursor is on the table, the "up" and "down" cursor keys allow you to change from one key to the other.

#### Ergonomics

In the programming table, a "padlock" icon on the left of the key number indicates a protected key (the "protected key" checkbox has been ticked).

The keys not yet programmed appear in black. Already programmed keys appear in green.

The functions **Next/Previous**, on the left part of the screen, are used to change to the next/previous subscriber.

The **Repeat** function is disabled by this type of programming.

The terminal is deactivated once a program is confirmed. The terminal is automatically reactivated when you close the tab or scroll through the subscriber list.

**Table 1: List of programming types and associated fields**

PROGRAMMING TYPE	PROGRAMMING TYPE	DIRECTION	SIGNAL
No programming			
Dialling	Number dialled		
Cancel all forwarding			
Predefined forward			
Forward on busy	Terminal directory		
Forward on no answer	Terminal directory		
Immediate forward	Terminal directory		
Activate agenda	Time		
Deactivate agenda	Time		
Locking			
General standby			
Filtering	Terminal directory		
Do not disturb			
Anti-intrusion			
Monitoring your number (CCO)			
External line supervision	External line directory	X	X
Monitor filtered calls	Terminal directory		X
Subscriber management	Terminal directory		X
Privileged intercom (buzz)	Terminal directory		
Phone box			
DTMF numbering	Number dialled		
Your personal external line			
In / outside hunt group			
Voicemail monitoring			X
Messages deposit			
Close room			
Room wake-up			
Open room			
Alarm monitoring			
Call supervision internal ( <i>attendant console only</i> )			X
Call supervision PSTN inc 1 ( <i>attendant console only</i> )			X
Call supervision PSTN inc 2 ( <i>attendant console only</i> )			X
Call supervision tie line inc 2 ( <i>attendant console only</i> )			X
Overload signalling ( <i>attendant console only</i> )			X
Reservation signalling ( <i>attendant console only</i> )			X
Console active ( <i>attendant console only</i> )			
Hold			
Save/repeat			

### 3.3.3.5 *Call forwarding*

Menu **Subscribers>Subscriptions>Characteristics – Forwards** tab

Forwards are characterised by:

- The type of forward (predefined, immediate, on no answer, on busy)
- The call origin (all calls, internal calls, external calls)
- The type of forward recipient (messaging system, internal or external number)
- The recipient's number (for internal or external number only)
- The locked information (yes/no).

For each subscription, the forwarding type is subject to a right to be defined in the menu **Subscribers>Subscriptions>Characteristics – Forwards** tab.

When a subscription type is barred from all forwarding operations (messaging system, modem, ATDC, etc.) the action on the **Forwards** tab remains without any impact.

Programming a forwarding operation via this menu renders it immediately active and deletes any possible forwarding programmed by this terminal.

If predefined forwarding had been programmed and activated, this latter is deactivated but not deleted.

#### **PREDEFINED FORWARD**

2 lines in read only mode give the status of forwarding (**Not active, Active, Active Internal, Active External**) and the number of the forward recipient.

#### **IMMEDIATE FORWARD/FORWARD ON NO ANSWER/ON BUSY**

For these different forwarding types, the call origin is defined (**all calls, internal calls, external calls**). It is possible to define several origins by type of forwarding, even if only one origin is working at a given moment.

For each origin a list of options is presented to determine the type of forwarding recipient:

- ..... : for deleting a programmed forwarding operation
- **Voicemail:** for forwarding a subscriber to his voicemail
- **Number:** for forwarding to a number (internal or external).

When the origin is selected, the following two lines appear (for forward to number only):

- **Forwarding number:** 6 digits maximum for an internal number or 14 digits maximum for an external number (including the prefix used). For forwarding to voicemail, this line is hidden because the system automatically calculates the voicemail directory number.
- **Forwarding locked:** checkbox meaning that the user cannot modify or cancel his forwarding if the box is checked.

### 3.3.3.6 *Home automation*

Menu **SUBSCRIBERS>Subscriptions> Characteristics>Home automation**.

 This menu is not available for MiVoice 5000 Server.

This command is used to assign to a subscription the home automation functions defined in **SUBSCRIBERS>Home automation** (see description in 3.15).

All the home automation functions whose box is ticked will be available for the subscription. The others will not be available.



**Note:** For a BACKUP type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

### 3.3.3.7 *Personal speed dialling*

First of all, you have to define the private abbreviated numbers associated with the subscribers.

Then selecting from the private directory will display users of abbreviated numbers.

#### 3.3.3.7.1 **Defining private abbreviated numbers (directory)**

From the menu **SUBSCRIBERS>Characteristics>Directory** and by selecting the corresponding directory number.



**Note:** If a subscriber is not entitled to a private directory, the message “Insufficient rights” appears.



**Note:** For a BACKUP type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

10 private abbreviated numbers can be assigned to each directory.

The numbers saved by the subscriber may be complete or the beginning of a number. In this case, the subscriber must complete the number during its use.

#### 3.3.3.7.2 **Users of private abbreviated numbers**

Menu **SUBSCRIBERS>Display>Personal abbreviated number users**.

This screen is used to display all subscribers with a private directory. For each subscriber identified, the number of private abbreviated numbers declared is indicated (1 to 10), without specifying the numbers themselves.



**Note:** The assignment of a private directory is subject to a user right, entitled “private abbreviated num right”, granted from the menu “Extension characteristics”.

### 3.3.3.8 *Multi-line*

A multi-line subscription is equal to several single-line subscriptions. Each line has its own characteristics.

Menu **Subscriptions>Characteristics>Multi-lines**.



**Note: Note :** For a BACKUP type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

This screen is used to assign one or more secondary numbers to an existing extension number.

The multi-line function is used to differentiate the traffics from the different directory numbers and, thus, manage each number independently (filtering, forwarding, etc.).



**Note: An attendant console may have two additional directory numbers, that is three lines in the menu.**

**When a terminal does not have the corresponding right, the message “Secondary directory not allowed” is displayed.**

### 3.3.3.9 *Display functions*

Menu **SUBSCRIBERS>Characteristics>Functions**.

This screen is used to display all the particular extension functions other than those defined in the extension characteristics section.

For example, the following functions can be mentioned in this screen:

- Extension belonging to an answering service
- Extension belonging to a hunt group
- Addressee of a forwarded call
- ....

This screen does not allow directory number modification. It displays the configuration of the modifications to make before directory modification.

This menu can also be used to activate or put on standby (deactivate) a terminal belonging to a hunt group.

This feature is offered for the following hunt group types:

- cyclic
- fixed head
- general call
- longest idle time

This feature is not offered for super hunt groups.

### 3.3.4 TERMINAL AUTHENTICATION AND USE PORTAL PASSWORD

Menu **SUBSCRIBERS>Subscriptions>Terminal authentication and User Portal password**

#### OPERATION TYPE

Options:

##### TERMINAL AUTHENTICATION

MD5 authentication password generated by the system for all the directory numbers included between the first directory number and the last directory number.

##### USER PORTAL PASSWORD

User Portal authentication password generated by the system for all the directory numbers included between the first directory number and the last directory number..



**Note :** If the SSO mode is activated, the list choice does not display User Portal password.

##### SIP DECT R2.1

Mots de passe pour le SIP DECT générés par le système pour tous les numéros d'annuaire compris entre le n° d'annuaire de départ et le n° d'annuaire de fin (applicable à partir de la version R2.1 pour DECT SIP).

#### FIRST DIRECTORY NUMBER

Directory number of the first subscriber concerned.

#### LAST DIRECTORY NUMBER

Directory number of the last subscriber concerned.

#### ACTION

##### AUTOMATIC GENERATION

Passwords generated by the system for all the directory numbers included between the first directory number and the last directory number.

##### MANUAL CREATION

The password entered in the MANUAL AUTHENTICATION applies to all the subscriptions between the first directory number and the last directory number.

##### DELETE

Delete password for all the directory numbers included between the first directory number and the last directory number.

##### EXPORT

Export in a file ("authpost.csv) of the password for all the directory numbers included between the first directory number and the last directory number.

**Mitel OMM EXPORT**

Export in a file ("exporthmm.csv") of the password for all the directory numbers (DECT IP or DECT SIP) included between the first directory number and the last directory number. (\*).  
Applicable from R2.1 DECT SIP release.

\* : The file generated can be used for a manual import from the Mitel OMM (Open Mobility Management) server. For more details on the Mitel OMM import functions, see the *DECT over IP Service Installation and Implementation Guide* [5].

**MANUAL AUTHENTICATION**

This field is only present if the action selected is MANUAL CREATION.

Enter a string with at least 8 alphanumeric characters.

Select the type of action to take, either to define the passwords (automatic/manual) or to delete them (erase) or to export them.

Click **Confirmation** to validate the operation.

If an export action has already been carried out, you can download the file generated on the iPBX by clicking the File created link:



**Note:** If the action applies to a single subscription which is BACKUP type, the system returns an error message.  
If the action applies to a set of subscriptions, some of which are BACKUP type, the system will ignore the BACKUP type subscriptions without generating an error message.

**3.3.5 COPY USER CHARACTERISTICS**

Menu **SUBSCRIBERS>Subscriptions>Copy of subscriber characteristics**.

This screen is used to copy a certain number of an extension's characteristics to one or more other extensions.

More precisely, this function allows the copying of a "reference" subscriber's characteristics to several subscribers created beforehand. These "beneficiary" subscribers are identified thanks to a first and last number in the directory.

**REFERENCE DIRECTORY NUMBER**

Reference directory number (example: subscriber 4000).

**FIRST DIRECTORY NUMBER**

Number of the first subscriber on the list (example: subscriber 2795).

**LAST DIRECTORY NUMBER**

Number of the last subscriber on the list (example: subscriber 2797).

**COPY RANGE**

From the following characteristics, select those that will be duplicated, from the reference subscriber to the beneficiary subscriber(s):

- **FEATURES**

- **LIA RTC CATEGORIES (TL PSTN CATEGORIES)**

- DISCRIMINATION
- PARTITION
- CUG
- VOICE MAIL CLASS
- INTERCOM GROUP
- PREDEFINED FORWARD
- IMMEDIATE FORWARD
- FORWARD ON NO ANSWER
- FORWARD ON BUSY

Click **Confirmation** to validate the operation.



**Note:** If the action applies to a single subscription which is **BACKUP** type, the system returns an error message.  
If the action applies to a set of subscriptions, some of which are **BACKUP** type, the system will ignore the **BACKUP** type subscriptions without generating an error message.



**Note:** If the last directory number is not specified, the copy will only be applied to the subscriber indicated by the first directory number.  
This function is also applicable to multi-directory subscriptions.  
This function also copies the “pre-payment” characteristic, except for the amount paid.

### 3.3.6 COPY KEYS

Menu **SUBSCRIBERS>Subscriptions>Copy of keys**.

This screen is used to copy all or part of the programming of a reference directory key to other directory subscribers.

#### REFERENCE DIRECTORY NUMBER

Extension number of the subscriber known as the "reference directory". In this case, the reference directory corresponds to a subscriber whose terminal keys have already been programmed.

#### FROM KEY

Number of the first key to be copied.

#### TO KEY

Number of the last key to be copied.

#### TYPE

<b>A:</b> for Call/ supervision	<b>I:</b> Not used	<b>P:</b> Private line
<b>B:</b> Mail box supervision	<b>L:</b> mon trunk Line	<b>R:</b> yr calls from...foRward to
<b>D:</b> calls to ...coming from	<b>M:</b> mon your <b>M</b> ultikey number	<b>S:</b> direct access <b>S</b> erver
<b>F:</b> Feature	<b>N:</b> Numbering of	<b>V:</b> dtmf num
<b>G:</b> Hold	<b>K:</b> Save/repeat	

4 : Signal overload	5 : Signal reservation	6 : Console active
---------------------	------------------------	--------------------

Only one type of copy can be selected at this stage.

#### FIRST DIRECTORY NUMBER

Number of the first directory on the list.

#### LAST DIRECTORY NUMBER

Number of the last directory on the list.

#### FOR SETS

Indicates the type of set to which the key copy applies. If you select "...", it will apply to all types of sets.



**Note:** This list can be modified in the menu **List of proprietary set names in SYSTEM>Expert**.

Select the digital sets concerned by entering the number of keys they have.

#### FROM KEY

This column is used to transfer the keys of the reference subscription to those of target subscriptions.

#### DELETION OF THE PROGRAMMING

**NO**

**YES**

This is used to delete the old key programming of called sets.

- YES: the keys concerned are programmed.
- NO: only the non programmed keys are programmed. The previous programming is kept.

#### COPY INTERRUPTION IF ERROR

- Box ticked: indicates that the copy procedure stops when an error is detected.
- Box not ticked: the copy procedure continues in the event of an error when programming a key.



**Note:** If the action applies to a single subscription which is **BACKUP** type, the system returns an error message.  
If the action applies to a set of subscriptions, some of which are **BACKUP** type, the system will ignore the **BACKUP** type subscriptions without generating an error message.

### 3.3.7 REDIALING

Menu **SUBSCRIBERS>Subscriptions>Re-assignment**.

#### FIRST DIRECTORY NUMBER

Directory number of the first subscriber to be redialled.

#### LAST DIRECTORY NUMBER

Directory number of the last subscriber to be redialled.

#### MAIN DIRECTORY NUMBER

New directory number of the first subscriber.

#### DID DIRECTORY PLAN 1

If the box is ticked, redialling also applies to the DID directory. Enter as "new values" the new number from which the DID directory will be created.

Confirm the parameters to apply the subscription redialling.



**Note:** If the action applies to a single subscription which is **BACKUP** type, the system returns an error message.  
If the action applies to a set of subscriptions, some of which are **BACKUP** type, the system will ignore the **BACKUP** type subscriptions without generating an error message.

### 3.3.8 AUTOMATIC EQUIPMENT ALLOCATION

 This command is not available for MiVoice 5000 Server.

Menu **SUBSCRIBERS>Subscriptions>Automatic equipment allocation**.

Automatic assignment applies to terminals whose equipment already has a recognised equipment number in the device configuration.

#### FIRST EQUIPMENT NUMBER

Indicate the rack number, card number, and equipment number of the first terminal.

#### LAST EQUIPMENT NUMBER

Indicate the rack number, card number, and equipment number of the last terminal.

#### TERMINAL TYPE

**ANALOGUE**

**PROPRIETARY**

**ISDN: S0 BRI**

**ISDN S2**

Select the type of terminal to which automatic assignment must apply.

#### FIRST DIRECTORY NUMBER

Directory number of the first subscriber to whom to assign a terminal.

## CREATE IF UNAVAILABLE

Select this option to create the extension numbers corresponding to the terminal addresses declared previously.

Click “Confirmation” to validate the operation.



**Note:** If the action applies to a single subscription which is **BACKUP** type, the system returns an error message.  
If the action applies to a set of subscriptions, some of which are **BACKUP** type, the system will ignore the **BACKUP** type subscriptions without generating an error message.

## 3.4 DISPLAYING SUBSCRIBERS

The web interface of MiVoice 5000 Web Admin authorises subscriber search using different criteria, depending on the type of information at the user’s disposal.

From the menu **SUBSCRIBERS>Display**.

☞ The options differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

This menu is used to search for a subscriber by equipment number, from internal directories, from DID directories, thanks to the subscriber’s name, from the card’s IP address, in the list of proprietary sets, or other display criteria.

### 3.4.1 SUBSCRIBER EQUIPMENT

☞ This menu is not available for MiVoice 5000 Server.

Menu **SUBSCRIBERS>Display>Subscriber equipm.**

#### FIRST PHYSICAL EQUIPMENT

Indicate the rack number, card number, and equipment number of the first terminal.

#### EQUIPMENT TYPE

**ANALOGUE**

**PROPRIETARY**

**ISDN: S0 BRI**

**ISDN S2**

Select the type of equipment to be displayed on the list.

#### ASSIGNED DIRECTORY

**NO**

**YES**

If this option is selected, only the equipment available in the directory will be displayed on the list. This means that that subscription assignment had taken place previously.

Click **Select item** to validate the parameters entered previously.

Once this screen is completed, all the devices (in the selected type), whose equipment number is “above” the slot indicated, are displayed in form of a list.

### 3.4.2 BY INTERNAL DIRECTORY NUMBER

Menu **SUBSCRIBERS>Subscriptions>Display by local number.**

#### COMPANY SELECTION

Select the company. The drop-down list contains the priority classes defined in the system.



**Note:** This field is only displayed in multi-company configuration.

#### DIRECTORY BEGINNING WITH

Beginning of directory number. All directory numbers that start with this digit/ number will be displayed.

#### SUBSCRIPTION TYPE

..... **BACKUP** **GENERAL PURPOSE** list of the types described in subscriber creation

If necessary, select the subscription type to restrict the display to a subscription category.

#### DISPLAY TERMINALS

**NO** **YES**

Select this option to display the terminals assigned to the different subscribers selected previously.

After entering all the parameters, click **Select item** to start the search in the directory.

The **type model** column indicates the subscription type and, where appropriate, the type of associated terminal.

### 3.4.3 DISPLAY BY DID DIRECTORY

Menu **SUBSCRIBERS>Display>By DID directory.**

This screen is used to display all (or a selection of) the DID numbers assigned already.

#### PLAN SELECTION (1 TO 8)

For filtering display according to a particular plan. If ..... is selected, the display concerns all the plans.

#### DIRECTORY BEGINNING WITH

For filtering display for a directory number range.

#### DISPLAY OF THE SETS

**NO** **YES**

For choosing whether or not to display the terminals assigned to subscribers on the list of DID numbers to display.

Then click **Select item**:



**Note:** An information line "Incomplete display" appears when more than 1000 subscribers must be displayed (display menu limited to 1000 lines).

### 3.4.4 DISPLAY BY NAME

Menu **SUBSCRIBERS>Display>By name.**

#### NAME BEGINS WITH

Indicate here the beginning of the surname of the subscribers to display. If this column is empty, all the directory numbers with a name will be displayed. The list of names will be displayed in alphabetical order.

Click **Select item.**

### 3.4.5 DISPLAY BY IP ADDRESS

Menu **SUBSCRIBERS>Display>by IP address.**

#### MINIMUM IP ADDRESS

Indicate here the first IP address of the subscriber to display.

#### MAXIMUM IP ADDRESS

If necessary, indicate here the last IP address of the subscriber to display.

Click **Select item** to validate the operation.

This menu is used to display, for a given address range, all the declared IP subscribers. This list is displayed in the increasing order of subscriber IP address.

### 3.4.6 DISPLAY OF THE MITEL SETS

Menu **SUBSCRIBERS>Display>Owner Mitel sets.**

#### SETS RANGE

For selecting the range of owner sets to be displayed.

#### DIRECTORY BEGINNING WITH

If necessary, for selecting a part of the owner sets to display from the directory number.

Click **Select item** to validate the operation.



**Note:** The menu **SYSTEM>Expert** is used to display all the Mitel sets, no matter the series.

### 3.4.7 USERS OF FORWARDINGS

Menu **Subscriptions>Display>Users of forwardings.**

This screen is used to select the forwarding type associated with a given number.

#### TYPE OF FORWARDING

.....	PREDEFINED	IMMEDIATE	NO ANSWER	ON BUSY
-------	------------	-----------	-----------	---------

Select the type of forwarding you want. All subscribers that have activated this forwarding type will be displayed.



**Note:** If immediate forward replaces active predefined forward, this latter is deactivated but the predefined forward number remains active.

#### DIRECTORY BEGINNING WITH

Indicate the first subscriber number to be selected.

### 3.4.8 OTHER DISPLAYS

Menu **SUBSCRIBERS>Display>Other display**.

It is used to select subscribers by the following criteria:

- Shared terminals
- Secured subscriptions (Dual Homing feature)
- Backup subscriptions
- Terminals defined as emergency callback terminals.

#### 3.4.8.1 *Shared sets*

This command is used to display the list of subscriptions for which the associated set is shared (hospital room, self-service set, for example). Shared set is a subscription characteristic, defined in the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**.

To display the subscriptions whose terminals are shared, click **Shared sets** from the screen **SUBSCRIBERS>Display>Other display**.

#### DIRECTORY BEGINNING WITH

Enter a digit (or number).

Used to limit the display of shared terminals to the directory numbers starting with the value indicated.

Click **Select item**:

The shared sets display table indicates:

- the directory number of the subscription
- type of extension
- The location: cabinet number, card position, equipment number of the card or IP address,
- the type of signature needed to use the set,
- the subscription numbers (**user**) and names (**names**) of the MULTIUSER type subscribers sharing the set with the primary subscription,

The star in the last column indicates incoherence in the definitions of the associated shared/multi-users sets:

- the shared set subscription is assigned to no terminal,
- the shared set subscription has no signature and several users are associated with it,
- the shared set subscription has no signature or a short signature, and no associated user.

### 3.4.8.2 *Display emergency callback sets*

This menu is used to display all the location terminals in case of emergency call.

### 3.4.8.3 *Secured subscriptions*

This command is only available in multi-site configuration or Cluster.

This command is used to view the list of secured subscriptions (taking advantage of the Dual Homing feature). The Dual Homing feature is a characteristic of the subscription. It is configured in the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics** by assigning a backup site to the subscription.

To display the secured subscriptions, click **Secured subscription** from the menu **SUBSCRIPTIONS>Display>Other display**.

#### **BACKUP SITE**

Name of the site on which the displayed subscriptions are backed up.

..... No selection criteria on the backup site.

**Site Name** Only the subscriptions backed up on the site indicated are displayed.

The drop-down list contains all the sites of the multi-site used as backup to at least one secured subscription.

#### **DIRECTORY BEGINNING WITH**

Enter a digit (or number): only the secured subscriptions where the directory number starts with this value are displayed.

Once the display criteria are selected, click **Select item**:

The secured subscription display table indicates:

- The subscriber's directory number
- Subscriber's last name
- The name of the site on which the subscription is backed up
- The node number of the site

The star in the last column indicates that the set associated with the subscription does not support the Dual Homing feature, or that the secured subscription is out of service. In this case, the telephone data of the subscription will not be copied to the backup site (daily or immediate alignment).

### 3.4.8.4 *Backup subscriptions*

This command is only available in multi-site configuration.

This command is used to display the list of subscriptions used as backup to a subscription on another site.

To display the backup subscriptions, click **Backup subscriptions** from the menu **SUBSCRIPTIONS>Display>Other display**.

#### **REFERENCE SITE**

Name of the declaration site of the subscriptions whose backup subscriptions will be displayed.

..... No selection criteria on the reference site.

**Site Name** Only the backup subscriptions of a subscription declared on the site indicated will be displayed.

The drop-down list contains all the sites of the multi-site where at least one subscription is secured on the current site.

#### **DIRECTORY BEGINNING WITH**

Enter a digit (or number): only the backup subscriptions where the directory number starts with this value are displayed.

Once the display criteria are selected, click **Select item**:

The backup subscription display table indicates:

- The subscriber's directory number
- Subscriber's last name
- The name of the site on which the subscription is declared
- The node number
- The status of the backup subscription:
- **Inactive** indicates normal operation of the subscription on its reference site.
- **Active** indicates that the reference site of the subscription is no longer accessible and that the backup subscription has been activated on the backup site.

## 3.5 TERMINALS

### Menu **SUBSCRIBERS>Terminals** and applications



### 3.5.1 INTRODUCTION

#### Terminals Mitel 6000 SIP Phone:

To enable the TMA application to manage terminals Mitel 6000 SIP Phone, this menu is used to offer easy deployment for this type of terminals.

The configuration thus defined will be used as interface for the TMA application so it can manage these terminals.

The Parameters column is used to prepare the deployment phase (associated with the

Ctrl + i script) and possibly to automatically configure the systems keys (including the call by name key) and/or numbering plan for terminals Mitel 6000 SIP Phone.

#### Blustar 8000 i:

As of R5.4 SP2, the login and password of BluStar terminals can be managed from the iPBX in the following contexts:

- Connection invite login
- Forwarding programming
- IVB authentication
- DND programming.

This 8000i login / password is the login / password of the subscription defined in the menu **Telephony service>Subscribers>Subscriptions>Characteristics**.

The login/password is not activated by default.

The administrator must tick the corresponding box, if he wants, after the different operation types:

- First installation
- Updating R5R6.1 edition n to R6.1 edition n + 1
- Updating R5.3 SP, R5.4 IP, R5.4 SP1 or R5.4SP2 to R6.1.

After these operations, the terminals automatically restart with the new release including the authentication function.

When the administrator ticks the box, the user must log on again to his subscription with the password provided.

The iPBX then performs authentication check on the user's requests.

If some terminals were disconnected or switched off during the activation, when they are restarted, the corresponding subscriptions are frozen and seen as out of service. They must be unlocked (put into service) in the menu **Telephony service>Subscribers>Subscriptions>Characteristics**.

### 3.5.2 6XXXI SETTINGS

Menu **SUBSCRIBERS>Terminals and applications>6xxxi settings**

#### Deployment phase area

#### LLDP SUPPORT

This field is used to activate the LLDP protocol in the terminal (1 = yes) or not (0= no).

#### TERMINAL VLAN/PC VLAN

These parameters are used to define the VLAN dedicated to terminals Mitel 6000 SIP Phone, A53xxip and i7xx. They are not obligatory on simple networks.

#### AUTOMATIC SETTING OF SETS AREA

This area only appears when manual login is enabled.

The **automatic terminal configuration** area is used to give the installer the possibility not to automatically configure the systems keys (including the call by name key) and/or the numbering plan for MiVoice 6000 SIP Phones.

If the first line is not ticked, the following lines are hidden. On the other hand, it is possible to set to NO the lines '*numbering plan*' and/or '*keys*' and to leave on YES the line '*automatic setting of sets*'.

The "**Programmable keys**" line indicates that the Mitel 6000 SIP Phone keys can be configured via the iPBX Web Admin (Menu Subscribers>Characteristics>Keys). Otherwise, only the management centre is authorised to perform this task.

## PC login

### This area with several fields to configure the PC login functions and periodic logout

**PC Login:** This box to allow users to log their 6xxx terminals from a PC (User Portal or an external application if MiVoice Manager 5000 present). When this box is checked, a label will be automatically generated for 6xxx terminals.

**Label format:** (20 max. characters) to specify the label format the site number and a random number (equal in size to the length of its numbering plan). It is necessary to use the keywords respectively **#SITE#** # and **#ALEA#** in describing his label format.

This label is customizable by adding fixed strings or these tags. For example it is possible to **#Alea##Alea#** if you want to generate a random number twice as long.

This label is used in the automatic generation made by iPBX. Subsequently, the operator can change this terminal based label.

The **Example of label generated with above format** field (limited to 16 UTF8 characters, or 32 bytes) generated with the above format allows the user to give an example of a label generated from its label format defined above. This allows it to control whether the generated string is truncated or not.

The **Manual login authorized on all types of sets** checkbox allows or not the manual login on all terminals connected to the site considered (applies to all types of terminals 6XXXi, 53xx / ip, i / M7xx,..). By default this box is checked.

The **Logout controlled by calendar** check box allows the operator to enable or disable the periodic logout terminals. If unchecked, the following 2 fields (**Linked calendar** and **Default value for a new set**) are hidden.

If the **Logout controlled by calendar** box is checked, the following fields appear:

The **Linked calendar** Listchoice offers the operator to choose which calendar defined in iPBX he wishes to associate the periodic logout function. By default no timetable is selected.

The **Default value for a new set**) listchoice allows to choose the default value of the right to periodic logout for any new terminal. By default this box is checked, the login is enabled for any new terminal.

## FORCE XML WITH HTTPS

Checkbox used to force XML communication with SIP/XML terminals (Mitel 6000 SIP Phone, SIP-DECT terminals) to secure connection.

The Force XML on HTTPS check box is displayed if a certificate has been assigned to the SIP Phone use from the Certificate Assignment tab of the menu **SYSTEM > Security> Certificate Management**. Refer to section 4.4.

- Box not ticked: the call server uses the http on Port 3197 or HTTPS on Port 4443 (if it is a password request or response to an Mitel OMM request in HTTPS).
- Box ticked: the call server will systematically use HTTPS on Port 4443.

This box is unticked by default.

It is masked on a node as this feature is managed on the cluster server and then replicated on all the nodes connected to this cluster server.

### Checking SIP terminal Certificates

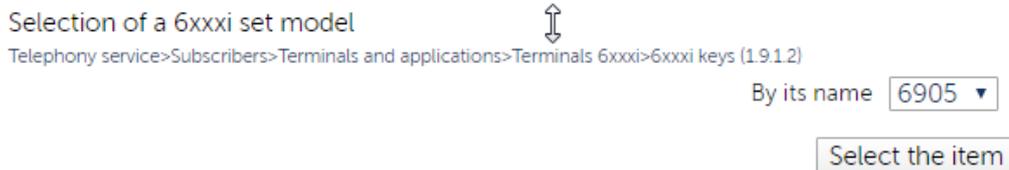
The **SIP terminal certificate verification** checkbox is displayed if a non-self-signed certificate has been assigned to SIP terminal usage from the **Certificates assignment** tab of Menu **SYSTEMS>Security>Certificate Management**. Refer to Section 4.4.

Connections between SIP and the iPbx groups can be set up via UDP / TCP, UDP / TCP or TLS or TLS only (with MTLS).

MTLS (or two-way certificate) is only possible when a trusted certificate is assigned to the SIP service. This certificate verification is configured by ticking the **SIP terminal certificates verification** checkbox in Menu **Terminals and applications>6xxx parameters**.

When this option is ticked, SIP terminals can only connect to the iPbx via a TLS connection (connections via UDP are prohibited) and only if they have a trusted certificate issued by one of the certification authorities in the MiVoice 5000 certificate store (see Section 4.4).

### 3.5.3 6XXXI KEYS



Menu **SUBSCRIBERS>6xxx terminals>6xxx keys** is used to configure **System** keys according to MiVoice 6000 SIP Phone model.

Terminal Mitel 6000 SIP Phone keys are divided into two categories: **System** keys and **Programmable** keys.

As of release R5.3 SP1, the list of functions is extended and terminal programming is automatic when a MiVoice 5000 Manager is available (see MiVoice 5000 Manager User Guide AMT/PTD/NMA/0003/EN).

#### Systems managed by MiVoice 5000 Manager

In this case, the **System** functions programmed on some **Programmable** keys must be retrieved and reassigned to **System** keys, available according to Mitel 6000 SIP Phone series terminal model.

#### Systems without MiVoice 5000 Manager

To be compatible with the previous releases, this menu displays a configuration in which some "**Systems**" functions would have been programmed on some keys in the "**Programmable**" keys area.

As of release R5.3 SP1, only the proposed **System** keys will be configurable.

#### Procedure:

Select the terminal model from the **By name** field.



**Note:** Model 6751i, which does not have any key, is not proposed.

Each programming operation is optional and may only be assigned to one key.

To simplify the programming, the menu is displayed in form of a list of programs that can be activated via a checkbox.

The parameters associated with a program concern the key that will receive this program:

- **<x function> key:** label associated with the programming provided by the system according to type of terminal
- - **Key type: system** (unmodifiable value)
- - **Number:** number of this 3-numeric-characters key field (1 to 999)
- - **Label:** field for 29 alphanumeric characters (upper case and lower case).

The **Label** field is only available for certain keys. It corresponds to the label which will be displayed on terminal Mitel 6000 SIP Phone. The length of the label displayed on the terminal will depend on its type.

The menu only shows the programs possible for the terminal model chosen.

When a function is activated, the menu searches for the first available key.

When choosing the key type, the menu searches for the first available key of this type. If no key is free, the key field remains blank.

A test is performed while entering the key number to check whether this key is free and whether it is available on this terminal model.

#### **Menu/ident key:**

**If the terminal is logged on**, this key gives access to the following columns:

- Call type
- Active functions: menu used to view all the active functions and possibly to deactivate them (Example: Forward)
- Forward
- Parameters: menu used to access the terminal settings (calls, general, language, forward, Do not Disturb, etc.)
- Voice mail
- Languages
- Logout.

**If the terminal is not logged on**, this key is used to manually assign a login via the identification column.

#### **Concerning the Services key:**

**If the terminal is logged on**, this key is used to group together and access the following columns:

- Directroy (inside the terminal)
- Caller list
- Voice mail.

**Summary by type of terminal**For **Programmable** keys, see MiVoice 5000 Manager User Guide AMT/PTD/NMA/0003).

<b>MODEL</b>	<b>NR OF SYSTEM KEYS</b>	<b>SUPPORTED KEY PROGRAMMING</b>
<b>6710i</b>	<b>4</b>	Consult mail box directly Voice mail forwarding Canel voice mail forwarding
<b>6730i</b>	<b>4</b>	Menu/ident Services Private directory Call by name Consult mail box directly Voice mail forwarding Canel voice mail forwarding
<b>6731i</b>	<b>4</b>	Menu/ident Services Private directory Call by name Consult mail box directly Voice mail forwarding Canel voice mail forwarding
<b>6735i</b>	<b>6</b>	Menu/ident Services Private directory Caller list Call by name Consult mail box directly Voice mail forwarding Canel voice mail forwarding
<b>6737i</b>	<b>10</b>	Menu/ident Services Private directory Caller list Call by name Consult mail box directly Voice mail forwarding Canel voice mail forwarding
<b>6739i</b>	<b>6</b>	Menu/ident Call by name Consult mail box directly Voice mail forwarding Canel voice mail forwarding Features in communication (callback, trace, and parking): See Note below
<b>6753i</b>	<b>4</b>	Transfer

		<p>Conference</p> <p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Canel voice mail forwarding</p>
<b>6755i</b>	<b>6</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Canel voice mail forwarding</p>
<b>6757i</b>	<b>10</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Canel voice mail forwarding</p>
<b>6757i</b>	<b>10</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Canel voice mail forwarding</p>
<b>6757i</b>	<b>10</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Canel voice mail forwarding</p>
<b>6757i</b>	<b>10</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p>

		<p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Cancel voice mail forwarding</p>
<b>6863i</b>	<b>3</b>	<p>Transfer</p> <p>Conference</p> <p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Caller list</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Cancel voice mail forwarding</p>
<b>6865i</b>	<b>4</b>	<p>Menu/ident</p> <p>Services</p> <p>Private directory</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Cancel voice mail forwarding</p>
<b>6867i</b>	<b>6</b>	<p>Menu/ident</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Cancel voice mail forwarding</p> <p>Features in communication (*)</p>
<b>6867i</b>	<b>6</b>	<p>Menu/ident</p> <p>Call by name</p> <p>Consult mail box directly</p> <p>Voice mail forwarding</p> <p>Cancel voice mail forwarding</p> <p>Features in communication (*)</p>
<b>6869i</b>	<b>7</b>	<p><b>Menu/ident</b></p> <p><b>Private directory</b></p> <p><b>Call by name</b></p> <p><b>Consult mail box directly</b></p> <p><b>Voice mail forwarding</b></p> <p><b>Cancel voice mail forwarding</b></p> <p><b>Features in communication (*)</b></p>

<b>6873i</b>	<b>7</b>	Menu/ident Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding Features in communication (*)
<b>6905</b>	<b>3</b>	Transfer Conference Menu/ident Services Private directory Caller list Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding
<b>6910</b>	<b>2</b>	Menu/ident Services Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding
<b>6920</b>	<b>7</b>	Menu/ident Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding Features in communication (*)
<b>6930</b>	<b>7</b>	Menu/ident Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding Features in communication (*)
<b>6940</b>	<b>7</b>	Menu/ident Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding

		Features in communication (*)
6970	7	Menu/ident Private directory Call by name Consult mail box directly Voice mail forwarding Cancel voice mail forwarding Features in communication (*)



**Note:** For terminals 6739i, 6867i, 6869i, 6873i, 6920, 6930, 6940 and 6970 the Features in communication key does not have any configurable label. Its label will depend on the call phase.  
The programming of this key allows the following actions during phone communications:

- Callback
- Trace
- Parking.

## 3.5.4 SETS LABELS MANAGEMENT

### 3.5.4.1 Set label display menu

This menu **Subscribers>Terminals and applications>Terminals 6xxx>Sets labels management** will list the labels of 6xxx terminals and the right to Logout Auto.

#### Set label beginning with

This menu provides a selection menu allows the operator to enter the label (s) (the) input (s) he wishes to display.

If no selection criteria are set, the menu displays all 6xxx terminals with their label.

The table has the following fields:

- **Label Set** : (20 characters) displays the label 6xxx terminal designated by the MAC address,
- **Number** : (10 digits) directory number associated with the entry,
- **MAC- Address** : (12 characters) MAC address of the station,
- **Logout Auto** : display corresponding to the right to periodic logout job as a label (YES / NO).

### 3.5.4.2 Set label modification Menu

If the operator clicks on the Label field in an entry of the table visualization, sometimes on a menu allowing him to carry out modifications on this entry:

- The **Number** field to enter a directory number only if the field was empty before (otherwise the operator will have a diag error indicating an "unauthorized modification"). This menu only assign a directory number to an unmarked set.
- The **Label** field to change the position of the label (the operator can thus ignore the label size in the 6xxx parameters). There is no uniqueness seizure control. The field may also be empty, in which case the post in question will not be designatable within the PC login function.
- The check box **Automatic logout** lets you manually configure the right to periodic logout considered for the post;

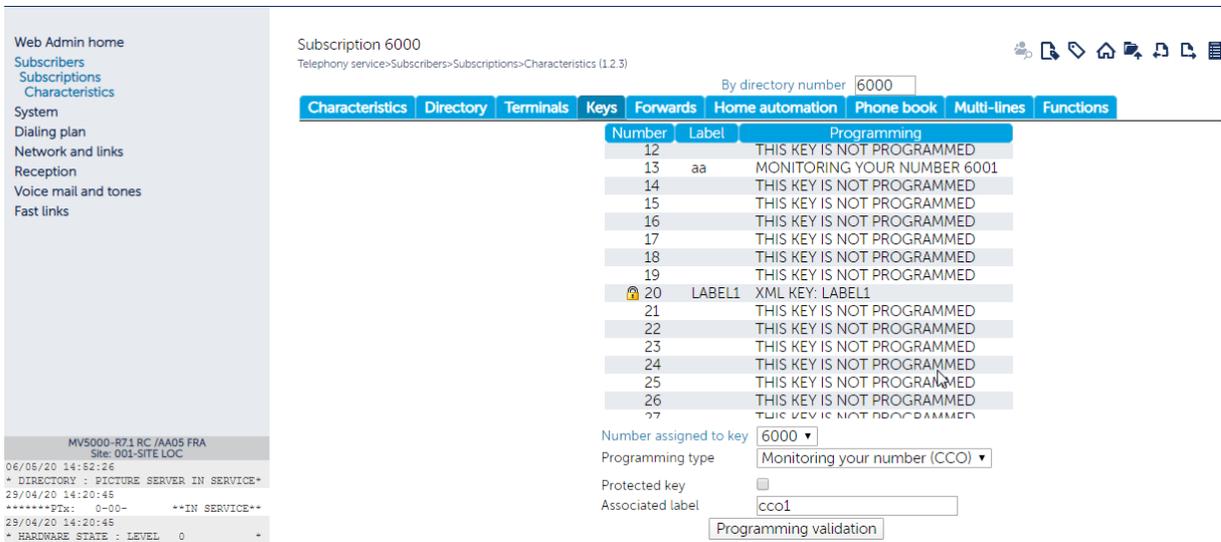
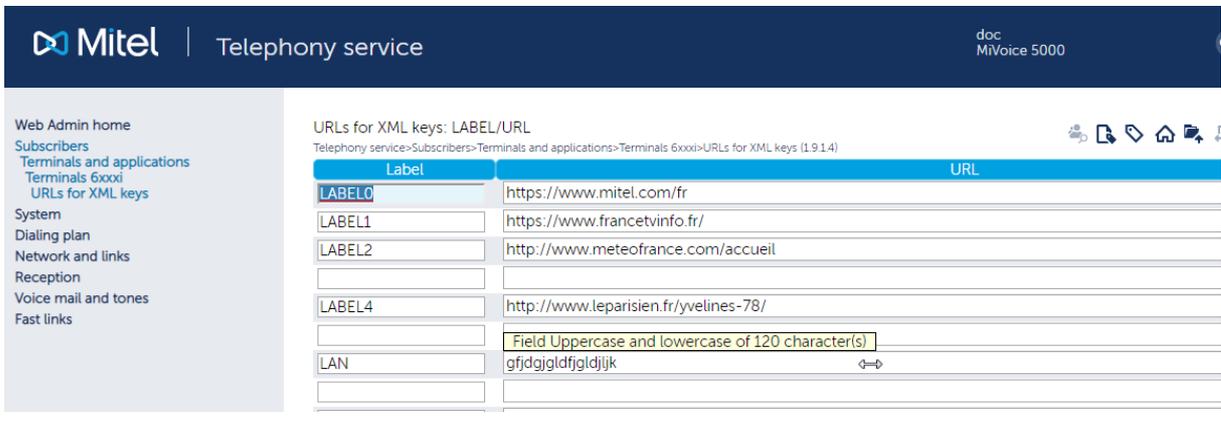
- **Delete** button: Delete the terminal concerned of the list of terminals (for a set that the network is removed).
- The **MAC Address** field, which, in this menu the MAC address of the post concerned, is read-only.

### 3.5.5 URLs FOR XML KEYS

This menu is used to program an XML type key in order to access a URL whose address must be specified.

The URLs defined in this menu are associated with labels. These labels can be used in Menu **Subscribers>Subscriptions>Characteristics** to program XML keys.

This key is automatically locked. It can be unlocked in the **Keys** tab of Menu **Subscribers>Subscriptions>Characteristics**.



### 3.6 PICTURE PARAMETERS

The Menu **Telephony service>Subscribers>Terminals and applications>Pictures of subscribers** is used to activate internal picture management. They are available in a disk storage area.

See document Picture management: Implementation manual - AMT/PTD/PBX/0114.

### 3.7 PICTURES OF SUBSCRIBERS TERMINALS AND APPLICATIONS

This function must be activated from the menu **Telephony service>Subscribers>Terminals and applications>Pictures of subscribers**.

See document Picture management: Implementation manual - AMT/PTD/PBX/0114/EN\* for how to implement these functions and more information.

## 3.8 BLUSTAR

The menu **Telephony service>Subscribers>Terminals and applications>BluStar** comprises three tabs.

It is used to configure BluStar applications: 8000i, BluStar for PC and BluStar Mobile.

### 3.8.1 BLUSTAR TAB

#### **Advanced security controls of BluStar:**

- IVB authentication, forwarding, DnD: the checkbox is used to activate the authentication of terminal 8000i on IVB, forwarding and Do not Disturb.

### 3.8.2 BLUSTAR FOR PC TAB

This tab is used to configure the deployment of BluStar for PC:

- Defining the list of BluStar for PC users authorised to use video
- If necessary, modifying some of the application's configuration file parameters.

The use of this tab is described in detail in the BluStar for PC installation manual – AMT/PTD/TLA/0062/EN\*

### 3.8.3 BLUSTAR MOBILE TAB

This tab is used to configure the deployment of BluStar for Ipad/Iphone:

- Defining the list of iPad and iPhone users to whom an e-mail will be sent to enable them download the BluStar application
- Managing the users by activating the e-mail transmission function or exporting the configuration files for each subscriber, thus allowing manual transmission of the configuration file
- If necessary, modifying some of the application's configuration file parameters.

The use of this tab is described in detail in the BluStar for iPad installation manual – AMT/PTD/TLA/077/EN\*

### 3.8.4 BLUSTAR MOBILE

The BluStar Mobile tab is used to activate and configure the sending of e-mails to iPad/iPhone users. These latter, upon receiving the e-mail, will be able to download the configuration file allowing them to use the BluStar Mobile application.

To activate the function, tick the **BluStar Mobile E-mail configuration** checkbox. By default, this box is not ticked.

Ticking this box displays the rest of the screen containing a default text. The administrator can personalise the text.

The #NUM# variable stands for the subscriber's number.

## 3.9 SOFTWARE

Menu **Telephony service>Subscribers>Terminals and applications>Softwares**

This menu allows to manage or not the OMM\_SIP software component.

### SOFTWARE LIST

The menu indicates the current release of the software if this software is selected, in form of 3 columns: Range/Model, Version, Managed (Y/N)

The software will be taken into account and downloaded next time the iPbx is updated from REPOSITORY.

See **System>Software maintenance>Upgrade**.

If unselected, the software is not downloaded and thus reduces the downloading time and the occupied disk space (useful for Mitel 5000 Gateways with a 2 GB card).

By default, after a first installation, the software application is selected.

Any change in the choice of software must be confirmed with the VALIDATION button.

Unselected software component is deleted from the iPbx.

## 3.10 APPLICATIONS

### 3.10.1 MICOLLAB



**IMPORTANT NOTE:** In MiVoice 5000 Cluster configuration, this menu is masked on a node as this feature is managed on the cluster server and then replicated on all the nodes connected to this cluster server.

The menu **Telephony service>Subscribers>Terminals and applications>MiCollab** consists of 3 tabs:

- A **Connection** tab,
- A **Roles** tab,
- A **Realignment errors** tab.

#### **Connection** tab

This tab is used to define the parameters for connecting to the MiCollab server. This tab also allows immediate synchronisation to this server.

By default, the box is not ticked and no other line is displayed.

If the box is ticked, different fields are proposed, enabling MiVoice 5000 to manage MiCollab server updates:

- **main IP address:** MiCollab server IP address (if the syntax is incorrect, an error message is displayed)
- **login:** User connection login between MiVoice 5000 and Micollab. This value is not modifiable.

- **password:** Password to be defined for the previous connection
- **Windows login for authentication:** activating or not activating SSO mode for authenticating Micollab users
- **daily realignment (hh :mm):** Field used to define the realignment time-stamping of MiCollab subscriber characteristics updates. Default value is 02:59 a.m.
- **last realignment on XX/XX/XXXX at HH.MM:** information field indicating the date of last successful realignment.
- **Immediate realignment** button: button used to start immediate realignment of the MiCollab subscriber update characteristics.

During the realignment phase, a line is displayed to view the progress of the realignment. This line is refreshed every 10 seconds.

The realignment phase may be interrupted by clicking the **Stop realignment** button.

### **Roles** tab

This tab is used to see the different fields, by column, of the role configuration made for MiCollab users.

**Index:** index value of the role in question.

**Label:** label of the role stored in UTF8 format but displayed in ASCII format;

**Desktop, Softphone** columns: a cross indicates whether the items are concerned.

DeskTop regards the telephone as opposed to "softphone".

**UCA, AWV, NPM and MBG:** a cross indicates whether the services are concerned.

### **A Realignment errors** tab

**Directory:** subscriber number.

**Name:** subscriber name.

**Role:** subscriber's role name.

**Mail:** a cross indicates whether the e-mail address is defined in the subscriber's LDAP directory.

**Login:** a cross indicates whether a login is defined in the subscriber's LDAP directory.

**Action:** type of action required for the MiCollab user (creation, modification, change of role, and deletion).

**Error:** error message received from the MiCollab server (limited to 101 characters)

## **3.10.2 MITEL BORDER GATEWAY**

This menu is for 68xxi SIP phones management with Remote Worker functionality.

Refer to the document remote Worker via MBG – AMT/PTD/PBX/0161.

### 3.10.3 CLOUDLINK

No applicable in this release.

## 3.11 HOTEL / MOTEL MANAGEMENT



**Note :** This management function of MiVoice 5000 Web Admin is specifically meant for managing hotel rooms. It is not applicable to other types of establishments with an Mitel 500 series system.

Menu **SUBSCRIBERS>Hotel management.**

Hotel management is used to configure:

- Occupied rooms
- Unoccupied rooms.

### HOTEL / MOTEL MANAGEMENT

If the box is ticked, it becomes possible to configure both types of rooms.

#### 3.11.1 OCCUPIED ROOM

##### DAY CATEGORY

INTERNATIONAL	INTER NAL	PRIVA TE	ADDITIONAL	LOCAL	REGIO NAL
---------------	--------------	-------------	------------	-------	--------------

Select a category. The authorisations and restrictions associated with each category depend on the configuration in call distribution management.

##### NIGHT CATEGORY

INTERNATIONAL	INTER NAL	PRIVA TE	ADDITIONAL	LOCAL	REGIO NAL
---------------	--------------	-------------	------------	-------	--------------

Select a category. The authorisations and restrictions associated with each category depend on the configuration in call distribution management.



**Note :** The room open/close functions are managed from the hotel server, available either from the ATDC or via the maintenance set.  
The status room occupied / unoccupied depends on HOTEL/MOTEL MANAGEMENT.

#### 3.11.2 UNOCCUPIED ROOM

This screen is accessible via SUBSCRIBERS>Hotel motel management.

##### DAY CATEGORY

INTERNATIONAL	INTER NAL	PRIVA TE	ADDITIONAL	LOCAL	REGIO NAL
---------------	--------------	-------------	------------	-------	--------------

Select a category. The authorisations and restrictions associated with each category depend on the configuration in call distribution management.

##### NIGHT CATEGORY

INTERNATIONAL	INTER NAL	PRIVA TE	ADDITIONAL	LOCAL	REGIO NAL
---------------	--------------	-------------	------------	-------	--------------

Select a category. The authorisations and restrictions associated with each category depend on the configuration in call distribution management.



**Note :** The room open/close functions are managed from the hotel server, available either from the ATDC or via the maintenance set.  
The status room occupied / unoccupied depends on HOTEL/MOTEL MANAGEMENT.

## 3.12 HUNT GROUPS

Menu **SUBSCRIBERS>Hunt groups and companies**

A **hunt group** is a set of subscribers grouped together under a common directory number (hunt group directory number) through which they can be called.

The system offers the possibility to create hunt groups distributed differently according to the type of system used.

### GENERAL RULES

A subscription can only belong to one HUNT type group. However, it can belong to several SUPER GROUP type hunt groups (maximum of 8).

The super group contains hunt groups or multi CCO subscriptions.

A hunt group can contain different types of sets (analogue, digital, ISDN, IP, etc.).

i2052 VOIP terminals can be part of a “fixed” hunt group or “cyclic” hunt group, but not a “general call” hunt group (see the definition of hunt group types in the definition of hunt group parameters).

When a set is included in a hunt group, a call interception group number is automatically assigned to the set.

The last set in a hunt group can be placed on standby, provided that the group is not an answering set group (operator forwarding extension).

For multi-company operation, the sets must belong to the same company or company 0.

The following functions are available from the menu **SUBSCRIBERS>Hunt groups and companies**:

- Hunt groups (parameters, definition and display)
- Teleconference
- Intercom groups
- Announcement list
- Announcement code list (in a multi-company configuration only)
- Multi-company management (in a multi-company configuration only)

### 3.12.1 HUNT GROUP PARAMETERS

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Parameters**.

This menu is used to define hunt group-related authorisations and the duration of the different ring tones (timeouts) during calls to hunt groups.

#### **ALLOW CALL PICK-UP**

If you tick this box, a call intended for a group of sets can be intercepted by dialling the interception code, followed by the group directory number (when the call is intended for the group, and not for a particular set in the group).

This parameter is required in order to set a general call GROUP in service.

#### **ALLOW CALL WAITING BEEPS**

If you tick this box, the call waiting beep signal is authorised for the hunt group.

#### **ALLOW LAST ACTIVE WITHDRAWAL**

If you tick this box, temporary withdrawal of the last active set in the hunt group is authorised.

#### **SEND ID**

If the caller belongs to a hunt group, the send ID option is as follows:

- **PHONE NUMBER:** The caller's number, seen by the called party, is the caller's phone number.
- **HUNT GROUP NUMBER:** The caller's number, seen by the called party, is the hunt group head number.

**LAST REDIRECTED DEVICE CSTA OR REDIRECTED NUMBER DISPLAYED**

This parameter is mainly used for cascade forwarding while connecting CSTA servers.

- **HUNT GROUP/1ST REDIREC.**
  - **HUNT GROUP** applies to the CSTA field Last Redirected Device.
  - **1ST REDIREC** applies to the displayed re-routed number.
- **LAST REDIRECTED BEF.GRP** This choice applies to the CSTA field Last Redirected Device and to the displayed re-routed number.
- **CALLING NUMBER -TERM.S0** This choice applies to the specific case of S0 terminals, for the CSTA field Last Redirected Device and for re-routed number.

**Summary of "displays" according to options:**

OPTIONS	CSTA	TERMINALS	S0 BRI
	Last Redirected Device	Redirected number displayed	Displayed Calleing / [Redirected] No.
<b>HUNT GROUP/1ST REDIREC.</b>	Hunt group No.	1st redirec. No.	Last redirected No. bef GRP / [Hunt group No.]
<b>LAST REDIRECTED BEF.GRP</b>	Last redirected No. bef GRP	Last redirected No. bef GRP	Calling No. / [Last redirected No. bef GRP]
<b>CALLING NUMBER -TERM.S0</b>	Hunt group No.	1st redirec. No.	Calling No. / [Hunt group No.]

**Behaviour of different terminals according to options**

Assuming that **X** calls **Terminal 1** ..... forwarded to **Terminal D** forwarded to **Groupement G**.

On the terminals (except terminal S0) are displayed the calling number and a forwarded terminal number (which may be the first or last number, or the hunt group number).

For a terminal S0, this depends on the terminal; on standard terminals, only the calling number is displayed. However, the interface allows the forwarded terminal to be sent.

For CSTA, information is displayed on the hunt group terminal according to type, and information is sent to the CSTA field Last redirected device.

Options	CYCLIC/FIXED HUNT GROUP/...			GENERAL CALL GROUP	
	HUNT GROUP/1ST REDIREC.	LAST REDIRECTED BEF.GRP	CALLING NUMBER -TERM.S0	HUNT GROUP/1ST REDIREC. CALLING NUMBER TERM.S0	LAST REDIRECTED BEF.GRP
DS	Terminal 1	Terminal D	Terminal 1	Terminal 1	Terminal D
DS MT	Terminal 1	Terminal D	Terminal 1	Terminal 1	Terminal D
SIP	Terminal 1	Terminal D	Terminal 1	Terminal 1	Terminal D
53xx	Terminal 1	Terminal D	Terminal 1	Terminal 1	Terminal D
Associated	Terminal 1	Terminal D	Terminal 1	NA	NA
S0 BRI	Calling = D, Redirect = G	Calling = X, Redirect = D	Calling = X, Redirect = G	NA	NA
TAPI	Idem supervised terminal	Idem supervised terminal	Idem supervised terminal	Idem supervised terminal*	Idem supervised terminal*
VTI-XML CTI	Idem supervised terminal	Idem supervised terminal	Idem supervised terminal	Idem supervised terminal *1	Idem supervised terminal *1
VTI/ XML VOIP	Terminal 1	Terminal D	Terminal 1	NA	NA
CSTA	Hunt group G	Terminal D	Hunt group G	NA	NA

**WORK START:****- ID CODE LENGTH**

This field is used to define the length of the work ID code for the hunt group terminal.

- Default value: 6
- Maximum value: 19 (limit imposed by charging)

The user dials a special prefix followed by the ID number allowing group calls to be processed by activating or deactivating one of the hunt group terminals. This number may be used to create an ID (signature).

**- ACTIVATION IN GROUP**

Work start indicator with activation of the terminal in the hunt group.

- **Box not ticked:** when "work start" is activated, a work ID ticket (service ticket) is issued. The terminal in the hunt group is not activated.
- **Box ticked:** When "work start" is activated, a work ID ticket (service ticket) is issued, and the terminal is activated in the hunt group by generating the ticket activation.



**Note :** The end of "work start" also generates a ticket and sets the terminal to stand by mode in the hunt group.

**END OF WORK APPLIED TO**

Indicates terminal-based end of work in the hunt group.

**LINE:** end of work for the line corresponding to the directory number, for a multi-line terminal.

**ALL LINES:** end of work for all the directory numbers of a multi-line terminal.

**HUNT GROUP RINGING DURATION**

Time-out fixed at 40 seconds. This time-out is activated on a call to a hunt group. It defines the global ringing time for sets in the group.

This time must not be less than the internal call ringing time. The value of this time-out can be increased according to the number of sets in the hunt group. The number of cycles depends on the number of active sets in the group.

**EXTENSION RINGING DURATION**

Time-out fixed at 15 seconds and activated on a call to a hunt group. This is the time during which a set in the group is rung before the next set is rung.

**EXTENSION IDLE DELAY**

Time-out fixed at 2 seconds: this time-out corresponds to the pause between two calls, for the same set in the hunt group.

**WAIT BEFORE FWD TO OP. CONS.**

Time-out fixed at 40 seconds. In the end, the call is taken by the attendant console.

**WAITING TIME BEFORE ASSISTANCE**

Time-out fixed at 35 seconds. In the end, the call is routed to the assistance number (defined in "Hunt group characteristics").

**WAIT TIME BEFORE ALERTING**

Timeout not defined.

**% WAITING CALLS**

100 % by default.

## 3.12.2 HUNT GROUP DEFINITION

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Characteristics** tab.



**Note :** The hunt groups must first be created as **HUNT GROUP** or **SUPER HUNT GROUP** type subscribers (menu **SUBSCRIBERS>Subscriptions>create**. The terminal ring time and hunt group global ring duration are defined in the menu **SYSTEM>Expert>Time-out**.

- If the hunt group selected is **SUPER HUNT GROUP** type, see Section 3.12.4.
- If the selected hunt group is of **HUNT GROUP** type, the parameters displayed are indicated below.

In both cases, the subscribers that make up the hunt group must be declared in the **Composition** tab of the menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups**.

After a hunt group is selected by its directory number, the screen displays all the fields required to define a hunt group:

### DIRECTORY NUMBER

Hunt group directory number. This must be included in the range of internal numbers and be of the same length (2 to 6 digits).

### DID DIRECTORY NUMBER PLAN 1

This field is reserved for the DID directory number plan.

Enter the operator's MCDU number within the first plan which will reach the hunt group directory number (DID group relation on the first plan).

### HUNT GROUP TYPE

**CYCLIC**

**FIXED  
HEAD**

**GENERAL CALL**

**PAUSE TIME**

**EMPTY**

**Cyclic** hunt group: calls are successively routed to the various hunt group sets in the order of the declared sets in the hunt group. Each new call is routed to the next free set (after the previous call).

**Fixed** head hunt group: calls are routed on a priority basis, to the first set in the group (group head set). If the first set is busy or is not answering, the second then rings, and so on.

**General call** hunt group: in this case, all sets ring simultaneously for an internal or external call (DID or DIR), and following an internal transfer. This type of hunt group can be declared as **OP FORWARDING SET NUMBER** (if de-activating the ATDC). For this type of group to work, tick the checkbox of the parameter **ALLOW CALL PICKUP** in the menu **SUBSCRIBERS>Hunt groups and companies>Parameters**.

**Pause time:** in this case, the set that rings is the one which registers the least communication time in the hunt group.

**Super group:** see description of the parameters in Section 3.12.4.

**Empty:** in this case, the hunt group contains no subscribers.



**Note :** The "Type of hunt group" column will only be displayed if a directory number had previously been entered on top of the screen.

### HUNT GROUP NAME

Information field indicating the hunt group name: **SUBSCRIBER + subscriber number**.

**HUNT GROUP NATURE****TELEPHONY****ISDN DATA****DATA**

By default, the group is TELEPHONY type: in this case, all set types can be declared in a hunt group.

The hunt group nature can also be ISDN DATA. In this case, all sets declared should be of ISDN type (for example, PC with S0 interface, etc.).

**USED FOR PRE-CALL DISTR.**

NO by default.

Select YES to have a ticket (ACD 7403 statistics) on the broadcast of an announcement before it reaches the subscriber.

**COMPANY**

Name of the company to which the group belongs (by default, the hunt group belongs to the company of the first subscriber of the group).

**SERVICE**

Name of the department to which the group belongs (by default, the hunt group belongs to the company of the first subscriber of the group).

**DAY CATEGORY****INTERNATIONAL****INTER  
NAL****PRIVA  
TE****ADDITIONAL****LOCAL****REGIO  
NAL**

Possible for the delayed ringing hunt group after answer message if the category features "DELAYED RINGING AFTER ANN. MSG".

**NIGHT CATEGORY****INTERNATIONAL****INTER  
NAL****PRIVA  
TE****ADDITIONAL****LOCAL****REGIO  
NAL**

Idem day category. Switching between DAY/NIGHT is carried out by the barring calendar.

**CALL WAITING****ACCEPT AND BEEP****FORWARD->ON  
CONSOLE****REFUSED**

Indicates the procedure for handling an external incoming call when the hunt group is busy:

**ACCEPT AND BEEP**

Normal procedure: the call is placed on hold, and the user is advised. After the time-out, the call is forwarded to call distribution. To choose a time-out, see Hunt group parameters>Timeout management.

**FORWARD->ON  
CONSOLE**

The call is systematically forwarded to the attendant console.

**REFUSED**

The calling party receives the busy tone.



**Note :** A multi-CCO subscription is only busy if all CCOs are occupied.  
To change this status, set "MULTI-KEY EXT. SEEN BUSY ON 1st COM" to YES in the menu **Subscribers>Rights> Miscellaneous parameters**.  
See also the section **Digital Extension Characteristics: BUSY FOR HUNT GROUP ON 1ST CALL**.

### CALL FORWARDING PROTECTION

Click YES to prohibit forwarding to this hunt group.

### INTRUSION ALLOWED

Click YES to allow queuing in a super hunt group, with busy hunt group.

### RETURN TO CONSOLE ON SPEC. TIME-OUT

**NO**, in case of no answer by the hunt group: the return to the attendant console takes place after a standard 40 seconds time-out (see Hunt groups>Hunt group parameters).

If you enter YES, the standard time-out value for return to the Attendant Console (ATDC) is replaced by the SPEC. TIMEOUT: REROUT. TO CONSOLE (see SYSTEM>Expert>Time-out).



**Note :** If the OP GP is absent from the call distribution, the call is returned on special reduced day TIME-OUT.

### EXTERNAL FORWARDING ALLOWED

Select YES to enable the "Divert" function for the telephone set hunt groups (especially in case of declaration of empty hunt groups used by a call centre).

### TRANSFER BEFORE ANSWER ALLOWED

Select YES to allow switchover to help hunt group.

### PREDEFINED FORWARDING

Internal or external number to which the hunt group is forwarded: this number can have a maximum of 17 digits, including direction access prefixes (0,00).

For all set types (analogue, digital) the predefined forward command is activated by a code + the hunt group number. It is cancelled by a code + hunt group number.



**Note :** To activate hunt group forwarding, the parameter **Predefined forward must be enabled (ACTIVE)** in the **Forward** tab of the menu **SUBSCRIBERS>Hunt groups and companies>Hunt group>Characteristics** (this terminal may or may not belong to the hunt group).

### ASSISTANCE NUMBER

Number to which the call will be routed after the hunt group response timeout.

### GROUP RINGING DURATION (SEC)

### EXTENSION RINGING DURATION (SEC)

### EXTENSION IDLE DELAY (SEC)

These 3 parameters correspond to the timeouts which must be configured according to the needs of the hunt group. Some durations (in seconds) are proposed by default.

**WAIT BEFORE FWD TO OP. CONS. (SEC)**

Enter a value in seconds, below 3600.



**Note :** This value, which is used to configure the return to console time-out, is only valid for an **EMPTY** hunt group.

**WAITING TIME BEFORE ASSISTANCE (SEC)****WAIT TIME BEFORE ALERTING (SEC)**

These 2 parameters correspond to the timeouts which must be configured according to the needs of the hunt group. Some durations (in seconds) are proposed by default.

**% WAITING CALLS**

This parameter (100% by default) indicates the maximum percentage of waiting calls for the hunt group.

**3.12.3 HUNT GROUP COMPONENTS**

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Composition** tab.

**CONSTITUENT DIRECTORY NUMBERS****SUBSCRIBER 1 .....SUBSCRIBER 100**

Directory numbers (2 to 6 digits) of the sets which belong to the hunt group.

The limit is 100 subscribers maximum.

**3.12.4 SUPER GROUP DEFINITION**

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Characteristics** tab.

After a hunt group is selected by its directory number, the screen displays all the fields required to define a hunt group.

The description of the general parameters for defining a super group is the same as the one given in the hunt group definition (see Section 3.12.2).

**3.12.5 SUPER HUNT GROUP COMPONENTS**

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Composition** tab.

The super group composition parameters are different from those of a hunt group.

**The following rules** apply to the elements making up a super hunt group:

- The elements that make up a super group can only be "**cyclic**", "**fixed head**" or "**longest idle time**" **HUNT GROUP** type subscriptions or **multi\_CCO** subscriptions (at least one key must be programmed).
- None of them must already belong to 8 super groups.
- They are distributed according to 4 hierarchical levels and each hierarchical level may contain up to 4 subscriptions.

- A subscription can only be defined in a hierarchical level if the lower level is not empty.
- In a multi-company configuration, the elements making up a super group must belong to the same company/department pair as the super group.



**Note :** In a multi-site configuration, the elements making up a super group can be declared on different sites.

A change level criterion is associated with the super group and used to define the conditions in which the calls are routed to the higher hierarchical level.

#### LEVEL N (1 TO 4)

##### - SUBSCRIBER 1 TO 4

Directory number.



**Note :** If the corresponding subscription does not respect the rules indicated above, an "incorrect directory number" error message will be sent by the system. The system undertakes the controls to ensure rule compliance before validating a component element. This operation may take a few seconds.

#### CHANGE LEVEL CRITERION

##### **BUSY SETS**

Move to level N+1 if all the level N sets are busy.

##### **MAX TIME IN QUEUE**

Move to level N+1 if the maximum time in each of the level N queues has been reached.

##### **QUEUE BUSY**

Move to level N+1 if the queues for level N subscribers are full.

#### MAXIMUM TIME IN QUEUE (SEC)

This parameter is only displayed if the change level criterion is set to MAX TIME IN QUEUE.

Enter a value in seconds.

### 3.12.6 DIRECTORY INFORMATION (HUNT GROUP AND SUPER HUNT GROUP)

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Directory** tab.



**Note : Identical fields for the hunt groups and super hunt groups**

This command is used to modify the directory record of a hunt group.

Select the directory number in the field **BY DIRECTORY NUMBER**.

Directory number.

The hunt group's directory record is displayed.

See the description of a directory record in Paragraph 3.3.3.2.

### 3.12.7 DISPLAY HUNT GROUPS

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Display**.

This menu is used to display all the hunt groups / super hunt groups associated with the following fields:

#### **UNUSED HUNT GROUPS**

Indicates the number of unused hunt groups.

#### **DIRECTORY**

Indicates the hunt group directory number.

#### **DID**

Indicates the hunt group DID directory number, if need be.

#### **TYPE**

Indicates the type of hunt group: CYCLIC – FIXED HEAD – GENERAL CALL – PAUSE TIME – SUPER GROUP.

#### **HUNT GROUP NAME**

Indicates the hunt group name.

#### **NUMBER**

Indicates the number of extensions in hunt group.



**Note : For an MiVoice 5000 Server, this menu is preceded by a selection menu used to limit the display length.**

### 3.12.8 ACTIVATING FORWARDING FOR A HUNT GROUP

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Forward** tab.

#### PREDEFINED FORWARD

##### ACTIVE

This selection activates forwarding for the hunt group defined in the **Predefined forward** field of the **Characteristics** tab in the menu **SUBSCRIBERS>Hunt groups and companies>Hunt group>Characteristics**.

##### NOT ACTIVE

Deactivates the above-mentioned forwarding.

#### TO NUMBER

Non-modifiable field which gives the number to which the hunt group is forwarded.

### 3.12.9 DISPLAYING A HUNT GROUP'S FUNCTIONS

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups – Functions** tab.

This tab is used to see the function of each hunt group.

When the hunt group in question is selected, the links to all the management menus involving this hunt group are proposed.

#### Example:

After the directory number is selected (example 500):

The following is displayed:

<p>Belongs to the super hunt group 600</p> <p>Predefined forward for 200</p>
--

### 3.12.10 DISPLAY THE STATUSES OF HUNT GROUP EXTENSIONS

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Characteristics – Status** tab

The **Status** tab is only a display menu used to view the status of the terminals that make up the hunt group as well as the dynamic characteristics of the hunt group.

#### Dynamic characteristics of the hunt group

##### **Overload indicator:**

- no overload, no waiting call
- 1 = overload, no waiting call
- 2 = no overload, waiting calls
- 3 = overload, waiting calls

The notion of overload means that a call has exceeded an overload threshold (timeout).

Overload level 1, if a call has waited longer than a given time.

Overload Level 2, if the total number of calls waiting on the hunt group and calls waiting on the terminals, on an individual basis, is equal to the maximum number of admissible number of waiting calls (busy group 2).

**Number of terminals / number of calls:**

- Number of terminals declared in the hunt group, no matter their status (active, in standby mode, in permanent off-hook position or out of service).
- Number of calls with assistance: if some calls have been waiting for more than a given period, these calls are returned in chronological order to an "assistance" hunt group (if it exists).

**Time:**

The longest wait time for a call on the queue and the wait time for a call which has the longest ringing time.

**Status of hunt group terminals**

The number of terminals per hunt group varies according to hunt group type; the maximum number of terminals displayed is 100.

**Directory:**

Field with maximum 10 numeric characters, representing the extension's directory number.

**Name:**

Field with maximum 30 alphanumeric characters, representing the name of the subscription declared on the directory server.

**Status:**

The different dynamic statuses of a terminal in the hunt group are:

- **Unknown:** if the status returned is different from those indicated below.
- **Active and free:** terminal is active and free in the hunt group.
- **Active and busy:** terminal is active and busy in the hunt group.
- **In standby mode and free:** terminal is in hunt group standby mode and free.
- **In standby mode and busy:** terminal is in hunt group standby mode and busy.
- **Perm off-hook and not connected:** terminal is in standby mode and not connected or in perm. off-hook condition (disconnected); the terminal is seen as not active in the hunt group.
- **Out of service:** terminal is out of service.
- **Idle and free :** active terminal in the hunt group is in "trade-union-approved break" (time of inactivity between 2 calls on the same terminal) and free.
- **Idle and busy:** active terminal in the hunt group is in "trade-union-approved break" (personal call).



**Note :** **Remarque :** **If no answer is returned during a hunt group status request, the line "Impossible to display status " is displayed in the Status tab.**

### 3.12.11 ANNOUNCEMENT LIST

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Announcement list**

An announcement is a message broadcast to a set of digital TDM terminals with loudspeakers. The requested set of extensions constitutes a group known as an "announcement list" (speaker paging calls).



**Note:** Announcement lists do not concern 6xxxi terminals. Only announcements to this type of terminal is available in this release.

Mitel devices allow the definition of up to 40 announcement lists on a loudspeaker.

Each list may contain:

- Either up to 32 subscriptions assigned to fixed digital terminals (simple list)
- Or up to 4 announcement lists on loudspeaker within the limit of 32 subscriptions assigned to the terminals.

Announcement lists 0, 1 and 2 are accessible via the prefixes defined in the numbering plan for features:

- CALL ANNOUNCEMENT LIST 0
- CALL ANNOUNCEMENT LIST 1
- CALL ANNOUNCEMENT LIST 2



**Note :** Only digital sets with loud speakers can be declared in an announcement list.

An extension can appear on a number of single lists, but all the extensions declared in a list must belong to the same company/department.

By default, the sets are not rung before switchover to the broadcast function (however, this configuration can be modified using table 56, parameter 47).

The menu **SUBSCRIBERS>Hunt groups and companies>Announcement list** is used to choose and summarise all the lists defined already, in the following format:

- LIST NUMBER
- LIST NAME (a declared list must always have a name)
- NO. DNs (the number of users in the list) LIST NOS.
- (the numbers of the lists which are made up of a single list)
- NO. CODES (number of announcement codes allowed to access this list. Update only exists in multi-company configuration).

#### ANNOUNCEMENT REMAINS ON LOUDSPEAKER UPON OFFHOOK

Indicates that the announcement remains on loudspeaker

- **Box not ticked:** announcement does not remain upon off-hook.
- **Box ticked:** announcement remains on loudspeaker upon off-hook.

#### IF CREATION, TYPE OF LIST

**SINGLE**

**COMPOSED**

**SINGLE**

Selection of single list by list number

**COMPOSED**

Selection of composed list (composed of x single lists) by list number.

#### LIST

Clicking a list opens the following fields:

#### NAME

List name (mandatory).

#### LIST OF SUBSCRIBERS IN ANNOUNCE.

Subscriber directory number (lines 1 to 32).



**Note :** A new subscriber cannot be entered if this causes an overflow of the number of subscribers in the list. The number of the composed list generating the refusal is then given in an error message.

### 3.12.12 ANNOUNCEMENT LIST CODE

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Announcement list code**

This command is used to display all the company/department pairs using an announcement list code.

This screen is used to select announcement list rights.

#### SELECTION BY NAME

Announcement list code, previously declared in the menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Announcement list code names**.

When **Select item** is confirmed, the next screen displays the users of an announcement list code. An announcement code contains a set of announcement lists.

An announcement code cannot belong to more than 15 lists.

### 3.12.13 INTERCOM GROUPS

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Intercom groups**

#### 3.12.13.1 Names

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Intercom groups>Names**

This screen is used to display and modify intercom group names.

- This name can contain up to 16 characters.
- 2000 intercom groups can be defined.

#### 3.12.13.2 Broadcast

This menu is used to optimise the ICG group range.

##### BY NAME

Choose the group you wish to optimise.

##### BROADCAST PRIORITY 1

Eight priority levels: 1 to 8. The data specific to this group is broadcast based solely on the choices made here by the operator.

Options: LOCAL SITE, LOCAL CENTRE, CENTRE EXCEPT SITE, ALL CENTRES, SITE BASED, CENTRE BASED

##### SITE BASED

Choose the site containing some subscribers included in the ICG group.

##### NODE NUMBER

In a standard, multi-site MiVoice 5000 system, the node number is 2.

### 3.12.13.3 *Display*

Menu **SUBSCRIBERS>Hunt groups and companies>Hunt groups>Intercom groups>Display**

This screen is used to select an intercom group and, possibly, a sub-group of subscribers belonging to this group.

When **Select item** is validated, the next screen displays the users declared in the intercom group:

## 3.13 MULTI-COMPANY

Menu **SUBSCRIBERS> Hunt groups and companies>Multi-company**

### 3.13.1 DEFINITIONS

A MULTI-COMPANY configuration allows several companies to share the same iPBX (or set of iPBXs in case of multi-site configuration). Each company may have its own characteristics (speed dial, incoming and outgoing trunk groups, answering service and operators).

The table below gives the limits of multi-company management during parameter definition:

	<b>MIVOICE 5000 SERIES (INCLUDING MIVOICE 5000 SERVER)</b>
1 - Companies	32
2 - Departments per company	32
3 - Routing codes	16
4 - Announcement list codes	16
5 – Company profiles	16
6 - Definition of parameters for each company/department pair	

To access the multi-company configuration management menu, select the menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management**.



**Note :** When the Multi-company Management option of the menu **System>setting>Services** is validated, this menu entitled: **Multi-company management** appears on the **MiVoice 5000 Web Admin screen**.

Multi-company management implies defining the following parameters:

- General parameters
- Company names
- Department names
- Routing code names
- Broadcast code names
- Company profile names
- Company/department parameters

### 3.13.2 GENERAL PARAMETERS

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management**.

This screen is used to define the level of communication between the different companies sharing the same equipment: telephony only, data only, or both.

### 3.13.3 COMPANY NAMES

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Company names.**

This menu is used to declare different companies, and assign them a name.

#### COMPANY NUMBER

The number of the company. On system start-up, only CMPNY.0 is created (do not modify this field).

#### NAMED

The name of the company: CMPNY.0 for company no. 0 (this name cannot be used for a new company).

This name can contain up to 16 characters.

For a configuration with two or three companies, CMPNY.0 designates the central company (for example: the general services): Company CMPNY.0 is not barred with respect to the other companies.



**Note :** You must first assign a number to the company so you can assign a name. You must delete the company name before the company number.  
A name can only be deleted if the company is no longer used and if no department has been declared within it.

### 3.13.4 DEPARTMENT NAMES

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Department names.**

This screen is used to define the services that will be provided for each company identified.

#### DEPARTMENT NUMBER

Department number. On system start-up, only department 0 of company CMPNY.0 is created.

#### NAMED

Name of the department: this service is called SERV 0. This name may contain up to 16 characters.



**Note :** Two different companies can use the same department names. You must assign a number to the department before a name. You can only delete a name provided that the department is no longer being used and has no specific parameter defined on it. You can read the names of other companies' departments.  
**INDIVIDUAL COMPANIES (Hotel configuration, for example).**  
You can define individual groups between which internal calls are not allowed to be set up.  
To bar a set from calling another set in the same department, create a **DEPARTMENT NUMBER** between 90 and 94 for the **COMPANY: HOTEL** application, for example.  
A parameter in menu **Rights / Subscribers miscellaneous parameters** is used to authorise calls between two terminals, if the calls are set up by an operator.

### 3.13.5 ROUTING CODE NAMES

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Routing code names**.

The routing code enables the various companies to access the PSTN, using the same prefix (0) on their individual trunk groups.

It is also possible to assign a routing code to a particular department in a company, enabling the department to access a particular trunk group.

#### NUMBER (1 TO 16)

Routing code names (8 characters maximum for 16 codes).

On system start-up, only the name Code 0 is created for number 1 (do not modify this field).



**Note :** To simplify operation administration, it is advisable to enter the name of the company or the name of department, such as the **CODE NAME**.  
A code name can only be deleted if no remaining route is declared on that code

### 3.13.6 BROADCAST CODE NAMES

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Name of broadcast codes list**.

This screen is used to define the announcement code names that will be assigned to each company / department pair declared for the announcement list call (see **NUMBERING PLAN>User numbering plan>Access to features**).

#### NUMBER (1 TO 16)

Names of announcement codes (maximum 8 characters).

On system start-up, only the name Code 0 is created for number 1 (do not modify this field).



**Note :** To simplify operation administration, it is advisable to enter the name of the company or the name of department for the code name.  
A code name can only be deleted if no broadcast is declared for the code to be deleted.

### 3.13.7 COMPANY PROFILE NAMES

Menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Company profile names**.

This screen is used to define the company profile names required to manage wireless TDM (DECT/DAS) accesses.

#### NUMBER (1 TO 16)

Names of company profiles (maximum 8 characters).

On system start-up, only the name PROFS0 is created for number 1 (do not modify this field).



**Note :** To simplify operation administration, it is advisable to enter the name of the company or the name of department for the profile name.

A profile name can be deleted subject to the following conditions. There should be:

- More trunk base stations allocated to the company profile
- More area profiles defined for this company profile
- More mobile phones declared in a company/department pair using this company profile name company.

### 3.13.8 COMPANY/DEPARTMENT PARAMETERS

Menu **SUBSCRIBERS> Hunt groups and companies> Multi-company management> Company/department parameter.**

This screen is used to select the company for which the service parameters must be defined.

#### COMPANY NAME

**CMPNY.0**    **.....**

Select a specific company or all the companies **.....**. If you have already created other company names, these appear in this field.

Only company **CMPNY.0** exists on system start-up in multi-company configuration.

If you select **.....**, you can modify the parameters of all the companies.

Click **Select item.**

This screen is used to define the parameters of the departments of one or more companies (for multi-company configuration).

By default, code 0 is assigned to all company/department pairs for routing the 3 outgoing traffic flows.

By default, call distribution service 0 is assigned to all company/department pairs for routing the 3 incoming traffic flows.

#### AND DEPARTMENT

**DEPT.0**    **.....**

Select one or more departments **.....**. If you have already created other departments, they will appear in this selection.

Only department **DEPT.0** exists on system start-up in multi-company configuration.

If you select **.....**, you can modify the parameters of all the departments in a single specified company.

Example:

The system has several company/department pairs with a number of identical parameters (routing code and call distribution service). Common parameters are assigned to these departments first, then specific parameters are assigned to the other departments.

#### PSTN – TL ROUTE CODE

Code 0 is assigned by default. If you have already created code names, they appear in these selections.

## ANNOUNCEMENT LIST CODE

Code 0 is assigned by default. If you have already created code names, they appear in these selections.

## PSTN-TL-INTERNAL CALL DISTRIBUTION

Call distribution 0 is allocated by default. If you have already created call distribution names, they appear in these selections.



**CAUTION :** See definition "TRANSF. ACC. TO CALLED PTY COM-DEPT" in the menu NETWORK AND LINKS>Trunk group selection.

## COMMON BELL DN

The common bell directory number can be assigned to an analogue device, with a directory number corresponding to the internal numbering plan.

In multi-company configuration, the common bell must belong to the selected company or company CMPNY.0: the common bell for the other companies will be on analogue equipment.



**Note :** The directory number of the common bell for each company must correspond to the operator forwarding set directory number (see Call distribution / Selection of operator service).

## WIRELESS PROFILE

Profile name previously created in Company profile name in Multi-company management.



**Note :** The wireless profile is used for wireless management.

## PSTN ACCESS BARRING CALENDAR NETWORK ACCESS

### CAL.1 1

Select a calendar: by default, calendar CAL.1 is created. If you have created other calendar names, they appear in this field.

The barring calendar controls day and night categories, and day and night barring levels for each subscriber.



**CAUTION:** The directory number of the common bell and the barring calendar are not assigned to all the departments in companies \*\*\*\*\*, but are assigned by the menu corresponding to each company/department.

## 3.14 DEFINITION OF RIGHTS

Definition of rights basically concerns subscribers' general parameters, selection of categories, definition of features, and selection of TL class users.

### 3.14.1 GENERAL SETTINGS

General parameters concern subscriber access rights, including in particular the functions available to the sets, maintenance set functions, programming of data copying to the backup sites, ISDN parameters and transfer authorisations.

Menu **SUBSCRIBERS>Rights>General settings**.

This menu is divided into 5 tabs:

#### 3.14.1.1 *Subscriber tab*

##### **FORWARDING DEPTH ALLOWED**

This parameter provides for cascade mode forwarding (maximum 3 forwarding operations).

By default, the device proposes 2 cascade operations (3 forwarding operations).

##### **TEST ON ROUTED NUMBER**

- **Box ticked:** the forwarded number is tested to check that the origin of the forwarded number is different from the number to which it is forwarded.
- **Box not ticked:** no test.

##### **PERSONAL CALLS BARRED NUMBERS ALLOWED**

When this box is ticked, personal calls are subject to barring lists.

##### **ABBREVIATED/SPECIAL NUMBERS BARRED**

If this box is ticked, the general abbreviated numbers are subject to barring lists.

##### **MULTI-KEY EXT. SEEN BUSY ON 1<sup>ST</sup> CALL.**

If the box is ticked, a subscription set to multi-CCO is always seen as busy when it is on call on a CCO, through the subscriptions monitoring it.

##### **CONFIDENTIALITY ASSOCIATION**

By default, the box is not ticked.

A confidential association forbids any set in the association from entering an ongoing communication.

A non-confidential association allows you to join a conference by picking up a second terminal in the association.

This selection only applies to:

- A single-key>single-line association (for a multi-key>multi-line association, the association is automatically confidential)

- An association comprising only TDM terminals (an association with at least one IP terminal is automatically confidential)
- Some single-site or multi-site TDM calls.

### CHOICE OF THE CTI TERMINAL

This list lets you choose how to select, in an association, the terminal concerned by the CTI actions for making or answering a call from a CTI application connected in CSTA or VTI/XML mode:

- **Last active:** in this case, it is the last active terminal in the association.
- **Wired terminal:** in this case, it is the first wired terminal in the association.

### DELETE VOICEMAIL UPON ON-HOOK

- **Box ticked:** the voice prompt is deleted when the subscriber with activated forward on no answer or no busy off-hooks.
- **Box not ticked:** no deletion.

### FUNCTIONS AVAILABLE TO EXTENSIONS

#### EXTERNAL NAME DISPLAY

This field is only significant if the directory server is present. The external caller is displayed by name rather than by number, provided that this name is declared in the server directory.

#### CONSULT CALLER ON INTERCOM

Used, when the monitored subscriber receives a call, to see the caller ID before pick-up.

Depending on whether or not this box is ticked, two possibilities will be offered to users when the blinking supervision key is pressed (i.e. the monitored subscriber receives a call):

- **Box not ticked:** pick up a call directly when your terminal is idle,
- **Box ticked:** first check the monitored caller's ID then pick up or do not pick up the call.

The terminals concerned are proprietary terminals including also, as of R6.1 SP2, Mitel 6800 SIP Phones.



**Note :** For a Multisite, activation of the box must be homogeneous for all the sites.

### - CALL CHARGING MANAGEMENT

If you tick the box, you can view the charging function on your digital set.

Furthermore, if the MAINTENANCE SET parameter is ticked in the menu Extension Characteristics, the digital terminal concerned can be used to view the charging function for all terminals in the system, and reset the counters. It can also reset these counters.

There is a password request in Password management on the line READ: CHARGE COUNTER RESET. For optimal usage, enter a numeric password (for *example*: 12345): This type of password can also be used on M510 terminals.

## - USE OF ROTARY DIAL TERMINALS

Indicates the types of analogue terminals accepted.

- **Box not ticked (default value):** Q23 type analogue or rotary dial terminals are supported.
- **Box ticked:** only Q23 analogue terminals are supported.

## - PERMANENT AUTOMATIC CONNECTION

Parameter used to manage permanent automatic headset connection on 53xx/MiVoice 5300 IP Phone and 740 terminals.

Possible values:

**NO** **740** **53xx/53xxip** **740 and 53xx/53xxi**

## TERMINALS 53XX, 53XX\_IP AND MITEL 6700 SIP PHONE DISPLAY

### - IDLE SCREEN:

Display options for the type of Office terminal user on the idle screen:

- **NAME (default value):** the name is displayed if found in the directory, otherwise the number is displayed, preceded by the located "Subscriber" string.
- **NO DISPLAY:** nothing is displayed (no name, no directory number).
- **NAME + NUMBER:** displays the name if found in the directory, followed by the directory number. If the name is not found, the number is displayed, preceded by the located "Subscriber" string.

## MAINTENANCE SET FUNCTIONS

### - RESTRICTION MANAGEMENT

Tick the box to authorise day/night switchover on a digital set.



**WARNING : A terminal must be declared as the maintenance terminal or operator console.**

## DATE AND TIME MANAGEMENT

This field allows you to create/modify the date and time on an operator console (or maintenance terminal).

Maintenance terminals only have hotel management features.

## SPEAKER PAGING CALL PARAMETERS

- Long timeout before off-hook (Long timeout = 5s and standard timeout = 1s)
- Announcement on set busy

### 3.14.1.2 *System tab*

#### COMMON ABBREVIATED NUMBERS

These parameters describe the common abbreviated numbers used in directory records.

##### - NUMBER OF NUMBERS

<b>10</b>	<b>100</b>	<b>1000</b>	<b>10000</b>
-----------	------------	-------------	--------------

The number of abbreviated numbers that can be defined.

##### - MULTIPLE PREFIXES

If this box is ticked, access to common abbreviated numbers is via different prefixes, based on number ranges.



**Note :** To be able to tick this box, you must first delete the (unique) access code of the abbreviated numbers in the features, using the menu **NUMBERING PLAN> Plan for users>Access to features**.

#### SUBSCRIBER FORWARDED TO THE EXTERIOR

##### - CHARGING

This parameter is used to assign charging to the caller or forwarded subscriber.

The ticket generated for the external call will mark either the caller or the forwarded subscriber as the call initiator.

Options: CALLER or FORWARDED SUBSCRIBER



**Note :** This parameter will be taken into account in the next 5 minutes.

##### - SEND ID

Moreover, during an external call from the forwarded subscriber this latter receives the caller's ID, either the caller's number or the number of the forwarded subscriber.

Options: CALLING NUMBER or FORWARDED SUBSCRIBER NUMBER

#### FEATURE CLASS MANAGEMENT

Options

<b>NO</b>	<b>MANUAL YES</b>	<b>AUTO YES</b>
-----------	-------------------	-----------------

If you enter **MANUAL YES**, the feature classes must have been defined beforehand (menu **SUBSCRIBERS>Rights>Feature classes**).

If you enter **AUTO YES**, the feature classes are created automatically.

In these two cases, the features are assigned to the subscribers via feature classes in the menu **SUBSCRIBERS>Subscription>Characteristics>General characteristics**.

If you enter **NO**, the features are individually assigned to each subscriber from the menu **SUBSCRIBERS>Subscription>Characteristics>General characteristics**.

#### TL CLASS MANAGEMENT

Options

<b>NO</b>	<b>YES</b>
-----------	------------

This field works in the same way as the Class management field.

## PARTITION CLASS MANAGEMENT

If this box is ticked, partition class management is effective. A partition class is defined to limit telephone subscriber access to incoming and outgoing calls. Each class identifies a distinct subscriber community. Up to 64 partition classes can be defined.



**Note :** These three parameters (feature classes, TL and partition classes must be selected so as to be taken into account by MiVoice 5000 Manager.

### DID DIALLING BY SDN

This box must be ticked in case of specific DID number management (see the document AMT/PTD/PBX/0099/EN).

If the box is ticked, the subscriber DID numbers and general DID are taken into account by the SDN server.

### NB WITHOUT EXTERNAL PREFIX FOR SIP SET

If this box is ticked, it is possible to transmit an external number without network prefix from an SIP terminal (dialling from a dual-mode GSM-WIFI terminal).

Otherwise, the network prefix is obligatory from the SIP terminals.

### SUBSCRIPTION BLOCKING DURATION (MN)

Duration (in minutes) of the subscription freeze following three consecutive login refusals.

- The default duration is 5 minutes.
- The value 0 indicates a locking operation without unlocking duration (unlocking via Web Admin).
- Only values with multiples of 5 are accepted, the other values are rounded off to a lower value:

0=1=2=3=4 : lock indefinitely

5=6=7=8=9 : lock for 5 minutes

### EXT CALL ROUTING

Options:

- **LOCATION SITE** (default): the routes used to channel network calls are those on the subscriber's location site.
- **SUBSCRIPTION SITE**: the routes used to channel network calls are those on the subscriber declaration site.

### CTRL MDP WHEN TAPI SESSION IS OPENED

Indicates the control of TAPI session opening.

- **Box ticked**: checks the password when a session is opened by TAPI.

The password sent in the "line open" is compared to the password associated with the directory number of the terminal concerned.

- **Box not ticked**: the line is opened by TAPI without control.

### POWER SAVING FUNCTION

The implementation of this function is described in the Appendix.

The function is active if the box is ticked. In this case, the ASSOCIATED CALENDAR line is proposed so a calendar can be associated with the power-saving function.

### ASSOCIATED CALENDAR

Options of the calendars defined in the menu **CALL DISTRIBUTION>Calendars>Names**.

### DUAL HOMING PARAMETERS



**Note :** These parameters are only available in a multi-site configuration or Cluster.

#### DAILY ALIGNMENT (HH:MM)

Start time for copying the secure-subscriptions telephone data to their backup site.

#### IMMEDIATE ALIGNMENT OF

..... No immediate copying.

#### Site Name

Starts immediate copying to the selected site of the data of all secured subscriptions on this site.

#### ALL SITES

Starts copying immediately all the relevant secured subscription data on each of the sites backed up from at least one subscription.

The drop-down list contains all the sites connected (at the time of the immediate alignment request), used as backup by at least one subscription.

Once this parameter has been entered, click the "Confirmation" button to validate the immediate alignment request.

### 3.14.1.3 *Rights tab*

#### CALL PICK-UP GENERAL NOT ALLOWED

- **Box ticked:** general call pick-up rejected for all the terminals (except ICG)
- **Box not ticked:** general call pick-up allowed for all terminals.

#### CONFERENCE FUNCTION

Applicable to the conference at the iPBX. These settings do not affect the onboard conference function in the SIP sets.

Indicates the right to a conference.

- **Conference function** checkbox not ticked: no conference on the iPBx.
- **Conference function** checkbox ticked: activates the conference function

#### -TK TK AUTHORISED

- If the **TK TK authorised** checkbox is ticked: one or more external correspondents can be included in a conference (network line TK).
- If the **TK TK authorised** checkbox is not ticked: terminal-to-terminal conference is authorised but not conferences with external correspondents.

**- SEND TONE**

Checkbox

A beep (internal hold tone) is made during the conference.

This line is only displayed if the **Conference function** is authorised.

**FORWARDING TO TL SUBJECT TO A RIGHT**

Indicates that forwarding to TL is subject to a right

- **Box not ticked** (default value): routing to TL is not subject to a right.
- **Box ticked**: routing to TL is authorised if the subscriber's feature class allows it.

**ALLOW TRANSFER**

In this menu, the operator may authorise or not authorise inter-network transfer (TK-TK or TK-IA).

These authorisations may apply according to the deployment mode defined in the TRUNK GROUP CONFIG. field, either generally by LIST NOT USED, or more restrictively by defining a list of trunk group pairs which will be either AUTHORISED or FORBIDDEN.

The list of trunk group pairs is configured in Menu **NETWORK AND LINKS>Network>Transfers/transits authorisation**.

**- TK TK**

- **Box ticked**: network-to-network call transfer is authorised, and the **TRUNK GROUP CONFIG** field is displayed so the list deployment mode can be defined.

**- TK TL**

- **Box ticked**: network-to-TL call transfer is authorised, and the **TRUNK GROUP CONFIG** field is displayed so the list deployment mode can be defined.

**TRUNK GROUP CONFIG.**

This line is only displayed if at least one of the **TK TK** or **TK IA** checkboxes is ticked.

- **LIST OF AUTHORISATIONS** (default value): the transfer of trunk group pairs is authorised.
- **PROHIBITION LIST**: the transfer of trunk group pairs is forbidden.
- **LIST NOT USED**: transfer is authorised without taking account of the list configuration.

**- BY SUBSC. WITHOUT RESTRICTION**

Indicator for transfers without barring tests.

**- BETWEEN ROOM SETS**

This field is displayed if MULTI-COMPANY management is requested. It is defined in the **Hunt groups and companies** menu.

If you tick this box, a terminal can call another terminal in the same department.

**- BETWEEN ROOM SETS VIA OP. CONS.**

This field is displayed if MULTI-COMPANY management is requested: it is defined in the **Hunt groups and companies** menu.

If you tick this box, the operator console can set up calls between two terminals in the same department.

**- VIA OP. CONS. TO PRE-PAYMENT SETS**

If you tick the box, the attendant console can transfer an outgoing line to a closed pre-payment terminal or to a locked terminal.

**- OF PERSONAL CALL**

Indicates that transfers of personal calls are not allowed.

**-TO SET WITH PSTN ACCESS ALLOWED**

Indicates that call transfers to a terminal entitled to set up calls to the PSTN are not allowed.

**3.14.1.4 Application tab**

**PAGING FUNCTION**

Indicates the choice of pager mode.

**MODE 1:** default mode.

**MODE: WITHOUT MEETING FOR INTERNAL CALLS** with meeting for external calls, without meeting for internal calls

**INT DISPLAY: CALLER NUMBER FOR INTERNAL CALLS**

**EXT DISPLAY: BEEP NO. FOR EXTERNAL CALLS + RECOVERY CODE**

**MODE 2:**

**MODE: WITH MEETING FOR ALL CALLS** with meeting for any call type, without meeting for internal calls

**INT DISPLAY: BEEP NO. FOR INTERNAL CALLS + RECOVERY CODE**

**EXT DISPLAY: BEEP NO. FOR EXTERNAL CALLS + RECOVERY CODE**

**MODE 3:**

**MODE: WITH MEETING FOR ALL CALLS** with meeting for any call type, without meeting for internal calls

**INT DISPLAY: CALLER NUMBER FOR INTERNAL CALLS**

**EXT DISPLAY: BEEP NO. FOR EXTERNAL CALLS + RECOVERY CODE**

**MODE 4:**

**MODE: WITH MEETING FOR ALL CALLS** with meeting for any call type, without meeting for internal calls

**INT DISPLAY: CALLER NUMBER FOR INTERNAL CALLS**

**EXT DISPLAY: CALLER NUMBER FOR EXTERNAL CALLS**

## SSO MODE

Refer to chapter 9.4.1.

SSO Mode (Single Sign On) is a method that allows the user to access multiple applications, including User Portal making only a single authentication.

Login / Password initially entered in a log on the OS then provides identification for other applications.



**Note : The connection mode to User Portal without SSO mode is also available if the SSO mode is not activated.**

## USER PORTAL SERVICE

Box to tick : Right to Service User Portal can be assigned with or without the SSO mode.

Two cases are distinguished, if the User Portal service is allocated in the general settings of subscribers:

- User Portal SSO service mode,
- Service User Portal without SSO mode.

## PORTAL USER SERVICE in MODE SSO

### Cases Service Portal and SSO mode checked

#### SSO mode configuration area

The SSO Mode check box to activate / deactivate SSO mode. By default, the SSO mode is deactivated.

The configuration of the SSO mode requires to fill in the following parameters for centralized authentication systems (Refer to chapter 9.4.1):

#### - Domain controller name

Input field (100 characters) to enter the domain controller name which connects the authentication server to verify the validity of the ticket kerberos regarding the downloaded content Keytab

#### - Default realm

Input field (100 characters maximum) for entering the default realm associated with the IP PBX in the Active Directory Kerberos configuration module. This kingdom is the one specified by the client browser to reach the User Portal for IP PBX.

#### - Keytab file import

Refer to chapter 9.4.1 parallel to the constitution of this file.

Browse and Download buttons are used to locate and import the keytab. This file is implicitly included in the save mechanisms / restauration.

**SERVICE USER PORTAL MODE WITHOUT SSO****CASES USER PORTAL SERVICE AND SSO MODE CHECKED UNCHECKED**

In this case, the password policy syntax to access the User Portal Service must be defined by the following values:

- Min.length.
- Minimum number of letters
- Minimum number of digits

**SIP MITEL OMM MANAGEMENT**

The Mitel OMM login parameters must be defined to allow Mitel OMM update (realignment).

Tick the checkbox to activate the function.

**MAIN IP ADDRESS**

Enter the IP address of the main SIP Mitel OMM.

Press Enter to confirm. The following parameters are displayed:

**SECONDARY IP ADDRESS**

Enter the IP address of the secondary SIP Mitel OMM (if redundant).

**SSL PORT USED**

SSL port used (12622 by default)

**LOGIN**

Mitel OMM access login

**PASSWORD**

Password

**Rules on password syntax:**

- Authorised characters: [A-Z]+[a-z]+[0-9]+[ "#%'()\*+,-./:;<=>@\_ ]
- Unauthorised characters: [!\$&? [ ]^`{|}~]

**SYSTEM SETTINGS CONFIGURATION**

If the box is ticked, the system retrieves in the iPBX the information needed to configure Mitel OMM (system parameters).

**USERS CONFIGURATION**

If the box is checked, the realignment will be made to OMM for the users configuration.

**CONFERENCES CONFIGURATION**

If the box is checked, the realignment will be made to OMM for the conferences configuration.

### DAILY REALIGNMENT

Enter the daily realignment time in hh :mm for automatic daily realignment.

The date of the last alignment is displayed.

### IMMEDIATE REALIGNMENT REQUEST

Click this button to start an immediate realignment.

Errors detected during a realignment process are recorded in the logbook.

### NON-SECURE DIRECTORY SERVICE

Access to white pages is via http and is, therefore, not secure. This box can be used to make it accessible or inaccessible.

At first installation, white pages are not accessible (box not ticked). The operator can choose to make them accessible by unticking the box (non-secured http access).

White pages are accessible after an update or after a restart in Total mode (box ticked). The operator can choose to make them inaccessible by unticking the box.

### CSTA CONFIGURATION

#### - PRIVATE DATA PROCESSED (checkbox)

- **Box not ticked:** private data are not processed with CSTA
- **Box ticked:** private data are processed with CSTA

#### - CHAINED CONFERENCES (checkbox)

- **Box not ticked:** no chained conferences
- **Box ticked:** chained conferences

#### - ENCODING TYPE (options)

- **ASCII:** ascii codes
- **BINARY:** binary codes (by default)
- **QUERY DEVICE: TERMINAL STATUS (options)**
- **ANY CALL:** terminal status (for any call)
- **HUNT GROUP CALL:** Status of the terminal compared to the hunt group (by default)

#### - REJECT 21

## Options:

- **WITHOUT CALLER/CALLED PARTY NUMBER:** reject with previous interface
- **WITH CALLER/CALLED PARTY NUMBER:** reject with interface including the caller/called party number (by default)

### 3.14.1.5 *Network tab*

#### ISDN PARAMETERS

##### ANSWER SET INSTALLATION FWD

Enter in this field the directory number of the set or operator console to be authorised to carry out call transfers (ISDN service complement). This number is unique.

This parameter only concerns systems connected to the ISDN network, having subscribed for the CALL TRANSFER additional service.

In multi-company configuration, only one company can define forwarding. In a single or multi-company configuration, this forwarding must be validated in the menu **Telephony service>Subscribers>Rights>General parameters - ISDN parameters** field.

##### ISDN REMOTE CHARGING

This parameter only concerns systems connected to the ISDN network. If you tick the box, the device requests the "cost indication" additional service for each call.



**WARNING : There is a charge for this service (1 unit per call), which is an essential service if the customer requires step by step charging. This service may be available from your operator: if so, leave this parameter at NO.**

##### NON IDENTIFICATION AUTHORIZED

There is a charge for the non-identification service (1 unit per call) which only concerns systems connected to the ISDN network.

If you tick the box, the device requests the "cost indication" additional service for each call.

##### SIGN. DEFAULT SUBSCRIBER SIGN.

#### ETSI    NUMERIS VN4

The signalling applicable by default to S0 accesses. This can be redefined individually for each access.

##### TRANSMISSION OF EMPTY SUU NOT AUTHORISED

Indicates "no transmission of empty SUU".

- **Box not ticked** (default value): When a terminal makes a call to the public network, if it can receive some SUU, it sends an empty SUU.
- **Box ticked**: no sending of empty SUU to the network.

##### IP PARAMETERS:

- SUPPORTS FAX T38 COMMUNICATIONS

Supports FAX T.38 and Video communications

- **Box not ticked** (default value): FAX T.38 is locked
- **Box ticked**: FAX T.38 is open

##### - DTMF MANAGED IN

Options:

- **SIGNALLING MESSAGE**: DTMF transported functionally via signalling messages.

- **RTP PACKET:** DTMF transported according to RFC 2833 in RTP packets. PayloadType value (RTP packet header value for DTMF transport). This value must be the same as the one sent by the SIP terminal (trunk or terminal).
- The line "**HEADER VALUE (RFC 2833)**" only appears if DTMF is managed in the RTP packets.

Decimal values between 96 and 127. Default value: 101

### NUISANCE CALL TRACES

Value used to open the nuisance call feature and configure the indication of nuisance calls to the ISDN administrator

- **Box not ticked:** the nuisance call feature is not offered on the terminals (no service ticket issued). In this case, the following lines are not displayed:
- **Box ticked** (default value): it is possible to trace nuisance calls.
- **PROPOSED TO ATDC AT THE END OF CALL:** The nuisance call is proposed to the attendant console when the remote terminal on-hooks.
- send Notification to isdn

CheckBox

- **FOR ATDCS:** a notification about the nuisance call is sent to the ISDN administrator for the ATDCs.
- **FOR PRIORITY TERMINALS:** a notification about the nuisance call is sent to the ISDN administrator for priority terminals.
- **FOR OTHER TERMINALS**

### TRANSIT AUTHORISATION

The fields for this context are linked to the settings made in the menu **NETWORK AND LINKS>Network>Transfer/transit authorisation**.

### TRUNK GROUP CONFIG.

Choice list

- **LIST NOT USED** (default value): Transit is authorised without taking account of the settings made in the menu **NETWORK AND LINKS>Network>Transfer/transit authorisation**.
- **PROHIBITION LIST:** Transit is not authorised if the corresponding trunk group pair is defined in the menu **NETWORK AND LINKS>Network>Transfer/transit authorisation**.

### PRE-ANSWER IF TRANSIT

Pre-answer indicator. In case of ISDN transit, the PBX generates a pre-answer for the caller so he can play back announcements.

- **Box not ticked** (default value): no pre-answer.
- **Box ticked:** If it is an internal IP trunk or ISDN trunk and the remote terminal has received a message in progress, pre-answer is generated for the caller so he can listen to announcements.

### 3.14.1.6 *Security tab*

#### **TERMINAL AUTHENTICAT. GENERATION AT CREATION**

Ticked or not ticked, this box is used to activate/deactivate the generation of terminal authentication during subscription creation.

The box is ticked by default. Activation or deactivation can also be carried out by pressing Ctrl + I (See document AMT/PTD/PBX/0151).

This word is then used during the following operations carried out by the subscriber:

- Set login,
- Locking,
- Squatt function.

Depending on the security policy defined by the operator, the password to be defined and entered by the subscriber may be simple or complex. The password may be defined in the terminal menu or from the User Portal (see the document MiVoice 5000 Manager - AMT/PUD/NMA/0003).

The subscription is frozen after 3 incorrect attempts.

#### **PASSWORD POLICY FOR SUBSCRIPTIONS:**

**Force initial password change:** If the box is ticked, the password will be changed: at the end of the validity period indicated, a request is made once, no renewal of the request.

The **Validity period (in days)** field (which appears if the **Force initial password change** box is ticked) is used to define a number of validity days for this initial password between 1 and 30 days. The default value is 1 day.

The **Force regular renewal** box, associated with the **Validity period of current password** (box ticked), is used to define the validity period between 1 and 90 days.

A Confirmation button appears if any of the previous four fields is modified, in order to validate the settings.

The **Deny easy passwords** box is used to force a more secure password.

The rules are as follows:

**Easy passwords:** any 4 digits defined by the administrator.

**More complex passwords:** in this case, the following are forbidden:

- 4 identical digits,
- Sequences of successive ascending or descending digits (examples: 0123, 7890, etc),
- A password that is equivalent to the extension number (for a 4-digits numbering plan),
- The same password as the previous one.

#### **SUBSCRIPTION BLOCKING DURATION (MN)**

Duration (in minutes) of the subscription freeze following three consecutive login refusals.

- The default duration is 5 minutes.

- The value 0 indicates a locking operation without unlocking duration (unlocking via Web Admin).
- Only values with multiples of 5 are accepted, the other values are rounded off to a lower value:

0=1=2=3=4: indefinite locking

5=6=7=8=9: locking for 5 minutes ...

By default, the **Force initial password change**, **Force regular renewal** and **Deny easy passwords** boxes are unticked and accessible to installer and manufacturer accounts, via an XML or Web connection.

Depending on available terminal type and display, some messages will be received indicating the next expiry date or an expiration. These messages are also sent to the User Portal.

After these messages, the subscriber must change his password either from the User Portal or from the terminal menus or feature codes.

### 3.14.2 CATEGORIES

A category groups a set of access rights (external or internal) for both outgoing and incoming calls.

The "Category characteristics" screen is used to manage and modify rights for each category (incoming and outgoing calls).

To create a category, you must first assign a name to the category then go to "Category characteristics" to determine its parameters.

MiVoice 5000 series devices (MiVoice 5000 Server included) propose 16 different CATEGORIES. Each category is designated by a NAME, and can only be managed if its NAME has been declared. By default, 6 CATEGORIES are defined:

- INTERNAL
- PRIVATE
- ADDITIONAL
- NATIONAL
- REGIONAL
- INTERNATIO.



**Note :** All categories can be modified.

The basic category names are the names allocated to the directions by the operator. Only the defined names are shown in this menu. This means that if a new direction is created, the operator must remember to update the parameter for this direction in all the categories defined. This removes any ambiguity which may arise from the fact that, by default, the "local" direction is named "national" in the plan.

#### 3.14.2.1 Names

Menu **SUBSCRIBERS>Rights>Categories>Name**.

This screen is used to display existing categories, and define new categories if necessary.

## CATEGORY

INTER  
NAL

PRIVA  
TE

ADDITIONAL

INTERNATIONAL

LOCAL

REGIONAL

Categories are used to restrict the dialling features of sets depending on their respective needs.

They are assigned individually to each set. They represent all the rights assigned to subscribers, both for incoming and outgoing calls.

## CATEGORY 7

Selection reserved for the creation of an additional CATEGORY.



**Note :** The NAME of an existing category can be replaced. In this case, the parameters of the category in question are assigned to the new NAME.

Some operating rules:

The category NAME can have no more than 12 alphanumerical characters.

Two categories cannot have the same NAME.

When the category is created, you must choose its parameters by ticking the corresponding boxes in the **Category XXX** characteristics menu.

### 3.14.2.2 Characteristics

Menu **SUBSCRIBERS>Rights>Categories>Characteristics**.

The default configuration is as follows:

RIGHTS	LOCAL	PRIVATE	ADDIT.	NAT.	REGIONAL	INTERNATIO.
Internal calls allowed	YES	YES	YES	<b>YES</b>	YES	YES
Int & TL incoming calls allowed	NO	YES	YES	<b>YES</b>	YES	YES
Incoming external calls allowed	NO	YES	YES	<b>YES</b>	YES	YES
Delayed ringing after ann msg	NO	NO	NO	<b>NO</b>	NO	NO
Console transfer allowed	NO	NO	YES	<b>YES</b>	YES	YES
Local allowed	NO	NO	NO	<b>YES</b>	YES	YES
National allowed	NO	NO	NO	<b>NO</b>	YES	YES
Internatio. allowed	NO	NO	NO	<b>NO</b>	NO	YES

Later, the configuration for a category will be the result of the rights you assign to this category.

The call type is compared to the list of user restrictions. If it is in this list:

- During the day, the call is rejected (busy tone).
- At night, if the user is not entitled to override, the call is rejected (busy tone).
- At night, if the user is entitled to override, he is requested to enter his secret code.

S and SIP sets cannot override. For the 6xxxi terminals, the function is available from the R6.1 release.

#### Rights associated with different categories

The categories are to be defined in the By name field, in the menu **SUBSCRIBERS>Rights>Categories**.

This screen is used to intervene on the rights associated with the different categories.

After validation, you will obtain the following menu by default (example, the “local” category):



**Note :** The rights displayed in this menu depend on the previously defined categories.

For each available field, tick the corresponding box to authorise or forbid the use of the function.

#### INTERNAL CALLS ALLOWED

If you tick the box, the set has access to internal outgoing calls.

#### INT. AND TL INCOMING CALLS ALLOWED

If you tick the box, the set has access to internal incoming calls.

#### INCOMING EXTERNAL CALLS ALLOWED

If the box is ticked, pick-up is allowed on calls from the PSTN.

#### DELAYED RINGING AFTER ANN. MSG

If the box is ticked, this enables the subscriber to connect an answering message to the external caller before the called extension rings (hospital application).

The answering message must be assigned to a tone of the type BEFORE DAY RINGING and/or BEFORE NIGHT RINGING. The duration of the announcement is the parameter ANNOUNCEMENT DURATION BEFORE RINGING in the menu **SYSTEM>Expert>Time-out management**.

#### **CONSOLE TRANSFER ALLOWED**

If the box is checked, Outgoing communication transfers from an ATDC are accepted.

#### **BARRED NUMBERS LIST RESTRICTION**

If the box is checked, restrictions relative to the lists of barred numbers are taken into account.

#### **LOCAL ALLOWED**

If the box is ticked, this set has access to the direction indicated and can make calls towards this direction.

If not, it cannot call the numbers defined in the numbering plan for the direction in question.

#### **NATIONAL ALLOWED**

If the box is ticked, this set has access to the direction indicated and can make calls towards this direction. If not, it cannot call the numbers defined in the numbering plan for the direction in question.

#### **INTERNAT. ALLOWED**

If the box is ticked, this set has access to the direction indicated and can make calls towards this direction. If not, it cannot call the numbers defined in the numbering plan for the direction in question.

#### **3.14.2.3** *Display users*

Menu **SUBSCRIBERS>Rights>Categories>Users**.

Select the name of the category you wish to view in the By name field.

The display screen presents the users of the category chosen.



**Note :** An information line "Incomplete display" appears when more than 1000 users must be displayed (display menu limited to 1000 lines).

### 3.14.3 FEATURE CLASSES

Menu **SUBSCRIBERS>Rights>Feature classes**

You can use this function if you want to manage subscriber rights globally: for example, if you want to define a certain number of classes and assign a class to each subscriber rather than defining all rights for each subscriber.

When class definitions are modified, the rights of subscribers in this class can also be modified. However, if you modify a subscriber's right and there is no associated class, you must create a new class and then assign it to the user.

By default, the device offers 11 different feature classes which can be modified or deleted: it is advisable to leave the feature classes unchanged.

You can create 53 other classes in the device. Their use must be validated in the menu **SUBSCRIBERS>Rights>General parameters**.

In this case, the number of parameters to enter in the menu **General characteristics of a subscriber** is limited: all the subscriber's rights are replaced by a class number to be entered in the feature category line.

#### 3.14.3.1 Names

Menu **SUBSCRIBERS>Rights>Feature classes>Names**.

This screen is used to display all the feature class names (0 to 63).

##### NUMBER

Feature class number from 0 to 63: classes 0 to 7, 32, 40, and 41 are created by default.

#### 3.14.3.2 Characteristics

Menu **SUBSCRIBERS>Rights>Feature classes>Characteristics**.

This screen is used to define the parameters associated with a feature class (class FAC00 for example).



**Note :** These rights are described in the paragraph on the characteristics of a subscription, at the beginning of this chapter.

The screen below is a continuation of the parameters associated with a feature class.



**Note :** These rights are described in the paragraph on the characteristics of a subscription, at the beginning of this chapter.

#### 3.14.3.3 Display users

Menu **SUBSCRIBERS>Rights>Feature classes>Names>Users**.

This screen is used to display the users of a given feature class.

### 3.14.4 TL CLASSES

Menu **SUBSCRIBERS>Rights>TL classes**.

Defining TL classes is used for global management of the accesses to TL directions by area: this is used to assign a TL class to the sets. Up to 64 TL classes can be defined.

A TL class contains 8 areas (each area being a set of private directions).



**Note :** In a **MULTI-SITE** configuration, the "Direction names" screen proposes the creation of 48 private directions which can later be assigned to an area in the menu **NUMBERING PLAN>User numbering plan>Access to directions>TL** and the menu **NUMBERING PLAN>User numbering plan>Display area composition**.

The use of TL classes must be validated in the menu **Rights>SUBSCRIBERS General parameters>TL class management**. In this case, the menu **SUBSCRIBERS>Subscriptions>Characteristics** contains the TL class field, and all the access rights for the TL areas are replaced by a class number.



**Note :** **TL: Tie Line: specialised line between PBXs.**

#### 3.14.4.1 Names

Menu **SUBSCRIBERS>Rights>TL classes>Name**.

This screen is used to display TL classes. The TL class numbers are displayed, from 0 to 63 (classes 0 to 1 are created by default).

#### 3.14.4.2 Characteristics

Menu **SUBSCRIBERS>Rights>TL classes>Characteristics**.

This screen is used to define the characteristics of a TL class. The TL class numbers are displayed, from 0 to 63 (classes 0 to 1 are created).

#### ACCESS TO TL ROUTES X

Tick this box to select the TL route access for the area in question.



**Note :** Selecting (checkbox) the parameter **TL CLASS MANAGEMENT** in the menu **SUBSCRIBERS>Rights>General subscriber parameters** deletes in the menu **SUBSCRIBERS>Subscriptions>Characteristics**, all the TL direction access lines and only displays the **TL CLASS** line.  
By default, extensions are allocated TL class 7: this provides access to a single TL route and inhibits all others..

#### 3.14.4.3 Display users

Menu **SUBSCRIBERS>Rights>TL classes>Users**.

This screen is used to display the list of subscribers attached to the selected TL list.



**Note :** An information line "Incomplete display" appears when more than 1000 users must be displayed (display menu limited to 1000 lines).

## 3.15 HOME AUTOMATION

Menu **SUBSCRIBERS>Home automation**.

 This menu is not available for MiVoice 5000 Server.

The home automation function is used to manage one or more lamps associated with an analogue set, to indicate delivery of a message, for example.

This function requires a GLM module which, connected parallel to the analogue trunk line, can manage the lamp message function.

This module is configured by means of 3 straps, used to select the DTMF-Q23 codes which switch the lamp on or off, or by a special set incorporating a message lamp and the GLM option.

It is possible to define up to 8 different home automation functions.

This menu is used to:

- Activate the home automation function
- Define the 8 functions.

### 3.15.1 ACTIVATING THE HOME AUTOMATION FUNCTION

Menu **SUBSCRIBERS>Home automation>Run**.

To activate the home automation function on the system, tick the “Authorise home automation function” checkbox.

### 3.15.2 DEFINITION

Menu **SUBSCRIBERS>Home automation>Definition**.

This command is used to assign an activation Q23 code and a deactivation Q23 code to a home automation function. The home automation functions are made available for a subscription from the menu **SUBSCRIBERS>Subscription>Characteristics>Home automation** (see description in 3.3.3.6).

#### BY NUMBER (1 TO 8)

Function number to be defined.

Click **Select item**, the different fields for the function are displayed:

#### NAME OF FUNCTION

Alphanumeric character string

#### ACTIVATION CODE

Q23 code sent by the device to the set to activate the lamp.

#### CANCEL CODE

Q23 code sent by the device to the set to deactivate the lamp.

#### FUNCTION ACTIVATED BY:

**OR THE FEATURE**

**MAIL DEPOSIT** **MSG LAMP 0** **MSG LAMP 1** **MSG LAMP 2** **MSG LAMP 3**

List of features that activate the function.

**3.16 CHARGING - PREPAYMENT**

Menu **SUBSCRIBERS>Charging – Prepayment**

Subscriber charging is part of operation administration. It is based on pre-payment parameters which apply to all the subscribers.

**3.16.1 PARAMETERS**

Menu **SUBSCRIBERS>Charging – Prepayment>Parameters.**

**EXTERNAL SERVER USE**

If this box is ticked, charging is managed by an external application.

If the box is not ticked, charging may be managed either via an MMC or via an external application.

**IN CURRENCY UNIT****CREDIT AND CHARGE UNIT (ROUNDED)**

**1/10** **1** **10** **100** **1/100** **1/20**

Select the measuring scale before modifying the prepayment counters.

In countries where the monetary unit is divisible by 100, the unit charge can be expressed in hundredths (1/100), rounded off to 5 hundredths (1/20) or to 10 hundredths (1/10).

If the box for the parameter EXTERNAL SERVER USE is ticked, this value cannot be configured and is equal to 1/10.

**CUMULATIVE SUM (ROUNDED OFF)**

**1** **10** **100** **1/100** **1/20** **1/10**

Select the rounded off cumulative sums. For example, to round off to the nearest euro, enter 1; to the nearest cent, enter 1/100 etc.

The presentation of the cumulative prepayment sums is displayed on the CHARGING SUBSCRIBER menu, accessible via “SUBSCRIBERS>Charging – prepayment>Individual charging”.

If the box for the parameter EXTERNAL SERVER USE is ticked, this value cannot be configured and is equal to 1.

**NO. OF DECIMALS DISPLAYED**

Value between 0 and 4.

This field defines the display format for the various amounts, independently from the specified value to be rounded off to. You must check the consistency of your request. In the USA, for example, if the unit charge is rounded off to the nearest cent, 2 decimals must be displayed.

**CHARGE UNIT PRICE**

Enter in this field the price per charge unit.

If the value 1/100 is selected in the field "Credit and charge unit (rounded)", enter 0.75 to indicate a unit of 75 cents.

**. EURO/NATIONAL CURRENCY CONVER.**

The Euro value is given in 6 figures (7 characters with a decimal point).

**FUNCTION FOR DIGITAL SETS****- RESET CHARGE PASSWORD**

Password which allows subscribers' charging counters to be reset from the maintenance terminal.

**3.16.2 INDIVIDUAL CHARGING**

Menu **SUBSCRIBERS>Charging – Prepayment>Individual charging.**

**DIRECTORY NUMBER**

The extension is accessed by its directory number.

Clicking **Select item** displays the following parameters:



**Note :** For a **BACKUP** type subscription, these are information fields and configuration of the subscription characteristics is only authorised on the reference site.

**PREPAYMENT****EXTENSION WITH PREPAYMENT**

If you tick this box, the prepayment function is assigned to the subscription. In this case, a credit allowance can be assigned to it: this credit allowance is reduced as each charge unit is recorded (call limitation).

If the box is not ticked, the set is not subject to prepayment; in this case, it is not concerned by a credited amount (no call limitation).



**Note :** This line is not displayed when the iPbx is configured in management via feature classes. In this case, this line is located in the feature classes characteristics menu.

**ACCOUNT CLOSED**

If you tick this box, the account corresponding to the subscription is closed.

If you do not tick the box, the account corresponding to the subscription is credited with a sum in euros.



**Note :** It is possible to close the account even if it has been credited. In this case, the parameters **BALANCE** and **CUMULATED INSTALMENTS** are automatically reset (for a customer wishing to settle his bill).

**BALANCE**

Information field indicating the account balance.

Each time a value is entered in the field **AMOUNT TO PAY**, the balance increases by this value.

The balance decreases by the amount used up while making calls.

## CUMULATED INSTALMENTS

This information field gives the total of the amounts displayed on the line AMOUNT TO PAY.

## AMOUNT TO PAY

Enter the amount (maximum 4 digits) of credit the set is allowed. After validation, the sum entered is added to the value of the parameter BALANCE.



**Note :** If you tick the box **ACCOUNT CLOSED**, entering a value in the field **AMOUNT TO PAY** unticks the box.

## DATE OF LAST RESET

This field indicates the date (dd/mm) and time (hh/mm) of the last reset of extension counter.

## COUNTER VALUE

This field indicates the total number of CUs (Charge Units) received by this extension since last reset.

The **Reset** button is used to reset the counter. The date of last reset is then updated.



**Note :** If the prepayment feature is used, the device requests the ISDN network to continually retransmit charge units. The calls made are increased by one charge unit, corresponding to activation of this service (unless this service is part of the subscription). The prepayment feature is not used with ISDN sets.

### 3.16.3 DISPLAY EXTENSION COUNTERS

Menu **SUBSCRIBERS>Charging – Prepayment>Display. Extension counters.**

#### COMPANY SELECTION

xxxxxxxx

CMPNY.0

This field only appears if the multi-company configuration is selected.

Select **xxxxxxx** to display the extension counters for all companies and departments. If you have already created company names, these are displayed here.

#### DISPLAYED COUNTERS THRESHOLD

Counter threshold number: the threshold criterion is used to display extension counters whose value is equal to or greater than the entered threshold value.

#### DIRECTORY BEGINNING WITH

Enter a digit (or number). All directory numbers that start with this digit (or number) will be displayed.

Clicking **Select item** displays the following:

#### EXTENSION COUNTERS

Authorises the display of all the counters for all the extensions connected to the device. You cannot modify this information.

It is now possible to view 15000 extensions on an MiVoice 5000 Server.

The table shows:

- The directory number
- The subscriber number
- The date of the last reset of the charge counter (DAY/MONTH)
- The number of CUs (Charge Units)
- The number of extensions connected to the device
- The total number of CUs for all extensions



**Note :** The "Incomplete display" line is an information line indicating that a certain number of subscribers are not displayed (display menu limited to 1000 lines).

All directory numbers are in this list, including secondary numbers for multi-line sets and ISDN sets on S0 bus.

## 4 SYSTEM MANAGEMENT

This management domain is used to:

- Define the device miscellaneous parameters like date and time, device name, etc.
- Enter the key code which gives access to the functions
- View the system hardware and software configurations
- Monitor the system
- Configure the device
- Manage and assign security certificates,
- Perform backup, restore and device update operations
- Restart the system
- Deploy investigation tools to solve problems
- manage the list of Mitel owner sets.

To access this menu, click "SYSTEM" from the system user interface main page.

 The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

### 4.1 SYSTEM INFORMATION

Menu **SYSTEM>Info**

This menu is used to:

- Configure the system miscellaneous parameters (date and time, system name)
- Enter the key code and view the authorised functions
- View the system software and hardware configuration
- View the software and hardware configuration of sites in a multi-site configuration
- View the utilisation status of the different elements that can be configured on the system via an inventory function.

## 4.1.1 DATE AND TIME

Menu **SYSTEM>Info>Date and time**

This command is used to set the system date and time and define, if necessary, a synchronisation of the network to one or two time servers.



**Note :** Changing the date and time is allowed for the Maintenance profile.

### DATE (FORMAT DD/MM/YYYY)

Enter the day (dd) and month (mm), using 2 digits for each value, and the year (yyyy), using 4 digits, depending on the format indicated.

### TIME (FORMAT HH:MM:SS)

Enter the hour (hh), minutes (mm) and seconds (ss) using 2 digits for each value, depending on the format indicated.

### NETWORK SYNCHRONISATION

If you tick this box, the system updates its DATE and TIME parameters at regular intervals using the values retrieved from the NTP server(s) defined in the field below:

### TIME SERVER 1 OR 2

DNS name or IP address of the NTP server in question.

### SECURE MODE

This box is used to secure access to this server.

Security is ensured by a key (in MD5 or SHA1 format) and a shared secret:

**Key:** value between 1 and 65534

**Format:** MD5 and SHA1

In MD5 format, the number of "shared secret" characters is limited to 20 (all alphanumeric characters except 0x20 and 0x23).

In SHA1 format, the number of "shared secret" characters is limited to 40 (all characters [0, 9] + ([a, f] or [A, F])).

### STATUS

Information field which gives the NTP server status:

- Connected / Not connected: status of the connection to NTP Servers.
- Synchronised, not synchronised: status of synchronisation to NTP Servers

### TIME ZONE:

 This parameter is not available for MiVoice 5000 Server.

These parameters enable the system to:

- Manage automatically summer / winter time changes if network synchronisation is not used

- Translate into local date and time the date and time information given by the NTP server if network synchronisation is used.

To define the time zone, select a region then a town located in this region.

**- REGION**



**- TOWN**

The content of this drop-down list depends on the region selected.

## 4.1.2 PARAMETERS

Menu **SYSTEM>Info>Parameters**

This command is used to:

- Choose the language used for progressive print outs (printing out the logbook on a printer)
- Name the system.

### DEFAULT SYSTEM LANGUAGE

**FRENCH**

**ENGLISH**

Language used to progressively print out the logbook with a printer.

### INSTALL. NAME

Character string (24 ASCII characters) used to identify the system. This character string appears:

- In the navigator title bar, on the top left side
- In the system user interface information frame.

### INTEROPERATION DATA

Indicator of interoperation between versions.

The value indicates the number of telephone releases separating the version of a site from the oldest version available on the multi-site network.

This line is only proposed in a multi-site configuration.

**NONE:** no interoperation.

Other values:

**1 VERSION**

**2 VERSIONS**

**3 VERSIONS**

**4 VERSIONS**

The maximum value is 4 versions.

As of R5.3 the minimum release is R4.1, which implies that: -> Releases earlier than R4.1 are no longer managed, so the number of telephone releases separating the current release and the oldest release in a multi-site configuration cannot be above 4.

### 4.1.3 LICENCES

Menu **SYSTEM>Info>Licences**



**Note :** For a cluster configuration, two more tabs are available for the distribution of SIP LINK and MEDIA SERVER licences. In this type of configuration, the licences can be distributed on the cluster server and on each node.  
See document **AMT/PTD/PBX/0143/EN - Implementing an MiVoice 5000 Cluster Server.**

This command is used to enter the software key code which gives access to the different management functions and sets the system table size.

For a virtual MiVoice 5000 Server, to declare the virtual dongle licence, the fields and steps are different. See the document **MIVOICE 5000 - Installation and Maintenance Manual - AMT/PTD/PBX/0151/FR.**

The licence management screen displays (non-virtualised system):

- A frame containing information about installation and key code
- An information table containing a list of rights (in terms of available functions) and limitations (in terms of sizes) associated with the key code.

#### IDENTIFICATION NUMBER

Information field indicating the system identification number (code stored in the dongle protection key)

**LICENSES SERVER ACCESS** This link opens a new browser window on the Mitel license server.

#### TYPE OF SYSTEM

Information field indicating the type of system.

#### SOFTWARE RELEASE

Information field indicating the system software release.

#### KEYCODE

The keycode provided by the installer.

The encoding of the keycode takes account of the previous three parameters and the purchased configuration (size, list of functions).

#### KEY STATE

Field indicating the current state of the license:

- invalid license
- No entry license
- Valid keycode,
- awaiting validation license,
- incompatible IP address,
- Installation of incompatible code
- missing dongle.



**Note :** Dans le cas d'un système MiVoice 5000 redondé, un onglet supplémentaire sur la machine maitre permet de consulter les informations relatives à la machine esclave.

#### 4.1.4 SOFTWARE IDENTIFICATION

Menu **SYSTEM>Info>Parameters>Software identification**

This command is used to display:

- The software release installed on the CPU card
- The composition of the active directory (production, patches) and its status (validated, test)
- The composition of the inactive directory and its status
- The list of languages available for the MMCs
- The list of languages available on the sets declared on the system (by set type)
- The software releases of the cards.

#### 4.1.5 HARDWARE IDENTIFICATION

 This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Info>Parameters>Hardware identification**

This command is used to view the hardware configuration of the system cards.



**Note :** If an ADPCM card is fitted on XS system CPU cards, the "ADPCM " field is displayed in the hardware identification menu. Adding the ADPCM daughter card makes it possible to use the 4-channel base station function on the CPU card's ISDN ports.

This screen displays a table corresponding to the cards of the system and a table corresponding to the disk.

The cards physically present in the system are listed. The following information is displayed for each slot occupied:

- The position of the card in the system
- Card type (UCT, LA16X, PTx, LD4X, etc.)
- Card item code
- Serial number
- The name of each resource (column, **name**, additional lines)
- Variant number (factory number) (**code** column, additional lines)
- The quantity (**serial number/quantity** column, additional lines).



**Note :** In an XD, the slots are numbered 100 to 115 (main cabinet), 200 to 215 (first expansion cabinet) and 300 to 315 (second expansion cabinet). In an XL, the slots are numbered 100 to 113 (main cabinet), 200 to 213 (first expansion cabinet) and 300 to 313 (second expansion cabinet). In an XS, the slots are numbered 100 to 102 (main cabinet) and 200 to 202 (expansion cabinet).



**Note :** The variants of T0/S0 and/or T0 equipment on the XS systems are used to distinguish systems fitted with a component that allows synchronisation by M bit in S frame (variant = 2) from systems not fitted with this component (variant = 1).



**Note :** If card LD4X is not fitted with a daughter card ADPCM16, the line presenting the ADPCM resource is not displayed.

The lower part of the screen indicates the iPBX disk characteristics:

- Model
- Serial number
- Firmware release
- Total size

#### 4.1.6 MULTI-SITE SITES IDENTIFICATION



**Note :** This command is only accessible in multi-site configuration.

Menu **SYSTEM>Info>Parameters>Multisite sites identification**

This command is used to display for each site in a multi-site configuration:

- The type of system
- The software release installed on the system.

The "Site name" column of the displayed table contains, for each site in the multi-site configuration, the site number followed by site name as defined using the menu **NETWORK AND LINKS>Multisites>Definition of centers and sites>Local site and center** on each of the sites.

#### 4.1.7 INVENTORY

Menu **SYSTEM>Info>Inventory**

This command is used to view the system configuration in terms of the number of elements configured and the maximum configuration authorised by, on the one hand, the system capacity constraints and, on the other, the limitations relative to the functions subject to unlocking.

Le lien Accès serveur de licences en bas de l'écran permet d'ouvrir une nouvelle fenêtre du navigateur sur le serveur de licences Mitel.

The link bottom of the screen **Licenses Server Access** opens a new browser window on the Mitel license server.

The screen displayed presents the inventory in form of five summary tables.

#### 4.1.7.1 *Inventory of the subscriptions*

<b>LOCAL</b>	LOCAL type subscribers.
<b>SECONDARY</b>	Secondary directory numbers created by the Multi-line feature.
<b>BACKUP</b>	Backup directory numbers of a local subscriber of another site. These numbers are created automatically on assigning a backup site to a subscriber (Dual Homing function).
<b>MULTI-USER</b>	MULTIUSER type subscribers.
<b>SERVERS</b>	AUTOMATIC ATDC or DISA type subscribers.
<b>GENERAL PURPOSE</b>	Number of sets that can be used at the same time. Note: the general purpose subscriber is only counted for one subscription.
<b>ATDC</b>	ATDC type subscribers.
<b>GROUP</b>	HUNT GROUP type subscribers.
<b>SUPER GROUP</b>	SUPER GROUP type subscribers.
<b>VOICE MAIL GROUP</b>	VOICE MAIL GROUP type subscribers.
<b>INTEGRATED V MAIL</b>	V MAIL type subscribers. INTEGRATED.

#### 4.1.7.2 *Inventory of assignments*

Depending on the type of system, some lines are not displayed.

<b>ANALOGUE</b>	ANALOGUE type sets on LA type cards including the HSCX modem, the modem and common bell.
<b>ANALOGUE MSG LAMP</b>	ANALOGUE type sets on LH type cards.
<b>ANALOGUE MSITE</b>	ANALOGUE sets declared on the site and connected on another site
<b>PROPRIETARY</b>	PROPRIETARY type sets (Mitel digital sets).
<b>PROPRIETARY MSITE</b>	Proprietary sets declared on the site and connected on another site.
<b>ISDN S0</b>	ISDN S0 links.
<b>ISDN S2</b>	ISDN S2 links.
<b>MOBILE DECT</b>	MOBILE DECT type sets.
<b>MOBILE DAS</b>	MOBILE DAS type sets.
<b>PROPRIETARY IP</b>	PROPRIETARY IP type sets (i7xx and MiVoice 5300 IP Phone).
<b>MITEL VIDEO</b>	BluStar 8000i type video terminals
<b>SIP</b>	Mitel SIP (Mitel 6000 SIP Phone, 312i) and non Mitel SIP type sets.
<b>IP DECT</b>	IP DECT and Mitel SIP DECT terminals
<b>EXTERNAL SET</b>	Call Forking
<b>MITEL OMM CONFERENCE</b>	Conference managing by Mitel OMM
<b>DS_ON_PC</b>	i2052 type sets in VoIP mode.
<b>VTI/XML IP</b>	UCP IP, CC.
<b>H323</b>	H.323 terminals.

#### 4.1.7.3 *Inventory of the physical slots (only Mitel 5000 Gateways)*

<b>SUBSCRIBER CARDS</b>	All types of subscriber cards, including slots 0-05 (hscx modem) and 0-08 (modem and common bell relay).
<b>NETWORK CARDS</b>	PSTN access cards.
<b>DATA CARDS</b>	PTx cards, including the Ptx card on the CPU card and the EIP cards.
<b>MISCELLANEOUS</b>	Other cards (IPS for example).
<b>VOICE MAIL</b>	Voice mail slot on the CPU card.
<b>GENERAL PURPOSE</b>	Slots accepting all types of card.

#### 4.1.7.4 *Inventory of declarations subject to licences*

A new licence is introduced as of R5.4 SP2: the "Video terminal" licence, used for any Video terminal except Mitel video terminal.

The list of licences for IP terminals and the associated terminals is given in Sections 4.1.7.4.3 and 0.

##### 4.1.7.4.1 **Licence for blustar terminals**

###### **BLUSTAR CLIENT**

BluStar Client comprises the following terminals:

- Blustar for PC
- BluStar for iPad
- BluStar for iPhone.

These terminals require two licences:

A basic BLUSTAR PC type licence and an MITEL AUDIO IP licence for B\*4PC audio terminals

A basic BLUSTAR PC type licence and an MITEL VIDEO TERMINALS licence for B\*4PC video, B\*IOS terminals.

###### **BLUSTAR 8000i**

BLUSTAR 8000i requires only one MITEL VIDEO TERMINALS licence.

For the fallback rules, see section 4.1.7.4.3).

##### 4.1.7.4.2 **Licence for ip or sip dect terminals**

###### **IP DECT / Mitel SIP DECT**

IP DECT and Mitel SIP DECT terminals require an MITEL IP HANDSETS type licence for fallback rules, see section 4.1.7.4.3).

## 4.1.7.4.3 Inventory of declarations subject to unlocking (Mitel x series)

The licences for each terminal type are indicated on the table below:

<b>DIRECTORY RECORDS</b>	If the directory service is not activated on the site, this line is not shown (DIRECTORY IN USE parameter in the directory connection parameters).
<b>SIP LINKS</b>	SIP access: number of simultaneous calls
<b>DUAL HOMING IP</b>	Secured subscription.
<b>Q23 IVS VOICE MAIL</b>	Q23.voice mail
<b>XML IVS VOICE MAIL</b>	XML voice mail
<b>VTI/XML CTI</b>	VTI/XML monitoring : i2052.
<b>CTI CSTA</b>	CSTA monitoring
<b>BLUSTAR CLIENT</b>	BluStar for PC, BluStar for iPHONE or Blustar for iPAD
<b>VIRTUAL TDM (*)</b>	Remote TDM terminal
<b>MOBILE MITEL (*)</b>	DECT_IP, DECT_SIP et Call forking The <b>MOBILE Mitel</b> line counter specifies the number of licences taken.
<b>AUDIO MITEL (*)</b> -> <b>AUDIO MITEL</b> -> <b>VIRTUAL TDM</b> -> <b>MOBILE MITEL</b>	MiVoice 5300 IP Phone, Mitel 6000 SIP Phone, TWP phone audio, TWP media server audio, CC media server, i7xx, BluStar for PC audio The <b>AUDIO Mitel</b> line counter specifies the number of licences taken. Since this licence may also be used if the capacity of the <b>AUDIO Mitel, Virtual TDM, MOBILE Mitel</b> licences is exceeded. The distribution by type of terminals is indicated on the corresponding lines.
<b>AUDIO GENERIC</b> -> <b>AUDIO GENERIC</b> -> <b>VIRTUAL TDM</b> -> <b>MOBILE MITEL</b> -> <b>AUDIO MITEL</b>	AMC, WiFi, DRG22i and all the other non Mitel SIP terminals without video. The <b>AUDIO GENERIC</b> line counter specifies the number of licences taken. Since this licence may also be used if the capacity of the <b>AUDIO GENERIC, VIRTUAL TDM, MOBILE Mitel, AUDIO Mitel</b> licences is exceeded. The distribution by type of terminals is indicated on the corresponding lines.
<b>VIDEO MITEL (*)</b> -> <b>VIDEO MITEL</b> -> <b>VIRTUAL TDM</b> -> <b>MOBILE MITEL</b> -> <b>AUDIO MITEL</b>	8000i, BluStar for PC video, BluStar for iPAD and iPhone video, TWP phone video, TWP media serveur vidéo The <b>VIDEO Mitel</b> line counter specifies the number of licences taken. Since this licence may also be used if the capacity of the <b>VIDEO Mitel, Virtual TDM, MOBILE Mitel, AUDIO Mitel</b> licences is exceeded. The distribution by type of terminals is indicated on the corresponding lines.
<b>VIDEO GENERIC (**)</b> -> <b>VIDEO GENERIC</b> -> <b>VIRTUAL TDM</b> -> <b>MOBILE MITEL</b> -> <b>AUDIO MITEL</b> -> <b>AUDIO GENERIC</b> -> <b>VIDEO MITEL</b>	Non-Mitel terminals with video The <b>VIDEO GENERIC</b> line counter specifies the number of licences taken. Since this licence may also be used if the capacity of the <b>VIDEO GENERIC, VIRTUAL TDM, MOBILE Mitel, AUDIO Mitel, AUDIO GENERIC, VIDEO Mitel</b> licences is exceeded. The distribution by type of terminals is indicated on the corresponding lines.

Mitel(\*) : **As of R6.1, the licenses are listed in the MMI but are not used.**

**As of R6.2, no more Audio generic licences, only Video generic licences.**

The excess column only contains information for the following licences:

- Directory records
- Dual Homing



**WARNING : As of R5.4 SP2, non-Mitel video terminals are subject to a Video licence.**

### Updating R5.x to R6.1

For an update from an R5.x release, the administrator must enter a new licence for the new R6.1.

#### 4.1.7.4.4 Inventory of declarations subject to unlocking (MiVoice 5000 server)

Specific lines concerning the MiVoice 5000 server

Those shared with Mitel 5000 Gateways are described in the previous section

<b>MEDIA SERVER</b>	Number of RTP flows for media Server
<b>STANDARD IVB</b>	Number of standard IVBs
<b>UNIFIED IVB</b>	Number of unified boxes
<b>SGML/PO XML</b>	i2070

The excess column applies only to standard IVB and unified IVB licences.

As of R6.2, it is possible to declare a standard BVI BVI with unified licenses respecting the total number of BVI <= total number of licenses).

#### 4.1.7.5 Inventory of number declarations

<b>LOCAL</b>	Local numbers
<b>DID OTHERS</b>	DID numbers defined outside external number blocks.
<b>GENERAL DID</b>	DID corporate numbers defined in the "incoming" numbering plan. Note: these numbers correspond to the answering services access numbers from the outside.
<b>NAME_BLOCK_NUM</b>	External numbering blocks defined in the "i/c" numbering plan. Note: there are as many lines as there are defined external numbering blocks.

## 4.2 SUPERVISION

### Menu **SYSTEM>Supervision**

This menu is used to:

- Display the logbook
  - Delete the logbook
  - Display the statuses of the different system components
  - Configure traffic observation
  - Display and reset traffic observation counters
  - Display and reset charging counters
  - Know the status of the system in terms of capacity (rate of use of system resources)
  - Know the rate of occupation of the Compact Flash card (Mitel 5000 Gateways only).
- ☞ The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

### 4.2.1 LOGBOOK DISPLAY

#### Menu **SYSTEM>Supervision>Display logbook**

The logbook contains system-operation-related recordings.

The logbook can contain up to 320 recordings.

The logbook lists a certain number of events that occurred during operation: information or error (hardware or software errors or faults):

- Information-type events can be interpreted by the user.
- Software data can be interpreted by the manufacturer.

The logbook can also display service records (by family):

- Agenda/alarm family
- Prepayment family
- Monitoring family
- Features family
- C.Dist family
- Alarms.



**Note :** When the logbook is saturated (i.e. when the number of messages in the logbook mailbox reaches 40), the logbook switches over to "congestion" mode, which means that the reception of all the messages is no longer guaranteed (some messages may be deleted). The message "Logbook: congestion" is displayed in the logbook. When the logbook returns to normal mode, the message "Logbook: normal lost: xx" appears, specifying the number of messages deleted during the congestion phase.

## LOGICAL SECURITY BLOCKS

Automatic system maintenance sees the configuration as a set of hierarchically arranged logical security blocks (SBL). When there is a malfunction this arrangement enables the system to identify the faulty element and take the appropriate action: when an error is detected, automatic maintenance can take fail safe action. The function changes the state of the security block that covers the defective hardware device.

Example: \*\*\*\*\*LA8 :0, 0, .. \*\* FAULTY\*\*

The fail-safe action report is recorded in the logbook and contains the following information:

- The type of security block that changed status
- The security block number
- The new security block status

The security block statuses have the following meaning:

<b>NOT EQUIP.</b>	The SBL is not defined in the associated configuration table.
<b>OUT OF SRV</b>	The SBL is inaccessible by the software and cannot take part in network operations. This occurs, for example, when the SBL one step up in the hierarchy is faulty.  This status is also the initial status of all SBLs before startup.
<b>DOWNLOAD</b>	The processor associated with the SBL is being downloaded.
<b>IN SERVICE</b>	The SBL is working.
<b>FAULTY</b>	One of the SBL functions is defective. The SBL is removed from normal operation by automatic maintenance.
<b>DISABLED</b>	The maintenance operator has withdrawn the SBL from operational state, using an operator command.

Other special statuses:

<b>PARKED</b>	The telephone subscriber has not gone on-hook (permanent off-hook condition) or a TDM proprietary set is not connected.
---------------	---

## 4.2.2 DELETING THE LOGBOOK

Menu **SYSTEM>Supervision>Delete logbook**

### PASSWORD

Enter the password then click **Delete logbook**.

If the rights associated with the password are sufficient, the logbook is reset; otherwise, the operation is rejected by the system.

At the end of the operation, the screen displays **Logbook deleted**.

## 4.2.3 DISPLAY STATUSES

Menu **SYSTEM>Supervision>Display statuses**

This menu is used to display the status of the different system components:

- Subscribers
- IP terminals
- external lines
- Voice resources (VoIP)
- Trunk groups
- Data links
- Cards and equipment
- Portable handsets
- TCP tunnel connections

### 4.2.3.1 *Telephone extensions*

Menu **SYSTEM>Supervision>Display statuses>Telephone extensions**

This command is used to display a list of extensions (according to status and/or directory number), indicating:

- The extension number
- The extension type
- The extension status
- And, possibly information about the terminal assigned to the extension

#### STATUS SEARCHED

<b>ANY</b>	Any status
<b>FREE</b>	In service and free
<b>PERMNT</b>	In conversation
<b>BUSY. UNSTABLE</b>	Setting up a call

**PERM OFF-HOOK  
COND.**

Analogue sets not on-hooked and/or digital sets not connected

**OUT.OF.SERV.**

Sets disabled by MMC

**RECORD WAITING**

Waiting for recording (status specific to wireless DECT subscriptions)

**NO\_CONNECTED**

Subscriptions without terminal assignment.

**INACTIVE**

Inactive BACKUP type subscriptions on the backup site (calls are processed normally on the reference site)

Set status.

**DIRECTORY BEGINNING WITH**

Digit (or number). All sets with directory numbers associated with this digit (or number) will be displayed.

**DISPLAY OF THE SETS****NO YES**

If you select YES, the terminal type and status will be displayed in addition to information about the user.

Click **Select item**.

The extension display table indicates:

- The subscriber's directory number
- The subscriber type and, on the next line, the terminal type if you had requested for terminal display (the value YES for the parameter DISPLAY OF THE SETS in the previous screen)
- The location: cabinet number, card position, equipment number of the card or IP address,



**Note :** This information is only available if terminal display had been requested for (the value YES for the parameter DISPLAY OF THE SETS in the previous screen).

- The subscriber status and, on the next line, the terminal status if you had requested for terminal display (the value YES for the parameter DISPLAY OF THE SETS in the previous screen).

For information on how to view the terminals that use the power-saving function, see Section 9.

### 4.2.3.2 *IP terminals*

Menu **SYSTEM>Supervision>Display statuses>IP subscribers**

This command is used to display all IP sets declared on the system on the basis of several criteria (type of set, status of set's applicative session, directory number).

#### TYPE OF SET

**IP\_OWNER**

**DS\_ON\_PC**

**VTI/XML IP**

**SIP**

**.....**

Type of IP set searched for. Only those IP sets of the type selected declared on the system will be displayed.

To view all the IP sets declared on the system, select ".....".

#### APPLICATION SYSTEM

State of the set's application session. Sets whose application session status is the same as the status selected will be displayed. To display all sessions, select ".....".

**CONNECT.**

Lists all connected IP sets (no matter the connection mode: optimised or not optimised).

**UNCONNECT.**

Lists all unconnected IP sets.

**.....**

Lists all IP sets, no matter the session status.

#### DIRECTORY BEGINNING WITH

Digit (or number). All IP sets declared on the site associated with directory numbers that start with this digit (or number) will be displayed.

Once the search criteria are selected, click **Select item**.

For each listed IP terminal, the display is made on 3 lines maximum:

- The first line indicates:
  - The directory number associated with the terminal (example: 2000),
  - The terminal model (example: i760+ 700),
  - The status of the set's application session (example: optimised),
  - The CAC centre number (centre containing the main CAC server) or the CAC class number of the IP set if the terminal is part of an IP sub-network belonging to a CAC class.
- The second line (available only in case of call set-up) indicates:
  - The name of the site where the IP signalling point is located (example: 002-site2),
  - Node Number where the IP signalling point is located (example: 02),
  - The IP address of the login site, for an optimised session
- The third line (available only in case of call set-up) indicates:
  - The IP address of the terminal, followed by the UDP port number on which the connection is set up (here: XXX.XXX.XXX.XXX:40000),

- The location number for viewing urgent callback terminals

The location number identifies the geographical area of the subnet for an IP terminal connection. It is used to manage emergency numbers. It may be the same for two closely located networks.

The IP set display screen also displays a summary line of the application sessions for the sets that meet the selection criteria.

This line shows:

- The total number of IP terminals with optimised connection address
- The number of connected IP terminals
- The number of IP terminals that meet the set type selection criterion.

### 4.2.3.3 *MEDIA SERVER resources*

☞ This command is not available for Mitel 5000 Gateways systems.

#### Menu **SYSTEM>Supervision>Display statuses>Media Server resources**

This command is used to display information about the RTP resources used by the Media Server service on MiVoice 5000 Server systems when the announcement, IVR, IVB and conference functions of the Media Server are required on MiVoice 5000 Server.

For each resource, information about interconnected terminals is displayed in addition to the identification information of the resource.

The Media Server resources display table indicates:

#### **ID COLUMN:**

Gives the resource ID (0-999)

#### **RESOURCE PORT IP COLUMN:**

Gives the RTP IP address and port used by Media Server. The IP address corresponds to the IP address of the MiVoice 5000 Server PTX card.

#### **USAGE COLUMN:**

Indicates the service rendered by the resource taken by the Media Server service:

- TON nnn
- CONF
- IVB
- IVR
- Empty

#### **REMOTE PORT IP COLUMN:**

Gives the RTP IP address and port used by the remote resource in communication with Media Server (IP terminal or EIP terminal (Virtual TDM)).

#### **COLUMN NO.:**

Corresponds to a resource number assigned by the MMC. Right-clicking inside this column displays detailed information about the resource.

It is possible to view the next or previous resource with these buttons:



Information export is not possible.

The detailed resource information indicates:

**STATUS:**

Gives the Media Server resource status. This parameter is always displayed. Possible values are:

LABEL
INACTIVE
ACTIVE
ACTIVED FOR MESSAGE
ON HOLD
IN WAITING FORCED RELEASE
.....

**DATE OF SEIZURE:** Gives the date of seizure of the Media Server resource, in the format DD/MM/YY HH :MM :SS oR (MM/DD/YY HH :MM :SS depending on configuration). This parameter is always displayed.

**IP:Port resource:** Gives the IP address and RTP port used by Media Server. The IP address corresponds to the IP address of the MiVoice 5000 Server PTX card.

**USE:** Indicates the service rendered by the resource taken by the Media Server service. This parameter is always displayed.

The possible responses and underlying parameters are given in the tables below:

RESPONSE LABELS
MESSAGE FOR USER
MESSAGE FOR EXT. LINE
CONFERENCE
IVB
IVS
.....

RESPONSE LABELS	UNDERLYING PARAMETERS	
MESSAGE FOR USER	Use	MESSAGE FOR USER
MESSAGE FOR EXT. LINE	- Tone No.	6
CONFERENCE	Use	CONFERENCE
	- Conference Id	0
IVB	Use	IVB or IVS
IVS	- Session No.	0

- **TONE NO.:** This parameter is only displayed if the value of the **Use** parameter is **MESSAGE FOR USER** or **MESSAGE FOR EXT.LINE**. This parameter comprises a zoom command towards the tone definition menu.

**IP:REMOTE PORT**

Gives the IP address and RTP port used by the remote resource in communication with Media Server (IP terminal or EIP terminal (Virtual TDM)).

**CONFERENCE ID**

Gives the conference ID. This parameter is only displayed if the value of the Use parameter is CONFERENCE.

**SESSION NO.**

This parameter is only displayed if the value of the Use parameter is IVB or IVS.

**MEDIA**

This parameter is always displayed. Possible responses are:

RESPONSE LABELS
AUDIO
AUDIO+ENCRYPTION
FAX PASSTHROUGH
FAX PASSTHROUGH+ENCRYPTION
MODEM PASSTHROUGH
MODEM PASSTHROUGH+ENCRYPTION
FAX T.38
VIDEO
.....

**CODING LAW**

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**.

Possible responses are:

LABELS
G711
G722
G723
G729
P711/PRIV._G711
P723/PRIV._G723
P729/PRIV._G729
...
.....

**- AT TYPE**

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**.

Possible responses are:

LABELS	CODING LAW
A LAW	G711
MU LAW	P711/PRIV._G711
G723.1	G723 P723/PRIV._G723
G729	G729 P729/PRIV._G729
G729A	
G729B	
G729AB	

## DURATION OF PACKETS (MS)

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**. It gives the packet transmission interval in ms.

Before display, and depending on the encoding law, a multiplier coefficient is applied to the **packetisation** field.

CODING LAW	COEFFICIENT
G711 P711/PRIV._G711	x 1
G723 P723/PRIV._G723	x 30
Other coding laws	x 10

## FORCED RELEASE

This button or parameter is only displayed if the **status** of the Media Server resource is different from **IN WAITING FORCED RELEASE**. Pressing this button forces the value **IN WAITING FORCED RELEASE** into the **status** field. This will result in the release of the Media Server resource through audit (5 minutes maximum) and should only be used for a blocked Media Server.

#### 4.2.3.4 External lines

☞ This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Display statuses>External trunks**

This command is used to display the status of external lines.

##### STATUS SEARCHED

<b>ANY</b>	Displays the list of all lines with their current status.
<b>FREE</b>	Displays the list of all lines in service and free.
<b>BUSY</b>	Displays the list of all busy lines (call in progress).
<b>PERM. OFF-HOOK COND.</b>	Displays the list of all lines in permanent off-hook position.
<b>FREE.INCOMING</b>	Displays the list of all incoming leased lines in service and free.
<b>OUT.OF.SERV.</b>	Displays the list of all lines disabled by an MMC.
<b>LOCKING</b>	Displays the list of all lines in blocking status with respect to the public network.
<b>ALARM</b>	Displays the list of all lines with no T0 access activated.
<b>FREE.LOCKING</b>	Displays the list of all lines in fault status with respect to the system.
<b>FREE.CALL.BACK</b>	Displays the list of all lines in free state, but which will receive automatic call-back.
<b>ON SERVICE WAITING</b>	Displays the list of trunks waiting to be IN SERVICE.

##### ON TRUNK GROUP

The drop down list contains the names of the trunk groups declared on the system, as well as the value ".....", which means all the trunk groups.

##### FIRST PHYSICAL EQUIPMENT

Equipment from which external lines will be taken into account in the list displayed.

Select the different display filter criteria then click **Select item**.

The external line display table indicates:

- The physical location of the line in the following form: cabinet number, card number, equipment number followed by the direct access number for the line (which can be programmed through the function MON. TRUNK LINE),
- Name of the trunk group to which the line belongs
- Line status
- The physical interval used for the call (this information only exists for lines with BUSY status).

#### 4.2.3.5 *Phony resources*

 This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Display statuses>Phony resources**

Voice or VoIP resources are voice gateways between the IP world and TDM world. They allow TDM equipment to take on IP appearance or IP equipment to take on TDM appearance, thus enabling them to communicate.

The VoIP resources are located on an EIP card (CPU daughter card) and on a PT2 daughter card.

This command is used to display the status of voice resources.

#### **STATUS SEARCHED**

**ANY**

Displays the list of all resources with their current status.

**FREE**

Displays the list of all resources in service and free.

**BUSY**

Displays the list of all busy resources (call in progress).

**OUT.OF.SERV.**

Displays the list of all resources disabled by an MMC.

Select a status criterion then click **Select item**.

The voice resources display table indicates:

- Number: Identification number of the resource generated by Web Admin. Right-clicking this field displays a diagnosis:
  - An error diagnosis if VOIP is not occupied:
 

**No menu follow input impossible**
  - Detailed information about VOIP if it is occupied.

It is possible to view the next or previous VOIPO with these buttons:  

Information export is not possible.

The different display fields are:

**STATUS**

Gives the VOIP status. This parameter is always displayed. Possible values are:

LABEL
INACTIVE
IN TDM COMMUNICATION
IN IP COMMUNICATION
ACTIVE
ACTIVED FOR MESSAGE
ON HOLD
IN WAITING SHORT RELEASE
IN WAITING LONG RELEASE
IN WAITING FORCED RELEASE
.....

**DATE OF SEIZURE:** Gives the date of seizure of the VOIP, in the format DD/MM/YY HH :MM :SS or (MM/DD/YY HH :MM :SS depending on configuration). This parameter is always displayed.

**IP:VOIP PORT:** Gives the IP address and the internal RTP port of the VOIP. This parameter is always displayed.

**USE:** Gives the service rendered by VOIP. This parameter is always displayed.

The possible responses and underlying parameters are given in the tables below:

RESPONSE LABELS
IP APPEARANCE TAKING
TDM APPEARANCE TAKING
MESSAGE FOR USER
MESSAGE FOR EXT. LINE
SVL
.....

RESPONSE LABELS	UNDERLYING PARAMETERS	
MESSAGE FOR USER MESSAGE FOR EXT. LINE	Use  - TONE NO.	MESSAGE FOR USER/ MESSAGE FOR EXT. LINE  6
SVL	Use  - Dynamic trunk group	SVL FXDYN1
	Use Equipment type - Position - Type of set	IP/TDM APPEARANCE TAKING TELEPHONE USER 1-02-00 PROPRIETARY
	Use Equipment type - Position - Trunk group	IP/TDM APPEARANCE TAKING EXTERNAL TRUNK 1-04-00 FT2-ETSI

IP APPEARANCE TAKING TDM APPEARANCE TAKING	Use	IP/TDM APPEARANCE TAKING
	Equipment type	BASE STATION
	- Position	1-08-00
	- Trunk group	FBORNE0
	Use	IP/TDM APPEARANCE TAKING
	Equipment type	EQT. ON ANOTHER SITE
	- Site	SITE 003
	- Access	160
	Use	IP/TDM APPEARANCE TAKING
	Equipment type	CONF
	Use	IP/TDM APPEARANCE TAKING
	Equipment type	IVB
	Use	IP/TDM APPEARANCE TAKING
	Equipment type	IVS

- **TONE NO.:** This parameter is only displayed if the value of the **Use** parameter is **MESSAGE FOR USER** or **MESSAGE FOR EXT.LINE**. This parameter comprises a zoom command towards the tone definition menu.

**- DYNAMIC TRUNK GROUP**

This parameter is only displayed if the value of the **Use** parameter is **SVL**. This parameter comprises a zoom command towards the dynamic trunk group characteristics.

**EQUIPMENT TYPE**

This parameter is only displayed if the value of the **Use** parameter is **IP APPEARANCE TAKING** or **TDM APPEARANCE TAKING**. This field contains information about the site, node, NTP of the device marked on the synchronus bus of the VOIP (the site may be a remote site).

Depending on the site (local or remote) and type of terminal, when the site is local possible responses are:

SITE	RESPONSE LABEL
Remote =>	EQT. ON ANOTHER SITE
Local	TELEPHONE USER
	EXTERNAL TRUNK
	BASE STATION
	CONF
	IVB
	IVS
	.....

**- SITE**

This parameter is only displayed if the value of the **Equipment type** parameter is **EQT. ON ANOTHER SITE**.

**- ACCESS**

This parameter is only displayed if the value of the **Equipment type** parameter is **EQT. ON ANOTHER SITE**.

**- POSITION**

This parameter is only displayed if the value of the **Equipment type** parameter is **TELEPHONE USER, EXTERNAL LINE** ou **BASE STATION**. It corresponds to the position in ASCII associated with NTP. This parameter comprises a zoom command which depends on the associated terminal type:

- Telephone User
- External Line
- Base Station

#### - TYPE OF SET

This parameter is only displayed if the value of the **Equipment type** parameter is **TELEPHONE USER**. It corresponds to the type of terminal associated with NTP.

#### - TRUNK GROUP

This parameter is only displayed if the value of the **Equipment type** parameter is **EXTERNAL LINE** ou **BASE STATION**. It corresponds to the trunk group name associated with NTP.

This parameter comprises a zoom command which depends on the associated terminal type:

- External Line
- Base Station

#### IP:REMOTE PORT

This parameter is always displayed. It corresponds to the IP address and RTP port of the IP equipment vis-à-vis VOIP.

#### MEDIA

This parameter is always displayed. Possible responses are:

RESPONSE LABELS
AUDIO
AUDIO+ENCRYPTION
FAX PASSTHROUGH
FAX PASSTHROUGH+ENCRYPTION
MODEM PASSTHROUGH
MODEM PASSTHROUGH+ENCRYPTION
FAX T.38
VIDEO
.....

#### CODING LAW

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**.

Possible responses are:

LABELS
G711
G722
G723
G729

P711/PRIV._G711
P723/PRIV._G723
P729/PRIV._G729
...
.....

**- AT TYPE**

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**.

Possible responses are:

LABELS	CODING LAW
A LAW	G711
MU LAW	P711/PRIV._G711
G723.1	G723 P723/PRIV._G723
G729	G729 P729/PRIV._G729
G729A	
G729B	
G729AB	

**DURATION OF PACKETS (MS)**

This parameter is displayed if the the **Media** is neither **FAX T.38**, nor **VIDEO**. It gives the packet transmission interval in ms.

Before display, and depending on the encoding law, a multiplier coefficient is applied to the **packetisation** field.

CODING LAW	COEFFICIENT
G711 P711/PRIV._G711	x 1
G723 P723/PRIV._G723	x 30
Other coding laws	x 10

**NUMBER OF LOCKING EVENTS**

This parameter is always displayed. It indicates the number (0-255) of received locking events which corresponds to the detection of absence of RTP flow by VOIP.

**FORCED RELEASE**

This button or parameter is only displayed if the **status** of the VOIP is different from **IN WAITING FORCED RELEASE**. Pressing this button (in Web MMC) or validating the response (with YES) forces the value **IN WAITING FORCED RELEASE** into the **Status** field. This will result in the release of the VOIP through audit (5 minutes maximum) and should only be used for blocked VOIPs.



**Note :** If the date has changed, an error diagnosis is displayed: **No equipment. The status field is not modified.**

- **Position:** The equipment number of the device associated with the resource, in the following form: rack number, card number, circuit number,
- **Access:** the device direct access number (programmable on the digital set through the function MON. TRUNK LINE)

- **TYPE:** resource type
- **Status:** status of the resource
- **IP :PortVOIP:** IP address + VOIP port.
  - The IP address corresponds to the IP address of the EIP or PTx/PVI card providing the VOIP. This information is always displayed, no matter the VOIP status.
  - The RTP port is only displayed if the VOIP is busy.
- **Equipment:** Corresponds to the physical equipment marked on the synchronous bus of VOIP.

This information is displayed with different formats according to the information on the use of resources and only if VOIP is busy:

FORMAT	EXAMPLE WEB
TON            tone_No.	TON 006
SVL	SVL
Site No./NTP	003/0352
Position    [Type_of_set]	1-02-00 OWNER
Position            [Trunk group_name]	1-04-04 FT2-ETSI
Position            [Trunk group_base station_name]	1-08-00 FBORNE0
CONFERENCE	CONF
IVB	IVB
IVS	IVS
Not recognised	Empty

- **IP:Remote port:** Corresponds to the IP equipment vis-à-vis VOIP. This information is only displayed if VOIP is busy.

### 4.2.3.6 Inter-iPBX Links

#### 4.2.3.6.1 Dynamic trunk groups

- o This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Display statuses>Dynamic trunk groups**

A dynamic trunk group is defined between two sites of a multi-site configuration (see the command NETWORK AND LINKS>Multi-sites>Circuits>Dynamic links).

Dynamic trunk groups are used to create dynamic SVL links between two sites.

This command is used to display the status of the lines used to route calls to the dynamic trunk groups created on the system.



**Note :** This command is only available in multi-site configuration.

#### STATUS SEARCHED

<b>ANY</b>	Displays the list of all lines with their current status.
<b>FREE</b>	Displays the list of all lines in service and free.
<b>BUSY</b>	Displays the list of all busy lines (call in progress).
<b>PERM. OFF-HOOK COND.</b>	Displays the list of all lines in permanent off-hook position.
<b>FREE.INCOMING</b>	Displays the list of all incoming leased lines in service and free.
<b>OUT.OF.SERV.</b>	Displays the list of all lines disabled by an MMC.
<b>LOCKING</b>	Displays the list of all lines in blocking status with respect to the public network.
<b>ALARM</b>	Displays the list of all lines with no T0 access activated.
<b>FREE.LOCKING</b>	Displays the list of all lines in fault status with respect to the system.
<b>FREE.CALL.BACK</b>	Displays the list of all lines in free state, but which will receive automatic call-back.
<b>ON SERVICE WAITING</b>	Displays the list of trunks waiting to be IN SERVICE.

#### OVER THE DYNAMIC TRUNK GP

The drop down list contains the names of the dynamic trunk groups declared on the system, as well as the value “.....”, which means all the trunk groups.

The line display table used by the dynamic trunk groups indicates:

- The physical location of the line in the following form: cabinet number, card number, equipment number followed by the direct access number for the line (which can be programmed through the function MON. TRUNK LINE),
- Name of the physical trunk group to which the line belongs
- Line status
- The physical interval used for the call (this information only exists for lines with BUSY status).

#### 4.2.3.6.2 TCP tunnel connections

##### **SYSTEM>Supervision>Display status>Connections of TCP tunnel**

This command is used to display the status of TCP tunnel connections.



**Note :** This command is only available in multi-site configuration. For TCP connection configuration, see the *MiVoice 5000 Operating manual: Multi-site management [2]*.

The TCP tunnel display table indicates:

- The connection name
- The directory number associated with the connection
- The status of the connection (connecting, connected, disconnected)
- The number of communicating logical channels

#### 4.2.3.7 Data links

##### **Menu SYSTEM>Supervision>Display statuses>Data links**

This command is used to display the system's data link status.

The data link display table indicates:

- The physical location of the link in the following form: cabinet number, card number, equipment number or server name if the link is of server type
- The data link type
- The directory number associated with the link
- The link status:
  - Out of service: out of service and disabled
  - Disconnected: in service but busy (terminal OFF, level 2 not set up, etc.)
  - Resume: resuming level 3
  - Free: in service and waiting for a call
  - In com: in communication (the number of communications is shown by the NO.LC parameter)
- The fifth column "NO.LC" indicates the number of logical channels in communication.

### 4.2.3.8 Maintenance

#### 4.2.3.8.1 Maintenance status

Menu **SYSTEM>Supervision>Display status>Maintenance>Maintenance status**

The maintenance software manages the status of each SBL in the system: a card is an SBL, an equipment interface is a device of a lower order.

This command is used to display the maintenance status of the system SBLs.

The maintenance status display screen indicates the site's hardware status. The level of site defect determines the level of operation anomalies presented by the system when the maintenance status display request is made. It is an entity that ranges between 0 and 8, where 8 is the most serious defect level. The calculation of this global indicator takes account of the status of each SBL in the system to which weighting coefficients are assigned according to their criticality for the working of the system.

Clicking the  symbol located on the left side of each card's slot displays the card's equipment details:

The Maintenance status display table gives for each card:

- The physical location of the SBL in the following form: cabinet number, card number, and equipment number (if the SBL is a device)
- The SBL card type
- The equipment type, if the SBL is a piece of equipment
- The SBL status.

#### 4.2.3.8.2 Display of alarms of ISDN boards

Menu **SYSTEM>Supervision>Display status>Maintenance>Display of alarms of ISDN boards**

This menu is only available if one of the cards with PCM or T2 accesses is available in the iPBX.

Cards with a PCM access are:

- LRN for A500x and A50x
- LT2 PSTN, LT2 T1 for XD, XL and XS

Cards with a T2 access are:

- ADQ\_ISDN for A500x and A50x
- LT2 for XD, XL and XS

This display menu is used to view the alarm counters of PCM/T2 cards seen during the display, and for each of the counters displayed.

This display menu exists in form of N tables. Each table refers to a type of card (for example LT2 T2, LT2 PCM....).

One to three lines may be displayed for each card.

If the card is not in alarm during the display, only one line is displayed indicating the position of the card and that there is no alarm.

Three alarms are displayed if there is an alarm for the card:

- The first one gives the status of the alarm during display.
- The second one gives the value of the counters for the "**oscillating**" alarms.
- The third one gives the value of the counters for the "**persistent**" alarms.

If the value of the counters is not displayed, it is because it is zero.

The last but one line, **Last reset** indicates the date of last counter reset.

This date corresponds either to:

- The date of last reset performed in the MMC, or
- The date of last system restart.

The last line is used to generally reset all the counters of all the cards. This procedure stores the reset time and starts each time the iPBX is started.

The tables are updated when an alarm is received, at the end of an alarm, at the end of timeout T1 or timeout T2. They are initialised when the cabinet is started and reset upon the user's demand.

#### **The different alarm types:**

The alarm is **instantaneous** when the first alarm is received.

The alarm is **oscillating**:

- An alarm has already been received, an end of alarm is received (during timeout T1).
- An end of alarm has been received, an alarm is received (during timeout T1).
- The number of oscillations is displayed (alarm/no alarm).

The alarm is **persistent**: It is the end of timeout T1, at least 16 alarms / end of alarm have been received during timeout T1. Where alarm duration  $\geq$  T1, without being oscillating.

When the alarm disappears at the end of T1, a timeout T2 starts.

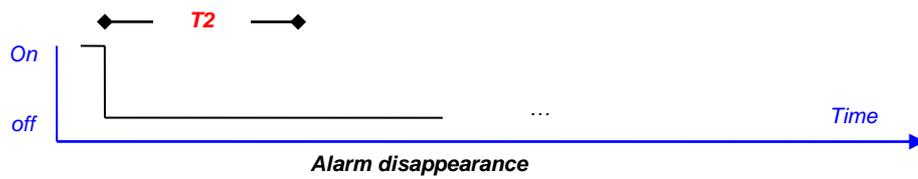
If an alarm appears during T2, T2 is suspended and updated. At the end of T2, an end-of-alarm message is sent.

#### **Timeout T1:**

Timeout T1 corresponds to a period during which the oscillations of alarms will be counted (T1: 60 seconds, configurable in the byte 5 of the MAID\_SYSTEM table)

#### **Timeout T2:**

The disappearance of an alarm is only indicated if no alarm arrives during a period T2 (T2: 60 seconds, configurable in the byte 6 of the MAID\_SYSTEM table)



**Name of alarm counters**

The table below gives the name of the counters associated with each alarm for all the card types managed via this menu (header line of the tables).

CARD	COUNTE R 1	COUNTE R 2	COUNTE R 3	COUNTE R 4	COUNTE R 5	COUNTE R 6	COUNTE R 7	COUNTE R 8	COUNTE R 9
LT2 T2	AIS	LFA	ER	RM	CRC4	BITE	FA		
PCM LT2 (32it)	LOS RA	AIS	LFA	ER	RM	TL	LMFA	RRA YA 1	RRA YA 2
T1 PCM LT2	LOS RA	AIS	LFA	LMFA	RRA YA 1	RRA YA 2			
LRN	CF	AIS	LFA	ER	RM	AIS64	LMFA	ATD	MFA
ADQ T2	AIS	LFA	ER	RM	CRC4	BITE	ATD		
ADQ T1	AIS	LFA	ER	RM	CRC4	BITE	ATD		

**Type of LRN card alarms**

ABBREV	TYPE OF ALARM	BIT
<b>FIRST BYTE GIVEN</b>		
MH	No clock	1 <sup>st</sup>
AIS	Alarm indication signal	5 <sup>th</sup>
LFA	Loss of frame lock	2 <sup>nd</sup>
ER	Error rate	3 <sup>rd</sup>
FA	Remote frame alarm	6 <sup>th</sup>
<b>SECOND BYTE GIVEN</b>		
RM	Lack of synchronisation	2 <sup>nd</sup>
LMFA	Loss of frame lock	1 <sup>st</sup>
AIS64	Alarm indication signal	5 <sup>th</sup>
MFA	Remote frame alarm	6 <sup>th</sup>

**Type of alarms for the LT2 T2 or ISDN ADQ card**

ABBREV	TYPE OF ALARM	BIT
<b>FIRST BYTE GIVEN</b>		
RAI	Indication of remote alarm	1 <sup>st</sup>
LFA	Loss of frame lock	2 <sup>nd</sup>
RM	No remote clock	3 <sup>rd</sup>
AIS	Alarm indication signal	5 <sup>th</sup>
ER	Error rate	6 <sup>th</sup>
Next reg	Indicates whether the second byte is high	8 <sup>th</sup>
<b>SECOND BYTE GIVEN</b>		
BITe	Incorrect bit	1 <sup>st</sup>
nonCRC4	Set up error	2 <sup>nd</sup>
CRC4	Incorrect CRC4	3 <sup>rd</sup>

**Type of LT2 PSTN card alarms**

ABBREV	TYPE OF ALARM	BIT
<b>FIRST BYTE GIVEN</b>		
RRA_YA_1	Receive remote alarm – yellow alarm	6 <sup>th</sup>
AIS	Alarm indication signal – Blue alarm	5 <sup>th</sup>
ER	Error rate	4 <sup>th</sup>
LFA	Loss of frame alignment	2 <sup>nd</sup>
LOS_RA	Loss of signal – red alarm	1 <sup>st</sup>
<b>SECOND BYTE GIVEN</b>		
RRA_YA_2	Receive remote alarm, yellow alarm	6 <sup>th</sup>
AIS64	Multi-frame AIS	5 <sup>th</sup>
LMFA	Loss of multi-frame alignment	1 <sup>st</sup>

RM	No remote clock	2 <sup>nd</sup>
----	-----------------	-----------------

#### Type of LT2 T1 and ADQ T1 card alarms

ABBREV	TYPE OF ALARM	BIT
<b>FIRST BYTE GIVEN</b>		
RRA_YA_1	Receive remote alarm – yellow alarm	6 <sup>th</sup>
AIS	Alarm indication signal – Blue alarm	5 <sup>th</sup>
LFA	Loss of frame alignment	2 <sup>nd</sup>
LOS_RA	Loss of signal – red alarm	1 <sup>st</sup>
<b>SECOND BYTE GIVEN</b>		
RRA_YA_2	Receive remote alarm, yellow alarm	6 <sup>th</sup>
LMFA	Loss of multi-frame alignment	1 <sup>st</sup>

#### 4.2.3.9 Mobile location

Menu **SYSTEM>Supervision>Display statuses>Mobile location**

This menu is used to display the status of each mobile set declared on the system:

- Either for all the mobile terminals (“Mobile basis”) or
- For the mobile terminals attached to a given cell (“Cell basis”).

##### 4.2.3.9.1 Mobile basis

This command is used to display the status and location of all the mobiles.

To access this command, click “**Mobile basis**” from the menu **SYSTEM>Supervision>Display status>Mobile location**.

The list of mobiles is displayed in form of a table, showing:

- The mobile's directory number
- The mobile's reference cell
- The last cell in which the mobile was located: if the cell is internal, the field gives the cell ID; if the cell is remote, the field gives the number of the remote site followed by the cell ID
- The mobile status: LOCAL, MISL., LOST or WAITING\_RECORDING.

##### 4.2.3.9.2 Cell basis

This command is used to display, for a given cell, all the mobiles attached to this cell.

To access this command, click “**Cell basis**” from the menu **SYSTEM>Supervision>Display status>Mobile location**.

#### SELECT THE CELL

Cell name.

The drop-down list contains a list of cell names declared on the system.

Select a cell name then click **Select item**.



**Note :** Selecting "....." is the same as selecting the first cell name from the drop-down list.

The list of mobiles attached to the selected cell is displayed in form of a table, showing:

- The base station location
- The base station number
- The mobile's directory number
- The site name
- The mobile status: located, busy, etc.

## 4.2.4 TRAFFIC OBSERVATION

Menu **SYSTEM>Supervision>Traffic observation**

This menu is used to:

- Configure the observation of traffic on trunk groups
- Display trunk group traffic observation counters
- Display and reset the traffic observation counters for wireless sets
- Display and reset the traffic observation counters for the CAC server.

### 4.2.4.1 *Defining TRUNK Group observation*

- This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Traffic observation>Define trunk group observation**

This command is used to define the parameters of the following trunk group observation parameters:

- The observation frequency
- The observation duration
- An eligibility criterion for sample storage
- The list of observed trunk groups (a maximum of 8 trunk groups can be observed at a given moment).

**SAMPLING TIME****10 MIN** **20 MIN** **30 MIN** **60 MIN** **1MIN (test)**

Interval between two measurements.

**OBSERVATION PERIOD IN HOURS**

Total observation period (HH): The observation period is infinite if this field is not filled in

**OBSERVATION PERIOD IN HOURS**

Observation period (HH): the observation period is infinite if this field is not filled in.

**START DATE**

Information field indicating the observation start date.

**MINIMUM RATE OF RECORDING**

Busy status percentage (in 2 digits) above which samples are stored.

A maximum of 256 samples can be stored. When a total of 256 samples is reached, the oldest samples are deleted by the new samples.

This parameter is used to store only the "significant" samples, to avoid overwriting a significant sample with a non-significant sample.

**X RECORDS, RESET****NO** **YES****Note :** This field is present only if some samples have been stored.

If you select YES, the stored samples will be deleted.

**LIST OF TRUNK GROUPS MONITORED**Lists from 1 to 8 **.....** **BRI.TG** **ANA.TG**

Trunk groups to observe.

**4.2.4.2** *Display trunk group observation*

- This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Traffic observation>Display trunk group observation**

This command is used to display the observations collected for a particular trunk group or for all trunk groups.

**TRUNK GROUP SELECTION**

Name of the trunk group to be displayed.

The drop down list contains the names of the trunk groups declared on the system, as well as the field ".....", which means all the trunk groups.

**MINIMUM BUSY RATE**

Minimum busy rate for sample display.

This rate is only active if trunk group selection is set to ".....".



**Note :** The minimum busy rate selected is only relevant if the value selected is at least equal to the busy rate value requested for storage. (See Minimum rate of recording).

## RATE IN ERLANGS

**NO**

**YES**

If you select YES, the busy rate will be displayed in the display screen in Erlangs. It will then be calculated using the following formula:

**(total busy rate for all the outgoing or incoming trunk lines) / (reference time)**

A line which is 100% busy over the observation period will give a rate of 1 Erlang.

If you select NO, the busy rate will be shown on the display screen in percentage. It will then be calculated using the following formula:

**(busy rate for all the trunk service lines \*100) / (reference time \* number of service lines)**

Once the display criteria are selected, click **Select item**.

The type of display varies, depending on whether a display request applies to one trunk group or all trunk groups:

The observations of a single trunk group are displayed on only one screen: the screen title gives the name of the observed trunk group.

The observations of all trunk groups are displayed in form of a screen by observation date; the << and >> buttons are used to navigate from one date to the other; the title of each screen indicates the date of the observations displayed.

The values displayed in the trunk group observation display table are as follows:

- **Way:** OUTGOING or INCOMING
- **Busy rate:** busy rate for lines in the trunk group
- **Used:** number of calls in the trunk group
- **Saturations:** number of saturations (counted for outgoing calls only).
- **Busy:** busy (number of incoming calls for "busy subscribers")
- **Free :** Number of calls released during the observation period.
- **Conversations :** Number of communications (observations), counted during their releases.
- **Quality rate:**

### Busy rate:

Over the duration of observation, this corresponds to the average use of trunks.

This rate is calculated using the following formula:

**(total busy rate for all the outgoing or incoming trunk lines) / (observation period)**

A line which is 100% busy over the observation period will give a rate of 1 Erlang.

If you select NO, the busy rate will be shown on the display screen in percentage. It will then be calculated using the following formula:

Therefore, it is the total duration taken for each trunk / number of trunks \* duration of observation).

### Used

Number of calls which have arrived on the trunk and which lead to the use of a trunk (this is the case once there is a free trunk when the call arrives).

### Saturations

Number of calls that arrived on the trunk group and which had been rejected because no trunk was free.

### Busy

"Used" (calls that lead to trunk seizure) include calls that do not reach a free subscriber (either because the called party is busy or because the caller on-hooked immediately and there was not enough time to present the call to the called extension).

### Free

"Used" includes calls that lead to the ringing of the correspondent's phone.

Therefore  $Used = Busy + Free$ .

### Conversations

"Free" calls are calls that result in a conversation: the called party off-hooks before the caller on-hooks.

### Quality rate

This is the rate of response compared to the number of calls presented on the system. This corresponds to  $(conversations/used)*100$ .

#### 4.2.4.2.1 SIP traffic observation

Menu **SYSTEM>Supervision>Traffic observation>Observation of trunk group>SIP traffic observation**

This menu contains a table which displays one line for each SIP trunk group on which are indicated:

The trunk group name as defined in the trunk group name definition menu,

The SIP link status which may be "**CONNECT.**" "**UNCONNECT.**" or "....",

The number of calls in progress on the trunk group,

The number of authorised calls which is actually the information configured in Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**,

The maximum number of successful simultaneous calls,

The number of calls rejected because the threshold has been reached,

The lines following this table contain the following information:

On the first line, the number of licences authorised for all the multi-site or cluster/node iPBXs,

On the second line, the number of licences assigned to the cluster or node. For standalone mode, this line is hidden as it is equal to the previous line.

On the third line, the total number of calls rejected since the last reset,

On the fourth line, the date of the last counter reset.



**Note :** Last line is a button used to reset the resettable counters: the number of successful simultaneous calls and the number of failed simultaneous calls.

#### 4.2.4.3 Base station observation

- This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Traffic observation>Base station observation**

This command is used to view the number of calls presented, set up and cut on the base stations of a trunk group.

##### TRUNK GROUP SELECTION

..... **BASE TGO** .....

Name of the trunk group to which the observed base stations belong.

The drop-down list contains the trunk group names of the base stations declared on the system.

The field "....." means all trunk groups.

Select the criterion then click **Select item**.

The title of the screen indicates the observation start date (date on which the counters were last reset).

The base station counter display table gives for each base station that meets the previous selection criterion:

- Its location: cabinet number, card number, equipment number
- The trunk group to which the base station belongs
- The number of calls presented on the base station since the counters were last reset
- The number of calls set up on the base station since the counters were last reset
- The number of failed calls (no radio) since the counters were last reset
- The number of failed calls (no channel B) since the counters were last reset
- The number of calls released on handover since the counters were last reset



**Note :** To reset the counters, see **RESET WIRELESS OBSERVATION**.

#### 4.2.4.4 *Base station trunk observation*

- This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Traffic observation>Base station trunk observation**

This command is used to view the number of calls presented, set up and cut on all the base stations of a trunk group.

##### TRUNK GROUP SELECTION

..... **BASE TGO** .....

Name of the trunk group to be observed.

The drop-down list contains the trunk group names of the base stations declared on the system.

The field "....." means all trunk groups.

Select the criterion then click **Select item**.

The title of the screen indicates the observation start date (date on which the counters were last reset).

Calls presented	Number of calls presented since the counters were last reset
Calls established	Number of calls set up since the counters were last reset
Fail: no B channel	Number of calls that failed since the counters were last reset
Roaming requests	Number of roaming requests made since the counters were last reset
Roaming request congestion	Number of roaming request congestions since the counters were last reset
Handover requests	Number of handover requests made since the counters were last reset
Handover requests in fail status	Number of failed handover requests since the counters were last reset



**Note :** To reset the counters, see **RESET WIRELESS OBSERVATION**.

#### 4.2.4.5 *Mobile observation*

Menu **SYSTEM>Supervision>Traffic observation>Mobile observation**

This command is used to display for each mobile terminal, the number of incoming calls, with or without roaming.

The title of the screen indicates the observation start date (date on which the counters were last reset).

#### 4.2.4.6 *Reset wireless observation*

Menu **SYSTEM>Supervision>Traffic observation>Reset wireless observation**

This command is used to reset the mobile and/or base station observation counters.

##### **MOBILE COUNTERS**

If you tick this box, mobile counters (see MOBILE OBSERVATION) are reset upon confirmation.

##### **BASE STATION COUNTERS**

If you tick this box, base station counters (see MOBILE OBSERVATION and BASE STATION TRUNK OBSERVATION ) are reset upon confirmation.

Tick the corresponding boxes then click "Confirmation".

This action confirms the counter deletion request and saves the current date as the date of last counter reset for the counter category in question.

#### 4.2.5 **CAC SERVER MONITORING**

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

These menus contain all the statistics on calls supervised by CAC.

These statistics are managed by some dynamic counters which give the current/maximum data rates as well as the number of critical calls and rejected calls. These counters can be reset from the menu SYSTEM>Supervision>Traffic observation>CAC server monitoring.

The data rates are displayed in kilobits per second.

This menu is used to access the menus for displaying and resetting current flow tables for the active CAC server.

The active server is the server used to control inter-centre (in multi-site configuration) and/or inter-class flows. Therefore, the active server may refer either to the server declared as main server (normal operation) or the server declared as secondary server (operation on backup server).

#### 4.2.5.1 *Disp. flow towards other centres*

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

This command is used to display the current values of the active CAC server counters concerning flows towards other CAC centres.

Only the counters of the centres to which the flow is limited are displayed. These counters are read in the active server



**Note :** This command is only available in multi-site configuration.

This display screen shows the name of the site where the active server is located and the node number (node number 2 for an MiVoice 5000 Multisite).

The counter display table shows, for each CAC centre to which the flow is limited:

- The CAC centre name
- The current flow (in kbit/s).



**Note :** If a centre is attached to a transit centre, its current flow is in fact that of the transit centre. If this is the case, the symbol \* is displayed.

- The current maximum flow rate reached since the counters of this type were last reset.



**Note :** If a centre is attached to a transit centre, its maximum current flow is in fact that of the transit centre. If this is the case, the symbol \* is displayed.

- The number of calls in a critical area since the counters of this type were last reset
- The number of rejected calls since the counters of this type were last reset
- Number of rejected video calls
- Maximum data rate towards the centre
- Possible calls: Audio, HiQ, Video (excluding the max. inter-centre data rate)

#### 4.2.5.2 *Disp. flow per class*

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

This command is used to display the current values of the active CAC server counters concerning flows for each CAC class defined.

Only CAC class counters with limited flow are displayed. These counters are read in the active server

This display screen shows the name of the site where the active server is located and the node number (node number. 2 for an MiVoice 5000 Multisite).

The counter display table shows, for each CAC class for which the flow is limited:

- The name of the class
- The current flow (in kbit/s).
- The current maximum flow rate reached since the counters of this type were last reset.
- The number of calls in a critical area since the counters of this type were last reset
- The number of rejected calls since the counters of this type were last reset
- Number of rejected video calls
- Maximum data rate per class (in kbit/s)
- Possible calls: Audio, HiQ, Video (excluding the max. inter-centre data rate)

This column contains the types of calls that can be made according to current data rate, maximum data rates supported, restriction thresholds of the different call types (audio, high-rate audio, video).

### 4.2.5.3 Centres counters reinitialisation

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

This command is used to display all or part of the active CAC server counters concerning flows towards other CAC centres.



**Note :** This command is only available in multi-site configuration.



**Note :** The current flow is not a counter and cannot be reset.

The screen shows the name of the site where the active server is located and the node number (node number 2 for an MiVoice 5000 Multisite).

#### **COUNTRES:MAXIMUM FLOW REACHED**

If you tick this box, this counter will be reset after confirmation.

The current maximum audio and video data rates will also be reset.

#### **CRITICAL AREA CALLS COUNTERS**

If you tick this box, this counter will be reset after confirmation.

#### **REFUSED CALL COUNTERS**

If you tick this box, this counter will be reset after confirmation.

#### **REFUSED VIDEO CALLS COUNTERS**

If you tick this box, this counter will be reset after confirmation.

#### **FOR THE CENTRE**

Name of the CAC centre whose counters are to be reset.

The drop-down list contains the CAC centre names. To reset the counters for all the CAC centres, select ".....".

After selecting the counters to be reset, click "Confirm" to validate the reset operation.



**Note :** Already set alarms (returned via the logbook) are not implicitly "so" reset. The end of alarm remains indicated after a few minutes without alert or rejection.

#### 4.2.5.4 *Class counters reinitialization*

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

This command is used to display all or part of the active CAC server counters concerning flows by CAC class.



**Note :** The current flow is not a counter and cannot be reset.

The screen shows the name of the site where the active server is located and the node number (node number 2 for an MiVoice 5000 Multisite).

##### **COUNTRES:MAXIMUM FLOW REACHED**

If you tick this box, this counter will be reset after confirmation.

The current maximum audio and video data rates will also be reset.

##### **CRITICAL AREA CALLS COUNTERS**

If you tick this box, this counter will be reset after confirmation.

##### **REFUSED CALL COUNTERS**

If you tick this box, this counter will be reset after confirmation.

##### **REFUSED VIDEO CALLS COUNTERS**

If you tick this box, this counter will be reset after confirmation.

##### **FOR THE CLASS**

Name of the class for which the counters will be reset after confirmation.



**Note :** If no CAC class is specified, it will be applied to all the CAC classes.

After selecting the counters to be reset, click "Confirm" to validate the reset operation.



**Note :** Already set alarms (returned via the logbook) are not implicitly "so" reset. The end of alarm remains indicated after a few minutes without alert or rejection.

#### 4.2.5.5 *CAC servers status*

Menu **SYSTEM>Supervision>Traffic observation>CAC server monitoring**

For each CAC centre, this command is used to know the site on which the main CAC server is located and the site on which the secondary server is located.



**Note :** This command is only available in multi-site configuration.

#### 4.2.5.6 *Statistics phony resources*

- This command is not available for MiVoice 5000 Server.

Menu **SYSTEM>Supervision>Traffic observation>Statistics phony resources**

This menu gives access to the VOIP statistics. The information is displayed on a table for each VOIP type (EIP or PTx/PVI) and together for all the VOIPs:

- Number of used

- Maximum number of used
- Number of failures.

The lower part also gives the number of EIP VOIPs and the number of PTx/PVI VOIPs available.

The date of last counter reset is displayed and a button is used to reset all the counters and update the date.

The counter reset date is updated each time the system is rebooted.

#### 4.2.5.7 *MEDIA SERVER statistics*

This menu concerns MiVoice 5000 Server only.

Menu **SYSTEM>Supervision>Traffic observation>Media Server statistics**

This menu gives access to the Media Server statistics. The information is displayed in a table.

The first line of the table contains the functional status of the different functions offered by the Media Server (announcements, IVB, IVR and CONF). The two possible statuses are:

**ACTIVE:** the function is enabled.

**INACTIVE:** the function is not enabled.

The last three lines of the table indicate the following values for each function offered by the Media Server (announcement, IVB, IVR and CONF):

**No. used:** current number of channels taken (instant value)

**Max used\*:** maximum number of channels taken (pic)

**Failures\*:** number of failed channel utilisation attempts.

*\*Since the last counter reset or MiVoice 5000 Server restart.*

The last table column (**All**) indicates all the functions offered by the Media Server (for all the applications):

- The current number of channels taken (instant value)
- The maximum number of channels (pic) used since the counters were last reset
- The number of failed channel utilisation attempts.

The first line displayed under the display table gives the number of channels unlocked by the keycode.

The second line under the table gives the date/time the counters were last reset.

The **Reset counters** button are used to reset the **Max used and Failures** counters. This button is also used to set the date of last reset to current date/time.



**Note :** No confirmation is required when the button is pressed.

## 4.2.6 DISPLAY OF CHARGE COUNTERS

Menu **SYSTEM>Supervision>Display of charge counters**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

Charge counters measure the calls handled by the system and give information about the cost of the various items configured in the system.

This menu is used to display the charge counters:

- By subscriber
- By department (in multi-company configuration)
- By operator service
- By external network line
- By trunk group

It is also used to reset the counters selectively.

### 4.2.6.1 *Extension counters*

Menu **SYSTEM>Supervision>Display of charge counters**

This command is used to display the extension charge counters since the last extension counter reset.

#### **COMPANY SELECTION**

XXXXXXXX

CMPNY.0

This field is only available in multi-company configuration.

Select **XXXXXXXX** to display the extension counters for all companies and departments. If you have already created company names, these are displayed here.

#### **DISPLAYED COUNTERS THRESHOLD**

Minimum value for displaying the counters (counters whose value is below the threshold will not be displayed). This value is expressed in number of telephone units.

#### **DIRECTORY BEGINNING WITH**

Enter a digit (or number). All directory numbers that start with this digit (or number) will be displayed.

Once the display criteria are selected, click **Select item**.

The extension counter display table indicates:

- The directory number
- The subscriber name
- The date (DAY/MONTH) on which the extension charge counters were last reset.
- The number of CUs (Charge Units)

#### 4.2.6.2 *Trunk line counters*

Menu **SYSTEM>Supervision>Display of charge counters**

- This command is not available for MiVoice 5000 Server.

This command is used to display the counters of the network lines (analogue, ISDN or PCM) connected to the system.

##### **DISPLAYED COUNTERS THRESHOLD**

Minimum value for displaying the counters (counters whose value is below the threshold will not be displayed). This value is expressed in number of telephone units.

##### **FIRST PHYSICAL EQUIPMENT**

The trunk line counters are displayed starting with the first position indicated.

The format for the value to enter in this field is: NXXZZ, where:

- N is the cabinet number
- XXX is the card's slot in the cabinet
- ZZ is the equipment number on the card.

Once the display criteria are selected, click **Select item**.

The trunk line counter display table indicates:

- The equipment location and access
- The trunk group to which the external line belongs
- The date (DAY/MONTH) on which the trunk line charge counters were last reset.
- The number of CUs (Charge Units)

#### 4.2.6.3 *Trunk group counters*

Menu **SYSTEM>Supervision>Display of charge counters**

- This command is not available for MiVoice 5000 Server.

This command is used to display the trunk group counters declared on the system.

The trunk group counter display table indicates:

- The trunk group name
- The number of trunk group lines
- The date (DAY/MONTH) on which the trunk group charge counters were last reset.
- The number of CUs (Charge Units)

#### 4.2.6.4 *Operator counters*

Menu **SYSTEM>Supervision>Display of charge counters**

- This command is not available for MiVoice 5000 Server.

This command is used to display the operator service counters declared on the system.

The operator service counter display table indicates:

- The operator console directory number
- The date (DAY/MONTH) on which the operator charge counters were last reset.
- The number of CUs (Charge Units)

#### 4.2.6.5 *Department counters*

Menu **SYSTEM>Supervision>Display of charge counters**

This command is used to display all the extension counters by company/department.



**Note :** This command is only available in multi-company configuration.

The department counter display table shows for each department:

- The company name
- The department name
- The number of extensions in the department
- The date (DAY/MONTH) on which the department charge counters were last reset.
- The number of CUs (Charge Units)

#### 4.2.6.6 *Reset counters*

Menu **SYSTEM>Supervision>Display of charge counters**

This command is used to reset the charge counters. The reset operation is performed selectively on any type of charge counter.

#### **EXTENSION AND DEPARTMENT COUNTERS**

**NO** **YES**

If you select YES, the extension and department charge counters are reset.

"Department" counters are only significant in multi-company configuration.

#### **OF COMPANY**

This field appears in multi-company configuration if you select YES in the previous field. The drop-down list contains the priority classes defined in the system.

#### **AND DEPARTMENT**

This field appears in multi-company configuration if you select a company name in the previous field. The drop-down list contains the names of the departments declared for the company.

#### **OPERATOR COUNTERS**

- This parameter is not available for MiVoice 5000 Server.

**NO** **YES**

If you select YES, the operator charge counters are reset.

**RESERVED FOR OPERATOR**

Attendant console directory number.

This field appears when you select YES in the previous field.

**NETWORK AND TRUNK GP COUNTERS**

- This parameter is not available for MiVoice 5000 Server.

**NO** **YES**

If you select YES, the network and trunk group charge counters are reset.

**OF TRUNK GROUP**

This field appears when you select YES in the previous field. The drop-down list contains the names of the trunk groups declared in the system.

Select the values corresponding to the reset you want then click **Select item**.

A password is then required.

**PASSWORD**

Password.

Enter the password then click "Reset counters".

If the rights associated with the password are sufficient, the counters that meet the selection criteria are reset; otherwise, the operation is rejected by the system.

When the operation is complete, the following screen is displayed:

**4.2.7 FILLING STATUS OF TABLES**

Menu **SYSTEM>Supervision>Filling status of tables**

This command is used to know the status of the use of each system function table.

This screen displays the filling status of each function table by indicating for each of them the quantity used, as well as its total capacity.



**Note :** It is important to check availability before offering or selling certain features.

**4.2.8 COMPACT FLASH CARD FILLING MANAGEMENT**

Menu **SYSTEM>Monitoring>Filling of the disk space**

This menu is used to display the rate of compact flash card occupation and to manage the maximum space assigned to the different functions.

The screen is divided into two parts:

- General information about the compact flash card
- Information, function by function (IVB, IVR, trace, etc.)

The first table indicates the size used and usable on the compact flash card for each of the three partitions, as well as the rate of use.

The second table indicates the filling status of the disk according to service:

- **Directory:** Name of the department
- **Size used**
- **Usable size**
  - If the field is accessible, the size can be modified.
- **Capacity** according to data type (minutes for voice messages, number of tickets, number of records for the directory, or number of pictures)
- For MiVoice 5000 Server, two additional lines indicate:
- **HiQ minutes:** usable capacity in the **IVR script**, **voicemail box** and **announcements** folders, if all the files are G722 encoded
- **Video minutes:** usable capacity in the **IVR script** and **voicemail box** folders, if all the files were in video format.
- **Using rate**, displayed if the **Usable size** field is accessible.

#### 4.2.8.1 *Modifying the maximum values*

It is possible to modify the maximum sizes which can be assigned to a feature, with the following restrictions:

- The total maximum sizes cannot exceed the size of the compact flash card minus 72 MB for security.
- There are minimum values for each function. If the value entered is less than what has been defined, the base stations are displayed in a window.
- For most of the values it is not possible to configure a value below the disk space currently used by the function.

Four exceptions for which a maximum value below the current size can be indicated:

- **Export Errors:**  
the oldest error processing operations are immediately deleted.
- **Export Trace:**  
the oldest traces are deleted during next export.
- **Export backup:**
  - the oldest backups are deleted immediately,
  - a backup is made during generation. However, it is advisable to make an external backup.
- **Export tickets (all)**  
the oldest tickets are deleted immediately.



**Note :** A ticket configuration menu allows a temporary space to be created, which can be used for tickets (Menu System>Setting > Tickets > Integrated buffer > Ticket parameters). The value "maximum size of temporary file" must not be modified because the storage capacity of the Compact Flash card may be exceeded if the value entered is too high.

#### 4.2.8.2 *TMA and FTP servers*

Terminals are managed on the following three lines:

##### **Terminals:**

- For defining the space assigned to the terminal software managed by the integrated TMA. In this case, the size is the accumulated size of the active software and inactive software (TMA is in UTD and UTDI). So, a usable size of 108 MB corresponds to 54 MB of terminal software.

##### **FTP terminals:**

- For defining the space assigned to the terminal software managed by the integrated FTP server.

##### **TFTP terminals:**

- For defining the space assigned to the terminal software managed by the integrated TFTP server (Mitel OMM base station, DECT handset, 312i).

The default values are calculated based on the fact that an integrated TMA is used.

If TMA is to be used in MiVoice 5000 Manager via the integrated FTP server of an Mitel 5000 Gateways system, it is necessary to:

- Delete the releases not used in TMA
- Reduce the space assigned to the **Terminals** parameter to only one software release, i.e. 70 MB.
- Increase the space assigned to the parameter **FTP terminals**: 60 MB is the minimum space for managing a production release, a test release and all the terminal configuration files.

#### 4.2.8.3 *Picture management*

By default, no space is reserved for pictures.

If internal picture management is activated (Menu **Telephony service > Subscribers > Mitel 6700 SIP Phone terminals > Pictures parameters**), 25 MB are automatically reserved for pictures. These 25 MB are taken on the IVB.

#### 4.2.8.4 *Processing when the function reaches the maximum size*

Defining the spaces to be assigned only centralises the information. Processing operations may differ when the limit is attained:

- Export Debug / Traces / Dump IP / Export backup / Export ticket: automatic deletion of the oldest files
- Directory: no blocking. SNMP traps and warning messages are sent to the logbook.
- IVR / announcements, TFTP, pictures: downloading new scripts or announcement is not allowed.
- IVB: the message being left is about to be completed; the next ones are not allowed.
- FTP: current file storage is about to be completed; the next ones are not allowed.
- TMA: TMA checks the size once the file is downloaded and deletes it if the limit is exceeded.

- Export others / import: for these functions, which are used to store temporary files, it is not possible to modify the assigned values. Files that are more than three days old are deleted by a function at regular intervals (or during restart).

#### **4.2.8.5** *Case of MiVoice 5000 Server*

There is no control regarding the possible maximum size (the disk size is not known). Therefore, it is the duty of the administrator to ensure that he does not assign more space than is actually available.

It is not possible to define a maximum size for the directory.

It is not possible to define a maximum size for the FTP space either.

## 4.3 SYSTEM SETTING

The functions of the columns in this menu are:

### **SERVICES:**

- Define the system configuration type (single/multi company, single/multi site).
- Start/stop the services that manage the different functions of the system.
- Enable an interface used to manage terminals.

### **LANGUAGES:**

- List the spoken languages for voice prompts and announcements.
- Configure the written languages used to indicate messages on sets.

### **USERS:**

- Manage users from the profiles defining their characteristics and access rights.
- Manage the different codes and access accounts (VT 100, managers, FTP server for terminal management).

### **CARDS:**

- Manage system cards (CPU cards, general-purpose cards).

### **OPERATING TERMINALS:**

- Manage and configure operating terminal accesses.

### **ALARMS:**

- Configure alarms.

### **TICKETS:**

- Configure ticket management.

### **E-MAIL:**

- Configure the message servers used by the system to provide e-voicemail services.

### **MIB SNMP:**

- Enter the MIB snmp description parameters.

This menu is accessible by selecting **TELEPHONY SERVICE/SYSTEM/Configuration**.

### 4.3.1 SERVICES

The menu **SYSTEM>Setting>Services** is used to:

- Define the type of configuration (single or multi company, single or multi-site)
- Display the status of the services, start and stop them.
- Activate an interface used to manage an FTP space for the terminals.

#### MULTI-COMPANY MANAGEMENT

If you tick this box, all the multi-company management menus are activated in the user interface.

On start up, the system is set to single-company configuration.



**Note :** When this box is ticked, it can only be unticked if the single-site characteristics have been previously restored.

- **No company other than company 0**
- **No department other than department 0 of company 0**
- **No routing code other than code 0**
- **No abbreviated number code other than code 0**

If you select these conditions, you will have to make other modifications before you can delete the created names.

The change from **MULTI-COMPANY** to **SINGLE-COMPANY** is only done in very rare circumstances.

#### MULTI-SITE MANAGEMENT

If you tick this box, all the multi-site management menus are activated in the user interface.

The working of the system is handled by a certain number of services some of which are started upon installation (see the description of each service below).

With the occasional exception, from the user interface, all the services can be:

- Restarted if they are in the START status
- Stopped if they are in the START status
- Started if they are in the RESTART status.

**LDAP SERVICE****STOPPED****START****RESTART**

This service gives access to the directory's LDAP base.

This service is started upon installation.

**WEB SERVICE****STOPPED****START****RESTART**

This service gives access to the management portal.

This service is started upon installation.



**Note :** The web service cannot be stopped from the user interface.

**SNMP SERVICE****STOPPED****START****RESTART**

This service enables the system to respond to external SNMP requests.

This service is not started upon installation.



**Note:** In SNMP V3 mode, it is forbidden to stop this service (a warning message is returned).

**SNMP TRAP SERVICE****STOPPED****START****RESTART**

This service is used to retrieve SNMP traces of EX, GX and TA system alarms.

This service is seen as **Started** even if this type of associated system does not exist in the configuration.

This service is actually started as soon as an EX, GX or TA system is declared.

The **Stopped** status is independent of the presence of an EX, GX or TA system.

**SNMP AGENT SERVICE****STOPPED****START****RESTART**

This service enables the system to issue SNMP alerts (traps).

This service is started upon installation.

**SIP SERVICE****STOPPED****START****RESTART**

This service allows the use of SIP function.

This service is started upon installation.

**FTP SERVICE**

- This parameter is available for MiVoice 5000 Server if the FTP service has been installed in advance while installing the MiVoice 5000 Server application (Ctrl I script) or while it was being reconfigured (standard or TOTAL reconfiguration). See the Installation and Maintenance Manual - (AMT/PTD/PBX/0058/EN\*).

**STOPPED****START****RESTART**

This service is used to download software updates and set configurations.

This service is not started upon installation.

### TFTP SERVICE

- This parameter is available for MiVoice 5000 Server if the TFTP service has been installed in advance while installing the MiVoice 5000 Server application (Ctrl I script) or while it was being reconfigured (standard or TOTAL reconfiguration). See the Installation and Maintenance Manual - (AMT/PTD/PBX/0058/EN \*).

**STOPPED**

**START**

**RESTART**

This service is used to download software updates for terminals A6xxd, 312i and DECT-IP radio fixed parts (Mitel RFP).

This service is not started upon installation.

### SSH SERVICE

This service allows you to connect remotely to the system in secured mode.

**STOPPED**

**START**

**RESTART**

This service is not started upon installation.

### SYSLOG SERVICE

- This parameter is available for MiVoice 5000 Server if the SYSLOG service has been installed in advance while installing the MiVoice 5000 Server application (Ctrl I script) or while it was being reconfigured (standard or TOTAL reconfiguration). See the Installation and Maintenance Manual - (AMT/PTD/PBX/0058/EN \*).

**STOPPED**

**START**

**RESTART**

This service is used to re-channel traces to one or two IP addresses for gradual display on a remote set.

The redirection IP addresses are configured using the menu **SYSTEM>Expert> Processor access>Traces>Parameters**.

This service is only operational if at least one redirection IP address is defined.

In normal operation, this service is STOPPED.

### DHCP SERVICE

- This parameter is available for MiVoice 5000 Server if the DHCP service has been installed in advance while installing the MiVoice 5000 Server application (Ctrl I script) or while it was being reconfigured (standard or TOTAL reconfiguration). See the Installation and Maintenance Manual - (AMT/PTD/PBX/0058/EN \*).

**STOPPED**

**START**

**RESTART**

This service is used to activate the DHCP server incorporated into the Web Admin (Mitel 5000 Gateways) or the DHCP server of the MiVoice 5000 Server PC.

For a detailed description of this function, refer to the *Installation Manual for Mitel terminals MiVoice 5300 IP Phone and Mitel 6700 SIP Phone – DHCP server* [4].

### TERMINAL SERVICE

**STOPPED**

**START**

**RESTART**

**Case of Mitel 5000 Gateways**

The Terminals Service is enabled by default during initial installation in H1N or while upgrading from V5.1B to V5.1C. This button is, therefore, visible in these cases, but this service may or may not be enabled (refer to Section 0).

### MEDIA SERVER SERVICE

**START**

**RESTART**

The service offers the following functions:

- Announcement
- Voicemail (IVB)
- Interactive voice response (IVR)
- Conference

This service is started upon installation. The "STOPPED" option is not authorised for Media Server. If the user asks for this service to stop, the error message "MODIFICATION NOT ALLOWED" is displayed.



**WARNING :** If the user wishes to stop a service, he must make a standard reconfiguration from the Standard reconfigure shortcut located on the desktop.

As of R5.3 SP1, the conference service is available on MiVoice 5000 Server once the service is activated (no other configuration is necessary). This service will be used once the conference master (except for terminals Mitel 6700 SIP Phone) is declared on MiVoice 5000 Server (IP or virtual TDM).

### NRPE SERVICE

This menu is only visible if the service is active. This is manually validated in Menu System>settings>Alarms>Parameters, or automatically if the iPbx is managed by MiVoice 5000 Manager.

The NRPE service is used to return system resources alarms to the MiVoice 5000 Manager management centre Nagios module.

**STOP**

**START**

**RESTART**

By default, the service is STARTED if activated.

### SERVICE INTERNET GATEWAY

**STOP**

**START**

**RESTART**

This parameter is available for MiVoice 5000 Server.

By default, this service is STOPPEDif

The operator can directly access this screen from the menu **Telephony service>Network and links>Internet Gateway, General parameters** tab.

### SERVICE VPN TEL

**STOP**

**START**

**RESTART**

This parameter is available for MiVoice 5000 Server.

By default, this service is STOPPEDif

The operator can directly access this screen from the menu **Telephony service>Network and links>VPN teleworking, Server** tab.

### NTP SERVICE

- This parameter is greyed out and only its status is displayed. It is not possible to stop or start it via the MiVoice 5000 Server or Mitel 5000 Gateways Web Admin.

## 4.3.2 LANGUAGES

This menu **System>Setting>Languages** is used to list and configure the languages that can be used by the system to present messages to telephone sets (written languages) and only to list spoken languages for tone and announcement broadcasting.

### 4.3.2.1 *Spoken languages*

Menu **SYSTEM>Setting>Languages**

This menu is used to display the list of spoken languages that can be assigned to extensions: the assignment is done via the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**.

For each of these languages, it is possible to replace the standard tones of the functions with a definable tone. This operation is performed via the menu **VOICEMAIL AND TONES>Tones>Allocation of tones – languages**.

The spoken languages are fixed when the iPBX is first installed (5 at most, 2 by default) and cannot be changed.

To access this command, click **Spoken languages** from the **Languages** menu.

#### LANGUAGE X

Names of the spoken languages available on the iPBX.



**Note :** The language selected in the field **SPOKEN LANGUAGE 1** serves as default language for the tones.

### 4.3.2.2 *Written languages*

Menu **System>setting>Languages**

This menu is used to define the list of written languages that can be assigned to extensions: the assignment is done via the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**.

To access this command, click **Written languages** from the **Languages** menu.

#### LANGUAGE X

The drop-down list of each of the fields contains the name of the existing languages not yet selected from any of the other fields.



**Note :** The language selected in the field **WRITTEN LANGUAGE 1** serves as default language for messages.  
Only 5 written languages are available..

If a modification is made, the system must be restarted before it is taken into account.

### 4.3.3 USERS

This menu **System>Setting>Users** concerns the user accounts used to log on to the system's MiVoice 5000 Web Admin.

The functions of the columns in this menu are:

**Profile names / Profiles definition:**

- Define the user profiles with some associated rights according to their action field (Telephony, Directory, DHCP and Terminal services).

**Operators definition:**

- Define user accounts by name, password and associated profile.

**System account:**

- Modify the terminal service access account passwords.

Each profile is associated with:

- A configuration level
- The right to access the directory in write mode (YES or NO)
- DHCP configuration allowed (YES,NO)
- Set download right (YES or NO)

During installation, five profiles are provided by default and can be changed by the administrator:

- INSTALLER
- ADMINISTRATOR
- MAINTENANCE
- CHARGING
- DIRECTORY

Another predefined profile also exists in the system, but cannot be modified. This is the XML INTERFACE profile, which corresponds to an "MiVoice 5000 Manager" user.

### 4.3.3.1 Profile names

This menu **System>Setting>Users>Profile names** is used to declare some profile names on the system.

#### USER PROFILE 1 TO 20

Profile names declared on the system. A maximum of 20 user profiles can be declared.

During installation, five profiles are provided and can be changed:

PROFILE NAME	ASSOCIATED RIGHTS			
	Configuration level	Directory modification	DHCP server configuration	Set downloading
INSTALLER	Installer	√	√	√
ADMINISTRATOR	Administrator	√		√
MAINTENANCE	Maintenance			
CHARGE	Charging			
DIRECTORY	Forbidden	√		

To declare a new profile, enter its name (15 characters maximum) in the first empty field.

### 4.3.3.2 Profiles definition

This menu **System>Setting>Users>Profiles definition** is used to display and configure/modify the user profiles declared on the system.

The table for this screen shows for each user profile declared on the system:

- The profile name
- The type of configuration to which the profile has access
- Its right to access the directory (YES or NO)
- Its right to access the DHCP configuration (YES or NO)
- Its set download right (YES or NO).

To modify or configure a profile, click its name, the different services are then proposed.

#### TELEPHONY SERVICE



Type of configuration authorised for the profile.

## DIRECTORY SERVICE

If you tick this box, the profile has the right to access the directory.

## DHCP SERVICE

If you tick this box, the profile has the right to access the DHCP service.

## TERMINAL SERVICE

If you tick this box, the profile is authorised to carry out set downloading.

### 4.3.3.3 *Operators definition*

This menu **SYSTEM>Setting>Users>Operators definition** is used to display and configure/modify the user accounts declared on the system.

This menu also allows for each user whether to display the picture from the Home page to minimize the data flow.

The list of user accounts shows for each account name defined:

- The associated profile name
- The associated language (the system's MiVoice 5000 Web Admin language).

To modify an already defined user account, click the rank number of the number to be modified in the list of user accounts. The definition screen of the user account to modify is displayed. The parameters to modify are the same as the ones described below for creating a new account.

To create a new user account, click the rank number corresponding to an empty line and fill in the following fields.

## LOGIN

Character string (16 characters maximum) to be used as login to connect to the system's MiVoice 5000 Web Admin.

## LANGUAGE

**FRENCH****ENGLISH****GERMAN**

User interface language associated with the user.

## MASK THE PICTURE ON THE HOMEPAGE

Box ticked : No picture on the homepage

Box no ticked : Picture on the homepage

**PROFILE NAME**

User profile name associated with the user account.

The drop-down list contains the names of the user profiles declared in the system.

**EXECUTION MODE**

- BASIC
- ADVANCED

For a given installer, execution mode may be basic or advanced. It is possible to switch from one mode to the other to configure an SIP trunk. Menu **NETWORK AND LINKS>Network>Trunks>Characteristics**.

See Section 6.2.1.2.6.

**PASSWORD NEVER EXPIRES**

Box to be ticked or unticked depending on the policy defined for user passwords:

**Box not ticked:** no policy

**Box ticked:** a policy has been defined, and the password will expire at the end of the period defined in Menu **System>User password policy** and the user concerned is alerted to it by e-mail (text to be entered in the field described below). See also Sections **Erreur ! Source du renvoi introuvable**. and **Erreur ! Source du renvoi introuvable**.



**Note:** If the password policy is enabled, the password entered on the second line of this screen must check this policy even if it is indicated as "never expires".

**E-MAIL**

A warning text prompting the user to change his password.

When a user account is created or the password is changed, the validity period is set to the current date to force the user to change it the first time he is logging on, if the password is not indicated as "never expires".

**Alarm notification by E-mail**

Checkbox for enabling or disabling alarm e-mails sent by the operator.

Ticking the checkbox opens a new field in which to enter an operator's e-mail address (including the operators defined locally in the nodes) even if the Web Admin password policy is not enabled.

This checkbox is hidden if there is an SNMP Manager in the configuration or when the **Sending E-mail on alarm issuing** checkbox is ticked in the **Alarm** tab of Menu **Telephony service>System>Configuration>E-mail**.

**4.3.3.4 System accounts**

This menu **System>Configuration>Users>System accounts** is used to modify the following accounts or access code:

**4.3.3.4.1 Manufacturer access code****MANUFACTURER ACCESS CODE**

This code is reserved for MITEL as manufacturer and is not known to the operator. This code is associated with access logins and passwords reserved, also solely for MITEL (access to Mitel 5000 Gateways application and OS).



**Note :** For MiVoice 5000 Server, only the application access login and password are to be taken into account, since the OS access account (dedicated Linux PC) remains under the operator's responsibility.

Nevertheless, to increase the security level, it may be modified by the operator. This implies that MITEL will no longer have access to Web Admin in manufacturer mode if it is not communicated.

The choice of modification is made by the operator who may inform MITEL about it.

If this modified access code is forgotten or lost, refer to the document AMT/PTD/PBX/58/EN which explains how to recover this access code from a specific mode of **Ctrl + i**.

Authorised characters:

- Modifiable manufacturer's access code, with 4 to 15 characters
- The characters authorised for passwords are "a" to "z", "A" to "Z", "0" to "9" and "\_".

#### 4.3.3.4.2 FTP accounts for terminals MiVoice 5300 IP Phone and Mitel 6000 SIP Phone

##### FTP ACCOUNTS FOR TERMINALS MIVOICE 5300 IP PHONE

The FTP server access accounts are used by TMA to manage terminals (for updating production and test releases as well as for the deployment phase).



**Note :** Concerning the management of these terminals, refer to the terminal installation manual **AMT\_PTD\_PBX\_0014**.

By default, the passwords for all these accounts have the same values as the logins indicated for each account in question.

Authorised characters:

- Modifiable password, with 4 to 25 characters
- The characters authorised for passwords are "a" to "z", "A" to "Z", "0" to "9" and "\_".

Existing passwords are not displayed; they are replaced upon display by the character \*, for the maximum length (25 characters).

##### Production and deployment (read)

- Login
- Password

##### Production and deployment (write)

- Login
- Password

##### Test (read)

- Login
- Password

**Test (write)**

- Login
- Password

**FTP ACCOUNTS FOR MITEL 6000 SIP PHONE:****Deployment (read)**

- Login
- Password

**Deployment (write)**

- Login
- Password

**Production (read)**

- Login
- Password

**Production (write)**

- Login
- Password

**Test (read)**

- Login
- Password

**Test (write)**

- Login
- Password

#### 4.3.4 CARDS

**Menu System>Setting>Cards**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server or Mitel 500/A50.

This menu is used to:

- Display/modify the status of the common cards available or declared on the system
- Declare a new card in a free slot
- Display system hardware and software configurations, and change from one system to another.

- Manage the duplex configuration of an XD
- Display/modify the parameters of IP cards
- Display the jumper status for each ISDN access of UCV-S cards (XS)
- Enable/disable voice mail functions, and display IVS characteristics

### 4.3.4.1 A500x/A50x system

#### 4.3.4.1.1 New system

A new Mitel 500 system is fitted with an FPG back plane and comprises:

- 10 slots for equipment cards (0-9)
- 4 slots for CLX cards (0-2, 7).

#### 4.3.4.1.1.1 Cards managed

##### EQUIPMENT CARDS

CARD	FUNCTION	POSSIBLE SLOT
LAQ	Card for 48 analogue terminals	0 to 9
LAE	Card for 32 analogue terminals	0 to 9
LAH	Card for 32 analogue hotel terminals (lamp)	0 to 9
LAF	Card for 16 analogue terminals	0 to 9
DL48	Card for 48 digital terminals	0 to 9
DL32	Card for 32 digital terminals	0 to 9
LNQ	Card for 48 digital terminals	0 to 9
LAJ	Card for 32 digital terminals (AVA)	0 to 9
LAK	Card for 16 digital terminals (AVA)	0 to 9
LIE	TL + RON/TRON or 50Hz Colisee card (2/4 wires)	0 to 9
LRF	Kit for 8 analogue network trunks + doc + ARLRF plug	0 to 9

##### CLX CARDS

CARD	FUNCTION	POSSIBLE SLOT
LDT-A	16 T0 / S0 / DECT base station interfaces	0, 1, 2 and 7
LDT-B	8 T0 / S0 / DECT base station interfaces	0, 1, 2 and 7
ADQ	1T2 or 1S2 or 1T1 or 1PCM primary flow access card	0, 1, 2 and 7
ADQ2	2T2 or 1S2 or 2T1 or 1PCM primary flow access card	0, 1, 2 and 7
PVI	10/100 base T flat mode Ethernet interface	0, 1, 2 and 7

##### DAUGHTER CARDS

FTXA	50Hz charge unit detector
FTXC	12 KHz/16 KHz charge unit detector
4E-8 VOIP	VOIP card for PT2 and PVI - 8 channels
4E-16 VOIP	VOIP card for PT2 and PVI - 16 IP channels
4E-32 VOIP	VOIP card for PT2 and PVI - 32 channels
ADPCM32B	Daughter card for LDT card, for eight 4-channel DECT base stations

### 4.3.4.2 Upgraded systems



**Note :** For information about upgrade in the real sense of it, see the document **AMT/PTD/PBX/0113/EN**.

After F4 system hardware and software upgrade the different configurations managed on Web Admin are:

- FPS back plane (A500S configuration)
- FPG back plane (A500G configuration)
- FPHBG2 back plane (FPHBG), (A50S-2 configuration (A50S))
- FPT30B back plane (FPT30), (A50T-B configuration (A50T))
- FPD30B back plane (FPD30), (A50D-B configuration (A50D)).

Web Admin manages 8 types of back plane (with 5 different capacities). Each type of back plane corresponds to an A500x/A50x type in order to identify each system obtained after upgrade.

Each old F4 cluster becomes an A500x or A50x site (in a multi-site architecture) (500x or 50x is used to identify the back plane). The loop is relaced by an IP network.

The new USV processor card is derived from the UCV card and adjusted to transfer the connector to the back of the shelf.

The USV card is accompanied by the ACUSV card which is the connector card that supports the connector on the front panel of UCV cards.

The clusters are maintained in their current cabinet.

The expansion, equipment and CLX cards are retained.

The application software is that of AX series systems, adjusted to support new clusters.

#### *4.3.4.2.1.1 FPS back plane (A500S configuration)*

This back plane is located in the system shelf (USB+UCB+Cluster 2) of F4 NX500.

It comprises:

- 7 slots for equipment cards (0-6)
- 4 slots for CLX cards (0-2, 7).

These shelves do not have any power supply slot. Power is supplied by the power supply shelf.

#### *4.3.4.2.1.2 FPG back plane (A500G configuration)*

This back plane is located inside the cluster shelves of F4 NX500.

It comprises:

- 10 slots for equipment cards (0-9)
- 4 slots for CLX cards (0-2, 7).

These shelves do not have any power supply slot. Power is supplied by the power supply shelf.

#### *4.3.4.2.1.3 FPHBG2 back plane (FPHBG), (A50S-2 configuration (A50S))*

This back plane is located in the system shelf (USB+UCB+Cluster 2) of F4s earlier than NX500.

It comprises:

- 1 power module
- 5 slots for equipment cards (0-4)
- 4 slots for CLX cards (0-3).

#### 4.3.4.2.1.4 *FPT30B back plane (FPT30), (A50T-B configuration (A50T))*

This back plane is located inside the "Telephony" cluster shelves of F4s earlier than NX500.

It comprises:

- 1 power module
- 10 slots for equipment cards (0-9)
- 3 slots for CLX cards (0-2).

#### 4.3.4.2.1.5 *FPD30B back plane (FPD30), (A50D-B configuration (A50D))*

This back plane is located inside the "Data" cluster shelves of F4s earlier than NX500.

It comprises:

- 1 power module
- 6 slots for equipment cards (0-5)
- 7 slots for CLX cards.

#### 4.3.4.2.1.6 *Cards managed*

##### 4.3.4.2.1.6.1 *Equipment cards*

The following equipment cards are supported by the different shelf types:

CARD	FUNCTION	POSSIBLE SLOTS
LNQ	For connecting digital terminals (48 ports)	0-9
DL48	For connecting digital terminals (48 ports)	0-9
DL32	For connecting digital terminals (32 ports)	0-9
LAJ	For connecting digital terminals (32 ports)	0-9
LAK	For connecting digital terminals (16 ports)	0-9
LAQ	For connecting analogue terminals (48 ports)	0-9
LAE	For connecting analogue terminals (32 ports)	0-9
LAH	For connecting analogue terminals with message indicator light (32 ports)	0-9
LAF	For connecting analogue terminals (16 ports)	0-9
LIE	50 Hz tie line or RON/TRON interface, 2 or 4 wires (4 ports)	0-9
LRF	Analogue network interface (8 ports)	0-9
LRN	PCM interface (1 or 2 ports)	0-1

4.3.4.2.1.6.2 *CLX cards*

The following CLX cards are supported by the different shelf types:

CARD	FUNCTION	POSSIBLE SLOTS
PVI	10/100 Base TX Ethernet controller (1 port) and VOIP gateway (32 channels)	0-7
LDS	T0/S0/DECT connection (8/16 ports)	0-7
LDT	T0/S0/DECT connection (8/16 ports)	0-7
ADQ	T2/S2/PRI/T1 connection (1 or 2 ports) 1 or 2 T2, 1 or 2 PRI, 1 S2 1 or 2 T1	0-7
		0-3
CLM	16-channel asynchronous connection	0-7
CLA	16-channel asynchronous connection	0-7
CLF	4-channel asynchronous/synchronous connection	0-7
CCP	Four X25 TDM coupler connection	0-7

4.3.4.2.1.7 *CPU card slots*

The USV card offers the same slots as the UCV1L card with an additional slot for a 3rd EIP.

So, the slots and LSB rank for the CPU card are:

CARD TYPE	SLOT	LSB RANK
Ptx	0-04	0x05
Hscx	0-05	0x06
VM	0-06	0x07
Tms	0-08	0x09
Eip	0-09	0x0A
Eip	0-10	0x0B
Eip	0-11	0x0C

4.3.4.2.1.8 *Expansion card slots*

Unlike the slots of X series cabinets, the slots of Mitel 500/A50 shelves are not generalised.

For each type of Mitel 500/A50 shelf a certain number of slots are dedicated to CLX cards and others are dedicated to equipment cards.

For all Mitel 500/A50 shelves, there are 10 equipment slots and 8 CLX slots, that is a total of 18 slots. Therefore, it is not possible to represent all the slots in an Mitel 500 shelf on the basic XL cabinet model (16 common slots per cabinet).

The representation chosen internally for Mitel 500/A50 shelves is as follows:

- CLX cards are fitted into the basic cabinet of the GammeX model and the associated slot names are 1-C0 to 1-C7.
- Equipment cards are fitted into expansion cabinet 1 of the GammeX model, and the associated slot labels are 1-00 to 1-09

This representation makes it possible to show a shelf in the same way as an XL, to have some unique logical security block ranks for all types of Mitel 500/A50 shelves and propose upgrades between shelves.

<b>COMMON SLOTS INTERNAL MANAGEMENT</b>	<b>LSB RANK</b>	<b>CARD SLOTS</b>	<b>FPS</b>	<b>FPG</b>	<b>FPHBG FPHBG2</b>	<b>FPT30 FPT30B</b>	<b>FPD30 FPD30B</b>
<b>BASIC CABINET</b>							
<b>0</b>	<b>0x10</b>	<b>1-C0</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>1</b>	<b>0x11</b>	<b>1-C1</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2</b>	<b>0x12</b>	<b>1-C2</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>3</b>	<b>0x13</b>	<b>1-C3</b>			<b>X</b>		<b>X</b>
<b>4</b>	<b>0x14</b>	<b>1-C4</b>					<b>X</b>
<b>5</b>	<b>0x15</b>	<b>1-C5</b>					<b>X</b>
<b>6</b>	<b>0x16</b>	<b>1-C6</b>					<b>X</b>
<b>7</b>	<b>0x17</b>	<b>1-C7</b>	<b>X</b>	<b>X</b>			
<b>EXP CABINET 1</b>							
<b>0</b>	<b>0x20</b>	<b>1-00</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>1</b>	<b>0x21</b>	<b>1-01</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2</b>	<b>0x22</b>	<b>1-02</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>3</b>	<b>0x23</b>	<b>1-03</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>4</b>	<b>0x24</b>	<b>1-04</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5</b>	<b>0x25</b>	<b>1-05</b>	<b>X</b>	<b>X</b>		<b>X</b>	<b>X</b>
<b>6</b>	<b>0x26</b>	<b>1-06</b>	<b>X</b>	<b>X</b>		<b>X</b>	
<b>7</b>	<b>0x27</b>	<b>1-07</b>		<b>X</b>		<b>X</b>	
<b>8</b>	<b>0x28</b>	<b>1-08</b>		<b>X</b>		<b>X</b>	
<b>9</b>	<b>0x29</b>	<b>1-09</b>		<b>X</b>		<b>X</b>	

#### 4.3.4.2.1.9 Location of LSB drivers

The USV card offers the same slots as the UCV1L card with an additional slot for the CUSV /ACUSV card.

So, the slots and LSB rank for the CPU card are:

CARD TYPE	SLOT	LSB RANK
UC	1-0A	0x00
<b>CUSV</b>	<b>1-0C</b>	<b>0x02</b>
ADS	1-0D	0x03

#### 4.3.4.2.2 XD system

The XD system consists of one main cabinet and, if necessary, one or two expansion cabinets.

The equipment number of an item is preceded by the number of the cabinet in which it is located:

- 1 = main cabinet
- 2 = 1st expansion cabinet
- 3 = 2nd expansion cabinet

*Example:* Card 1-15 (card in slot 15 of the main cabinet)

Each cabinet contains:

- 16 common card slots, numbered 00 to 15
- 2 UCV-D card (Central Processing Unit) slots on the main cabinet or RUCV-D on expansion cabinets A and B
- 1 IUCV-D slot (card supporting the connector for the system's external connections), marked as C
- 2 power unit slots, marked as D and E.

**Table 2: Slots in an XD cabinet**

IUCV-D (C)		Power supply module 2 (E)
UCV-D (B) / RUCV-D (B)		
UCV-D (A) / RUCV-D (A)		
01	00	Power supply module 1 (D)
03	02	
01	01	
05	04	
07	06	
09	08	
11	10	
13	12	
15	14	

#### 4.3.4.2.3 XL system

The XL system consists of one main cabinet and, if necessary, one or two expansion cabinets.

The equipment number of an item is preceded by the number of the cabinet in which it is located:

- 1 = main cabinet
- 2 = 1st expansion cabinet
- 3 = 2nd expansion cabinet

*Example:* Card 1-03 (card in slot 03 of the main cabinet)

Each cabinet contains:

- 14 common card slots, numbered 00 to 13
- 1 UCV card (Central Processing Unit) slot on the main cabinet or RUCV on expansion cabinets A
- 1 power unit slot, marked as D.

Each cabinet contains 14 slots numbered from 00 to 13, corresponding to the following physical positions:

**Table 3: Slots in an XL cabinet**

UCV (A) / RUCV (A)		Power supply module (D)
01	00	
03	02	
05	04	
07	06	
09	08	
11	10	
13	12	

#### 4.3.4.2.4 XS system

The XS system consists of one main cabinet and possibly one expansion cabinet.

The equipment number of an item is preceded by the number of the cabinet in which it is located:

- 1 = main cabinet
- 2 = 1st expansion cabinet

*Example:* Card 1-03 (card in slot 03 of the main cabinet)

Each cabinet contains:

- 3 common card slots, numbered 00 to 02
- 1 UCV card (Central Processing Unit) slot on the main cabinet or RUCV on expansion cabinets A
- A power unit D, located on the rear side of the cabinet.

**Table 4: Slots in an XS cabinet**

02	01	00
UCV (A) / RUCV (A)		

#### 4.3.4.3 Common boards

Menu **System>Setting>Boards>Common boards**

##### 4.3.4.3.1 Mitel 5000 Gateways systems (XD, XL and XS)

This command is used to:

- Display the common cards currently available on the system, as well as their status
- Modify the status of a common card
- Declare a new card in a free slot.



**Note :** The cards available in the cabinets are recognised upon system start. A hot-plugged card, on the other hand, is not detected. It must be declared and enabled or disabled so as to be used.

Declaring cards not yet inserted in the cabinets makes it possible to provision slots that can be assigned to subscriptions (menu **SUBSCRIBERS>Subscriptions>Automatic equipment allocation**).

#### CARD X-YY: TYPE

.....	No card
<b>LNx/DL 16 DIG. SUB</b>	LN16X card for 16 digital subscribers or DL16 card for 16 digital subscribers, with power-saving function (see Section 9).
<b>LNx/DL 08DIG.SUB</b>	LN8X card for 8 digital subscribers or DL8 card for 8 digital subscribers, with power-saving function (see Section 9).
<b>LN8 08 DIG. SUB</b>	LN8 card for 8 digital extensions.
<b>LAX/LHX 16 ANA. SUB</b>	LA16X/LH16X card for 16 analogue extensions.
<b>LAX/LHX 08 ANA. SUB</b>	LA16X/LH16X card for 8 analogue extensions.
<b>LA8/LH8 08 ANA. SUB</b>	LA8/LH8 card for 8 analogue extensions.
<b>LM8 08 DIG/ANA.</b>	LM8 card for 4 digital extensions and 4 analogue extensions.
<b>LR4/LR4E 4 ANA.LI</b>	LR4 card with 4 analogue trunk line equipment interfaces.
<b>LR4A 4SUPPL.LR</b>	LR4 card with 4 analogue trunk line equipment interfaces.
<b>LI1 TIE LINE</b>	LI1 card for 2- or 4-wire tie-line equipment interfaces.
<b>CA1</b>	Card for 4 V24 asynchronous links.
<b>CS1</b>	Card for 2 X25 asynchronous links.
<b>CP1</b>	Packet circuit coupler card with two equipment interfaces.
<b>LT2 ISDN T2 (24tS)</b>	LT2 card in T2 configuration.
<b>REDUCED LT2</b>	LT2 card in reduced configuration (limited to 16TS).

<b>S2 ISDN LT2</b>	LT2 card in S2 configuration.
<b>PRI ISDN LT2 (24 ts)</b>	LT2 card in PRI ISDN configuration
<b>PCM LT2 (32it)</b>	LT2 card in PCM configuration
<b>T1 PCM LT2</b>	LT2 card in T1 PCM configuration
<b>LD4</b>	LD4/LD4N card for T0/S0 access, 2- or 4-channel radio base stations.
<b>LD4X</b>	LD4X card for T0/S0 access, 2- or 4-channel radio base stations. NOTE: The card is compatible only with software release 4.1 and later.
<b>BVF</b>	Voice mail resource on the CPU card.
<b>00 CHANNEL PTx</b>	PTx card which performs gateway (TCP/IP-X25) and tunnelling (X25 tun. over IP) functions. NOTE: No PTx card can be enabled unless the network cable is connected.
<b>08 CHANNEL PTx</b>	PTx card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 8 voice over IP circuit management functions. NOTE: No PTx card can be enabled unless the network cable is connected.
<b>16 CHANNEL PTx</b>	16-channel PTx card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 16 voice over IP circuit management functions. NOTE: No PTx card can be enabled unless the network cable is connected.
<b>32 CHANNEL PTx</b>	32-channel PTx card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 32 voice over IP circuit management functions. NOTE: No PTx card can be enabled unless the network cable is connected.
<b>IPS</b>	IP card with the SIP GATEWAY (GSI) application used to manage SIP extensions or SIP trunks.

Type of card.

If a card is inserted in the corresponding slot (X-YY), or is declared and in "UNEQUIPPED" state, this field is for information purpose.

If the slot is empty, it is possible to declare one a card for this slot. The card will then be seen by the system as UNEQUIPPED. To be able to assign the corresponding slots to subscribers, you must first change the status of the card declared to DISABLED.

#### - STATUS: "CURRENT STATE"

For changing the card status.

<b>.....</b>	No changing of card status.
<b>IN SERVICE</b>	Puts the card in service.
<b>DISABLED</b>	Disables the card.
<b>NOT EQUIP.</b>	Changes the card status to UNEQUIPPED. This operation may be necessary before changing the card physically. For more information on how to replace a card, refer to the Installation and Maintenance Manual [1].

**CURRENT STATE** shows the card status: in service, out of service, download, disabled, in alarm, faulty, unequipped.

#### 4.3.4.3.2 A500X and A50X systems

This command is used to:

- Display the common cards currently available on the system, as well as their status
- Modify the status of a common card
- Declare a new card in a free slot.



**Note :** The cards available in the cabinets are recognised upon system start. A hot-plugged card, on the other hand, is not detected. It must be declared and enabled or disabled so as to be used.

Declaring cards not yet inserted in the cabinets makes it possible to provision slots that can be assigned to subscriptions (menu **SUBSCRIBERS>Subscriptions>Automatic equipment allocation**).

Depending on system type, the list of proposed positions is different and concerns the constraints indicated in Section 4.3.4.1.

For CLX cards:

### CARD 1-CX: TYPE

With X depending on the system type, the following cards are proposed:

•••••••• <b>00 CHANNEL PVI</b>	No card PVI card which performs gateway (TCP/IP-X25) and tunnelling (X25 tun. over IP) functions. NOTE: No PVI card can be enabled unless the network cable is connected.
<b>08-CHANNEL PVI</b>	PVI 8 card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 8 voice over IP circuit management functions. NOTE: No PVI card can be enabled unless the network cable is connected.
<b>16-CHANNEL PVI</b>	16-channel PVI card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 16 voice over IP circuit management functions. NOTE: No PVI card can be enabled unless the network cable is connected.
<b>32-CHANNEL PVI</b>	32-channel PVI card which performs gateway (TCP/IP-X25), tunnelling (X25 tun. over IP) and 32 voice over IP circuit management functions. NOTE: No PVI card can be enabled unless the network cable is connected.
<b>08-ACCESS LDT</b>	LDT 8 card for 8-access T0/S0 access, 2- or 4-channel radio base stations.
<b>16-ACCESS LDT</b>	LDT 16 card for 16-access T0/S0 access, 2- or 4-channel radio base stations.
<b>08-ACCESS LDS</b>	LDS 8 card for 8-access T0/S0 access, 2- or 4-channel radio base stations.
<b>16-ACCESS LDS</b>	LDS 16 card for 16-access T0/S0 access, 2- or 4-channel radio base stations.
<b>ISDN ADQ 1 T2</b>	T2 connection (1 port)
<b>2T2 ISDN ADQ</b>	T2 connection (2 port)
<b>S2 ISDN ADQ</b>	S2 connection (1 port)

For equipment cards:

### CARD 1-0X: TYPE

With X depending on the system type, the following cards are proposed:

<b>LNQ/DL 48 DIG. SUB</b>	LNQ card for 48 digital subscribers or DL48 card for 48 digital subscribers, with power-saving function (see Section 9).
<b>LNQ/DL 32 DIG. SUB</b>	LNQ card for 32 digital subscribers or DL32 card for 32 digital subscribers, with power-saving function (see Section 9).
<b>LAJ 32 DIG. SUB</b>	Card for 32 digital terminals (AVA)
<b>LAK 16 DIG. SUB</b>	
<b>LAQ 48 ANA. SUB</b>	48 analogue terminals
<b>LAE/LAH 32 ANA. SUB</b>	LAE, 32 analogue terminals/ LAH 32 analogue terminals Hotel version
<b>LAF 16 ANA. SUB</b>	16 analogue terminals
<b>LIE 4 TIE LINES</b>	Card for 2- or 4-wire tie-line equipment interfaces.
<b>LRF 8 ANA LR</b>	Analogue network interface (8 ports)
<b>LRN-1 PCM</b>	1 port PCM interface
<b>LRN-2 PCM</b>	2 port PCM interface

Type of card.

If a card is inserted in the corresponding slot (1-0X), or is declared and in "UNEQUIPPED" state, this field is for information purpose.

If the slot is empty, it is possible to declare one a card for this slot. The card will then be seen by the system as UNEQUIPPED. To be able to assign the corresponding slots to subscribers, you must first change the status of the card declared to DISABLED.

#### - STATUS: "CURRENT STATE"

For changing the card status.

<b>.....</b>	No changing of card status.
<b>IN SERVICE</b>	Puts the card in service.
<b>DISABLED</b>	Disables the card.
<b>NOT EQUIP.</b>	Changes the card status to UNEQUIPPED. This operation may be necessary before changing the card physically. For more information on how to replace a card, refer to the Installation and Maintenance Manual [1].

**CURRENT STATE** shows the card status: in service, out of service, download, disabled, in alarm, faulty, unequipped.

#### 4.3.4.4 *Mother board / migration*

Menu **System>Setting>Cards>Motherboard / migration**

- This command is not available for MiVoice 5000 Server.

This command is used to display device hardware and software configurations, and change from one system to another.

- The hardware view corresponds to the actual platform and cannot be modified.
- The software view corresponds to the database content and cannot be modified.

In general, the hardware and software configurations are identical. They may vary in the following cases:

- If an XS, XL or XD expansion cabinet is added (or removed)
- If you carry out a back-up / restore operation (for instance XS configuration back-up and restore on an XL)
- If you migrate from one system to another.

##### 4.3.4.4.1 **XD system**

###### **UCT: HARDWARE VIEW**

This field is meant to be a table header for the line below. It is used to know the current status of hardware and software configurations.

###### **CONFIGURATION "CONF"**

Used to change from one system to another (adding or removing one expansion cabinet).

**XD** 1-cabinet XD configuration

**AXXD** 2-cabinet XD configuration

**AXXXD** 3-cabinet XD configuration

**CONF** indicates the system hardware configuration: **XD**, **AXXD**, or **AXXXD**.



**Note :** For more information on how to add an expansion cabinet, refer to the **Installation and Maintenance Manual [1]**.

###### **PTX IN 0-04: "CURRENT STATE"**

For changing the status of the integrated PTX function on the CPU card.

•••••• No change of PTX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**HSCX IN 0-05: "CURRENT STATE"**

For changing the status of the integrated HSCX function on the CPU card (virtual CP1 card, circuit/packet coupling function).

..... No change of HSCX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**BVF IN 0-06: "CURRENT STATE"**

For changing the status of the integrated VMAIL function on the CPU card (virtual VMAIL card, voice mail function, announcements, IVS, IVB).

..... No change of VMAIL function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: *in service, disabled, in alarm, faulty, downloading.*

**CLASS SERVICE TYPE**

**V23** **Q23**

CLASS service allows analogue terminals to receive the following information about the current call: Caller number (if there is no call offering restriction) and date and time of call (only available in V23 mode).

Select V23 for standard European class sets and DTMF for Danish class sets.



**Note :** This field is only available for a configuration on which two set types are used.

**TMS VC5409 IN 0-08**

**5409 : SUBSC. + SUBSC.**

**5409 : SUBSC. + SOCOTEL**

**5409 : SUBSC. + R2**

.....

Type of TMS (Multi-signal processing).

**STATUS: "CURRENT STATE"**

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....

For changing the TMS status.

**CURRENT STATE** indicates the TMS status: *in service, disabled, in alarm, faulty, downloading.*

**EIP IN 0-10: "CURRENT STATE"**

**Note :** This set of 2 parameters is only available if an EIP daughter card is installed. It can be displayed for slots 0-09 and 0-10.

For changing the integrated VoIP resources on the CPU card (EIP daughter card).

..... No changing of the VoIP resources status.

**IN SERVICE** Puts the VoIP resources in service.

**DISABLED** Disables the VoIP resources.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"**

Number of VoIP resources using the software.

**NB\_CURRENT EQP** shows the number of VoIP resources on the CPU card for the current slot.

#### 4.3.4.4.2 XL system

##### UCT: HARDWARE VIEW

This field is meant to be a table header for the line below. It is used to know the current status of hardware and software configurations.

##### CONFIGURATION "*CONF*"

Used to change from one system to another (adding or removing an expansion cabinet), changing from an XL cabinet to an XD cabinet).

**XL** 1-cabinet XL configuration.

**AXXL** 2-cabinet XL configuration.

**AXXXL** 3-cabinet XL configuration.

**XD** 1-cabinet XD configuration

**AXXD** 2-cabinet XD configuration

**AXXXD** 3-cabinet XD configuration

**CONF** indicates the current system configuration: **XL**, **AXXL**, or **AXXXL**.



**Note :** For more information on how to add an expansion cabinet, refer to the [Installation and Maintenance Manual \[1\]](#).

##### PTX IN 0-04: "CURRENT STATE"

For changing the status of the integrated PTX function on the CPU card.

•••••••• No change of PTX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

##### HSCX IN 0-05: "CURRENT STATE"

For changing the status of the integrated HSCX function on the CPU card (virtual CP1 card, circuit/packet coupling function).

•••••••• No change of HSCX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

##### BVF IN 0-06: "CURRENT STATE"

For changing the status of the integrated VMAIL function on the CPU card (virtual VMAIL card, voice mail function, announcements, IVS, IVB).

- .....** No change of VMAIL function status.
- IN SERVICE** Enables the function.
- DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**CLASS SERVICE TYPE**

- V23** **Q23**

CLASS service allows analogue terminals to receive the following information about the current call: Caller number (if there is no call offering restriction) and date and time of call (only available in V23 mode).

Select V23 for standard European class sets and DTMF for Danish class sets.



**Note :** This field is only available for a configuration on which two set types are used.

**TMS VC5409 IN 0-08**

- 5409 : SUBSC. + SUBSC.** **5409 : SUBSC. + SOCOTEL** **5409 : SUBSC. + R2** **.....**

Type of TMS (Multi-signal processing).

**STATUS: "CURRENT STATE"**

- IN SERVICE** **NOT EQUIP.** **DISABLED** **.....**

For changing the TMS status.

**CURRENT STATE** indicates the TMS status: in service, disabled, in alarm, faulty, downloading.

**EIP IN 0-10: "CURRENT STATE"**



**Note :** This set of 2 parameters is only available if an EIP daughter card is installed. It can be displayed for slots 0-09 and 0-10.

For changing the integrated VoIP resources on the CPU card (EIP daughter card).

- .....** No changing of the VoIP resources status.
- IN SERVICE** Puts the VoIP resources in service.
- DISABLED** Disables the VoIP resources.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"**

Number of VoIP resources using the software.

**NB\_CURRENT EQP** shows the number of VoIP resources on the CPU card for the current slot.

4.3.4.4.3 **XS system**

**UCT: HARDWARE VIEW**

This field is meant to be a table header for the line below. It is used to know the current status of hardware and software configurations.

**CONFIGURATION "CONF"**

Used to change from one system to another (adding or removing an expansion cabinet), changing from an XS cabinet to an XL or XD cabinet).

**XS** 1-cabinet XS configuration.

**AXXS** 2-cabinet XS configuration.

**XL** 1-cabinet XL configuration.

**AXXL** 2-cabinet XL configuration.

**AXXXL** 3-cabinet XL configuration.

**XD** 1-cabinet XD configuration

**AXXD** 2-cabinet XD configuration

**AXXXD** 3-cabinet XD configuration

**GX-GLOBAL** Software view, used for XS => XL or XS => XD migration, which shows the positions of XS on the CPU card and the common positions of XL/XD. It is thus possible to request the transfer of the extensions located on the XS CPU card to a new location on XL/XD. Once the extensions are transferred, we recommend that you realign the software view and the hardware view.

**CONF** indicates the current system configuration: **XS** or **AXXS**.



**Note :** For more information on how to add an expansion cabinet, refer to the [Installation and Maintenance Manual \[1\]](#).

**DIG. EN 0-00: "CURRENT STATE"**

For changing the status of the integrated DIG. function on the CPU card (digital terminal connection function).

..... No change of DIG. function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"**

Number of digital sets using the software.

**NB\_CURRENT EQP** indicates the number of digital sets on the CPU card.

**ANAL EN 0-01: "CURRENT STATE"**

For changing the status of the integrated ANAL. function on the CPU card (analogue terminal connection function).

•••••••• No change of ANAL. function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"

Number of analogue sets using the software.

**NB\_CURRENT EQP** indicates the number of analogue sets on the CPU card.

#### S/T0 IN 0-02: "CURRENT STATE"

For changing the status of the integrated S/T0 function on the CPU card (virtual card, LD4, ISDN terminal connection function).

•••••••• No change of S/T0 function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### T0 IN 0-03: "CURRENT STATE"

For changing the status of the integrated T0 function on the CPU card (virtual card, LD4, connection to an ISDN based access).

••••~•••• No change of T0 function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"

Number of T0 accesses using the software.

**NB\_CURRENT EQP** indicates the number of T0 accesses on the CPU card.

#### PTX IN 0-04: "CURRENT STATE"

For changing the status of the integrated PTX function on the CPU card.

••••~•••• No change of PTX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: *in service, disabled, in alarm, faulty, downloading.*

#### HSCX IN 0-05: "CURRENT STATE"

For changing the status of the integrated HSCX function on the CPU card (virtual CP1 card, circuit/packet coupling function).

••••~•••• No change of HSCX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### BVF IN 0-06: "CURRENT STATE"

For changing the status of the integrated VMAIL function on the CPU card (virtual VMAIL card, voice mail function, announcements, IVS, IVB).

••••••••	No change of VMAIL function status.
<b>IN SERVICE</b>	Enables the function.
<b>DISABLED</b>	Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### CLASS SERVICE TYPE

**V23**   **Q23**

CLASS service allows analogue terminals to receive the following information about the current call: Caller number (if there is no call offering restriction) and date and time of call (only available in V23 mode).

Select V23 for standard European class sets and DTMF for Danish class sets.



**Note :** This field is only available for a configuration on which two set types are used.

#### TMS VC5409 IN 0-08

**5409 : SUBSC. + SUBSC.**   **5409 : SUBSC. + SOCOTEL**   **5409 : SUBSC. + R2**   **.....**

Type of TMS (Multi-signal processing).

#### STATUS: "CURRENT STATE"

**IN SERVICE**   **NOT EQUIP.**   **DISABLED**   **.....**

For changing the TMS status.

**CURRENT STATE** indicates the TMS status: in service, disabled, in alarm, faulty, downloading.

#### EIP IN 0-10: "CURRENT STATE"



**Note :** This set of 2 parameters is only available if an EIP daughter card is installed. It can be displayed for slots 0-09 and 0-10.

For changing the integrated VoIP resources on the CPU card (EIP daughter card).

••••••••	No changing of the VoIP resources status.
<b>IN SERVICE</b>	Puts the VoIP resources in service.
<b>DISABLED</b>	Disables the VoIP resources.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

#### NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"

Number of VoIP resources using the software.

**NB\_CURRENT EQP** shows the number of VoIP resources on the CPU card for the current slot.

#### 4.3.4.4.4 Case of A500x and A50x systems

##### UCT: HARDWARE VIEW

This field is meant to be a table header for the line below. It is used to know the current status of hardware and software configurations.

##### "A5XX" CONFIGURATION

The value indicated in the **A5xx configuration field** shows the current system type.

The available options are also used to define the destination shelf type in case of upgrade to Mitel 500 or A50:

- A500S
- A500G
- A50S
- A50T
- A50D
- A5XX-GLOBAL

For information on upgrade, see the documentation on how to upgrade M6550IP, NeXspan 50 and NeXspan 500 iPBXs to Mitel Mitel 500 - AMT/PTD/PBX/0113/EN.

##### PTX IN 0-04: "CURRENT STATE"

For changing the status of the integrated PTX function on the CPU card.

•••••••• No change of PTX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

##### HSCX IN 0-05: "CURRENT STATE"

For changing the status of the integrated HSCX function on the CPU card (virtual CP1 card, circuit/packet coupling function).

•••••••• No change of HSCX function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

##### BVF IN 0-06: "CURRENT STATE"

For changing the status of the integrated VMAIL function on the CPU card (virtual VMAIL card, voice mail function, announcements, IVS, IVB).

••••~•••• No change of VMAIL function status.

**IN SERVICE** Enables the function.

**DISABLED** Disables the function.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

##### CLASS SERVICE TYPE

**V23** **Q23**

CLASS service allows analogue terminals to receive the following information about the current call: Caller number (if there is no call offering restriction) and date and time of call (only available in V23 mode).

Select V23 for standard European class sets and DTMF for Danish class sets.



**Note :** This field is only available for a configuration on which two set types are used.

**TMS VC5409 IN 0-08****5409 : SUBSC. + SUBSC.****5409 : SUBSC. + SOCOTEL****5409 : SUBSC. + R2**

.....

Type of TMS (Multi-signal processing).

**STATUS: "CURRENT STATE"****IN SERVICE****NOT EQUIP.****DISABLED**

.....

For changing the TMS status.

**CURRENT STATE** indicates the TMS status: in service, disabled, in alarm, faulty, downloading.

**EIP IN 0-10: "CURRENT STATE"**

**Note :** This set of 2 parameters is only available if an EIP daughter card is installed. It can be displayed for slots 0-09, 0-10 and 0-11.

For changing the integrated VoIP resources on the CPU card (EIP daughter card).

.....

No changing of the VoIP resources status.

**IN SERVICE**

Puts the VoIP resources in service.

**DISABLED**

Disables the VoIP resources.

**CURRENT STATE** shows the status of the function: in service, disabled, in alarm, faulty, downloading.

**NUMBER OF EQUIPMENT: "NB\_CURRENT EQP"**

Number of VoIP resources using the software.

**NB\_CURRENT EQP** shows the number of VoIP resources on the CPU card for the current slot.

**4.3.4.5** *Power supply / duplex*

Menu **System>Setting>Cards>Power supply:duplex**

- This command is not available for MiVoice 5000 Server.

This command is used to:

- Display / change the system configuration (SIMPLEX / DUPLEX)
- Display the status of the UCV and RUCV cards (ACTIVE / PASSIVE)
- Manually switch over from active card to passive card
- Display / change the status of the power supply / ventilation modules.



**Note :** **DUPLEX configurations for UCV cards and for power supply modules are only available for XD type systems.**

**UC CONFIGURATION****SIMPLEX** **DUPLEX**

System configuration:

- Simplex configuration: the system is fitted with only one CPU card (in the main cabinet and in the expansion cabinet(s))
- Duplex configuration: the system is fitted with two CPU cards (in the main cabinet and in the expansion cabinet(s)) Available only for an XD system.



**Note :** To change from Simplex configuration to Duplex configuration, select Duplex and press Enter to confirm. The system will take into account the second UCV-D (and RUCV-D) card and ensure as soon as possible full synchronisation between the active card and the new passive card (software, data, announcements, IVS, etc.). The passive card then becomes active during the next switchover.

**- UC 1-"POSITION" ACTIVE "CURRENT STATE"**

This information field indicates the active UCV card status.

**POSITION** indicates the active UCV card's position in the main cabinet: 0a or 0b.

**CURRENT STATE** shows the active UCV card status: *in service, disabled, in alarm, faulty, downloading.*

**- UC 1-"POSITION" PASSIVE "CURRENT STATE"**

In a duplex configuration, this field is used to view and modify the status of the passive UCV-D card.

**POSITION** indicates the passive UCV-D card's position in the main cabinet: 0a or 0b.

**CURRENT STATE** shows the passive UCV-D card status: *in service, disabled, in alarm, faulty, downloading.*

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is available only in duplex configuration of an XD system.

**- IUC 1-0C "CURRENT STATE"**

This field is used to view and modify the status of the IUCV-D card.

**CURRENT STATE** shows the IUCV-D card status: *in service, disabled, in alarm, faulty, downloading.*

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is only available for an XD system.

**- RUC 2-"POSITION" ACTIVE "CURRENT STATE"**

This field is used to view and modify the status of the active RUCV card in the first expansion cabinet.

**POSITION** indicates the active RUCV card's position in the first expansion cabinet: 0a or 0b.

**CURRENT STATE** indicates the status of the active RUCV card in the first expansion cabinet: in service, disabled, in alarm, faulty, downloading.

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is available only for a system with at least one expansion cabinet.

**- RUC 2-"POSITION" PASSIVE "CURRENT STATE"**

This field is used to view and modify the status of the passive RUCV card in the first expansion cabinet.

**POSITION** indicates the passive RUCV-D card's position in the first expansion cabinet: 0a or 0b.

**CURRENT STATE** indicates the status of the passive RUCV-D card in the first expansion cabinet: in service, disabled, in alarm, faulty, downloading.

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is available only for an XD system in duplex configuration, with at least one expansion cabinet.

**- RUC 3-"POSITION" ACTIVE "CURRENT STATE"**

This field is used to view and modify the status of the active RUCV card in the second expansion cabinet.

**POSITION** indicates the active RUCV card's position in the second expansion cabinet: 0a or 0b.

**CURRENT STATE** indicates the status of the active RUCV card in the second expansion cabinet: in service, disabled, in alarm, faulty, downloading.

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is available only for a system with two expansion cabinets.

**- RUC 2-"POSITION" PASSIVE "CURRENT STATE"**

This field is used to view and modify the status of the passive RUCV card in the second expansion cabinet.

**POSITION** indicates the passive RUCV-D card's position in the second expansion cabinet: 0a or 0b.

**CURRENT STATE** indicates the status of the passive RUCV-D card in the second expansion cabinet: in service, disabled, in alarm, faulty, downloading.

The following transitions are possible:

**IN SERVICE**

**NOT EQUIP.**

**DISABLED**

.....



**Note :** This field is available only for an XD system in duplex configuration, with two expansion cabinets.

### POWER SUPPLY CONFIGURATION

#### - POSITION X-0Y: TYPE

..... Unknown module or empty slot.

**ADS** Power supply module.

**VADS** Ventilation module (not applicable to A500x and A50x)

Each of these parameters can be used to display/change the type of module available in the slot indicated (slot D or E; for more details about the slots, refer to Paragraph 4.3.4.1).



**Note :** Position 1-0Y corresponds to a position of the main cabinet, while position 2-0Y corresponds to a position of the expansion cabinet, and position 3-0Y a position of the second expansion cabinet.

Once a module is identified in a position, the following field is displayed:

#### STATUS: "CURRENT STATE"

Status of the power supply module (ADS) or ventilation module (VADS).

**CURRENT STATE** indicates the module status: *in service, disabled, in alarm, faulty*.

The following transitions are possible:

**IN SERVICE**

**DISABLED**

.....

#### BATTERY

For a power supply module, this information field indicates whether a battery is connected (PRESENT) or not (ABSENT).



**Note :** This field only appears for an ADS power supply module.

#### TEMP

This information field indicates the internal temperature (in °C) of the power supply/ventilation module (temperature measured by sensors located inside the module). When the temperature exceeds a certain threshold (fixed by the manufacturer), the (ADS or VADS) status changes to "IN ALARM".

#### ALARM



**Note :** This field is displayed only when the status of the power supply module (ADS) or ventilation module (VADS) concerned is "IN ALARM".

Information field indicating the type of alarm displayed by the power supply module or ventilation module.

Possible values are: battery lost, ventilator, temperature, ring voltage and rectifier voltage.



**Note :** The "mains failure", "ringer power", and "rectifier power" alarms concern only the power supply module.

#### 4.3.4.6 IP board parameters

Menu **System>Setting>Cards>IP board parameters**

This command is used to:

- View the list of declared PTX cards (including the virtual card fitted on the UCV card corresponding to position 0-04), the IP addresses and the associated sub-network masks.
- Display and change the parameters of a declared IP card.

The list of declared IP cards is displayed.

##### 4.3.4.6.1 Case of Mitel 5000 Gateways

#### SLOT

Indicates the location of the card in the following form: cabinet No. (0 to 3) – position in the cabinet (00 to 15).

#### For XD, XL and XS

The values of the cabinet number correspond to:

- 0 : CPU card
- 1 : main cabinet
- 2 : first expansion cabinet
- 3 : second expansion cabinet
- Then click the access concerned by the IP parameter definition.

The screen then proposes the following fields:



**WARNING : After these parameters are defined, click Confirmation so the configuration can be taken into account.**

#### IP ADDRESS

IP address of the card.

This is the LAN port IP address used for telephony and data administration when the voice and administration networks are not separated.

If the voice and administration networks are separated, it is the port dedicated to telephony (see USING AN ADMIN NETWORK, below).

Example: 192.42.11.154

Restrictions: 0.0.0.0, 255.255.255.255 and 127.0.0.1 are not valid addresses.



**Note :** The integrated IP port on the UCV CPU card is declared automatically (pre-defined IP address = 192.168.65.01 and sub-network mask = 255.255.255.0). This function is used to manage the system (after a TOTAL Reset) internally via an MiVoice 5000 Manager (MiVoice 5000 Manager) connected to the Ethernet port of the UCV CPU card using a twisted cable. You can then re-configure the UCV IP address.



**Note :** The decimal value of the first byte must not be greater than 223; if it is, the MMC displays the message: ' SYNTAX ERROR '.

### **MASK**

- This parameter is not available for MiVoice 5000 Server.

The IP address mask which comprises the number of the sub-network and the number of the set on the sub-network.

The sub-network address and IP address must respect the following relations:

- if the first bit of the IP address is 0 (class A), the sub-network address must be in the form: 255.xxx.xxx.xxx,
- if the first 2 bits of the IP address are 10 (class B), the sub-network address must be in the form: 255.255.xxx.xxx
- if the first 3 bits of the IP address are 110 (class C), the sub-network address must be in the form: 255.255.255.xxx.

### **DEFAULT ROUTER**

- This parameter is not available for MiVoice 5000 Server.

IP address of router. This parameter is optional.

### **USE ETH2**

This option allows the following features to be enabled on the ETH2 port:

- Separation of administration and telephony flows (declaring a specific network for each flow type)
- Tracing in real time the ETHERNET frames passing through the integrated switch of the CPU card by connecting a PC to the ETH 2 interface of the UCV card (twisted cable)
- Using the ETH 2 interface of the UCV card as backup interface of the main LAN IP interface on UCV.

### **ADMIN NETWORK**

- Refer also to the specific document AMT\_PTD\_PBX\_0101/EN - Separation of Telephony and Administration Flows (Implementation Manual).

This option is used to activate the separation of MiVoice 5000 Administration and Telephony flows.

This flow separation is configured simply, automatically and statically on Mitel 5000 Gateways and will be fully under the installer's responsibility on MiVoice 5000 Server.

To secure the access to the PBX configuration, it is possible to dissociate voice flows (for telephone subscribers) from administration flows. To make this separation on Mitel 5000 Gateways , the two CPU card accesses are used, one access for each flow, and a firewall integrated into the PBX in order to block administration flows on the voice access and only authorise administration flows on the administration access:

- The CPU card LAN access is dedicated to telephony.
- The CPU card ETH2 access is dedicated to administration.

During a first installation, the network separation may be configured with Ctrl + i. See Installation and Maintenance Manual (AMT/PTD/PBX/0058/EN\*).



**Note :** For information about the flows of data handled by the MiVoice 5000 solution and the supported protocols, see the appendix to this document.

### PORT MIRRORING

Connect the PC, dedicated to traces, via a twisted cable to the ETH2 port.

The feature is similar to the one used during an IP dump (see Section 0). It should not be activated at the same time.

Selecting this feature displays the following lines so the ports to be captured can be specified (checkbox):

- **CPU port**
- LAN port
- **EIP ports 0-09**
- **EIP ports 0-10**

EIP ports 0-09, and 0-10 are only displayed if these cards are fitted on the PBX.

- Click **Confirmation** to activate the feature.



**Note :** If an IP dump is operational, the message **ACTIVE FUNCTION** is displayed.

### BACKUP IP LINK

If this function is activated, access to the IP network is on the ETH2 port in case of failure (interruption) of the main LAN port.

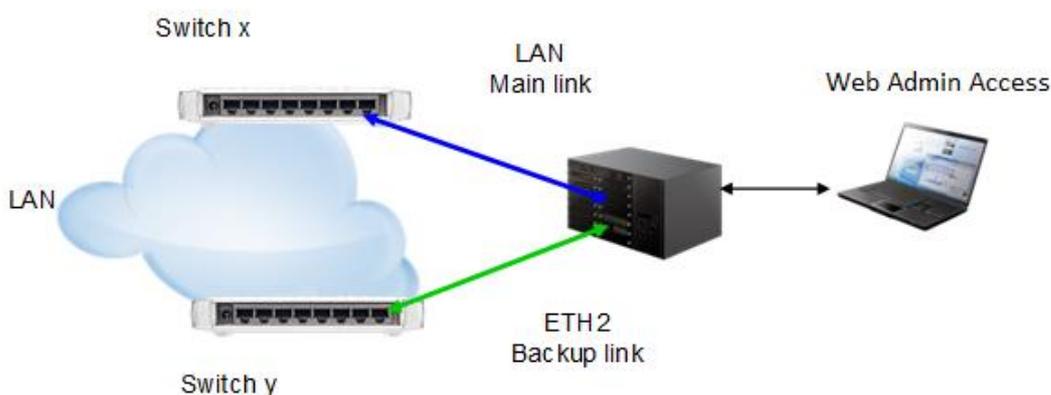
For this backup configuration, the ETH2 port must be connected to the same network but on a switch different from that of the LAN port. Seen from the network, the IP and MAC addresses are the same.

If the LAN port becomes operational again, there is an automatic switchover to the main LAN port.

- Click **Confirmation** to activate the feature.



**Note :** The switchover phases are indicated in the logbook.

Principle:**IP ADDRESS**

IP address of the administration network assigned to the ETH2 port.

**MASK**

The IP address mask which comprises the number of the sub-network and the number of the set on the sub-network.

**DEFAULT ROUTER**

IP address of the router dedicated to the administration network. This parameter is optional.

If the DHCP server of the Mitel 5000 Gateways is used, the Gateway address is the address of the external router.

**DNS ADDRESS 1/2**

Names of the DNS of the virtual PTX card. These parameters are optional:



**Note :** These fields are only available for the virtual PTx card.

**UDP PORT**

UDP port number of the IP card (value between 2050 and 65000)

Default value: 40000.

**TCP PORTS: FIRST NUMBER**

First number of the IP card TCP port range (value between 0 and 65534). Default value: 41000.

**- LAST NUMBER**

Last number of the IP card TCP port range (value between 0 and 65534). Default value: 41999.

The difference between the first and last number of the port must be at least equal to 500. If this difference is not respected, the second number is automatically updated to restore this difference.

**DAYTIME FUNCTION AUTHORISED**

This function is used to send the date (DayTime) to the IPS card connected to the system. This value is sent via the network either from the CPU card or the PTX card of the cabinet, according to the IP access configuration:

- For the CPU card, the box is ticked by default, thus giving priority to date transmission through the CPU card.
- For PTx cards, the box is not ticked by default.

**ETHERNET ADDRESS**

Information field indicating the ETHERNET (or MAC) address of the card(s) in case of network separation (see USING AN ADMIN NETWORK).

This address is displayed as hexadecimal values separated by dashes.

If the card is not in service, the Ethernet address is replaced by: ".....".

**LINK TYPE**

- This parameter is not available for MiVoice 5000 Server.

Information field indicating the type of IP link to the card:

- ..... (no link present, card “not connected” or “disabled”)
- 10 Mb HALF DUPLEX
- 10 MB FULL DUPLEX
- 100 MB Half Duplex
- 100 MB Full Duplex

#### 4.3.4.6.2 Case of MiVoice 5000 Server

For MiVoice 5000 Server only slot 0-00 is proposed, for the PC network card.

- Then click the access concerned by the IP parameter definition.

The screen then proposes the following fields:



**CAUTION :** After these parameters are defined, click **Confirmation** so the configuration can be taken into account.

##### IP ADDRESS

IP address of the PC card configured for the network in question.

If voice and administration networks are separated, this IP address corresponds to the telephony network; see USING AN ADMIN NETWORK.

##### USING AN ADMIN NETWORK

To dissociate the flows on the MiVoice 5000 Server, one or more network cards can be used, depending on the PC configuration.

The administrator may configure the card to be used for each network (telephony or administration):

- The card dedicated to the telephony network must be indicated on top in the first **IP address** field.
- The card dedicated to the administration network must be indicated in the **IP address** field, in the **Use an admin network** area.

By default, the same card is used for both networks. A firewall is integrated into the MiVoice 5000 Server in order to activate the data flows.

This firewall cannot be configured from Web Admin.

The administrator is responsible for configuring the firewall.

##### IP ADDRESS

Options list which determines the IP address dedicated to the administration network

##### FQDN :ADMIN

FQDN value of the iPBX which allows its access through secure connection (https) for the administration network.

##### UDP PORT

UDP port number of the IP card (value between 2050 and 65000)

Default value: 40000.

##### TCP PORTS: FIRST NUMBER

First number of the IP card TCP port range (value between 0 and 65534). Default value: 41000.

##### - LAST NUMBER

Last number of the IP card TCP port range (value between 0 and 65534). Default value: 41999.

The difference between the first and last number of the port must be at least equal to 500. If this difference is not respected, the second number is automatically updated to restore this difference.

**FQDN:**

FQDN value of the iPBX which allows its access through secure connection (https) for the telephony network.

**ADDITIONAL LOCAL NETWORKS**

Possibility to add public class subnets as a local network on the MiVoice 5000 Server.

This field is only taken into account if a Let's Encrypt type Certificate has been declared on the MiVoice 5000 Server.

Format: @ IP / mask (\* separated by spaces)

@IP V4 and / or V6

**SIP FILTER (REGISTERS/SEC)**

Field applicable to the MiVoice 5000 server only.

This field is used to modify the value of the GSI application field (limiting the number of registers per second).

**DAYTIME FUNCTION AUTHORISED**

This function is used to send the date (DayTime) to the IPS card connected to the system. This value is sent via the network either from the CPU card or the PTX card of the cabinet, according to the IP access configuration:

- For the CPU card, the box is ticked by default, thus giving priority to date transmission through the CPU card.
- For PTx cards, the box is not ticked by default.

### 4.3.4.6.3 Case of A500x and A50x series systems

#### SLOT

- CLX cards are fitted into the basic cabinet of the GammeX model and the associated slot labels are 1-C0 to 1-C7.
- Equipment cards are fitted into expansion cabinet 1 of the GammeX model, and the associated slot labels are 1-00 to 1-09 .
- Then click the access concerned by the IP parameter definition.

The screen then proposes the following fields:



**CAUTION :** After these parameters are defined, click Confirmation so the configuration can be taken into account.

#### IP ADDRESS

IP address of the card.

This is the LAN port IP address used for telephony and data administration when the voice and administration networks are not separated.

If the voice and administration networks are separated, it is the port dedicated to telephony (see USING AN ADMIN NETWORK, below).

Example: 192.42.11.154

Restrictions: 0.0.0.0, 255.255.255.255 and 127.0.0.1 are not valid addresses.



**Note :** The integrated IP port on the CPU card is declared automatically (pre-defined IP address = 192.168.65.01 and sub-network mask = 255.255.255.0). This function is used to manage the system (after a TOTAL Reset) internally via an MiVoice 5000 Manager to the Ethernet port of the CPU card using a twisted cable. You can then re-configure the USV IP address.



**Note :** The decimal value of the first byte must not be greater than 223; if it is, the MMC displays the message: ' SYNTAX ERROR '.

#### MASK

The IP address mask which comprises the number of the sub-network and the number of the set on the sub-network.

The sub-network address and IP address must respect the following relations:

- if the first bit of the IP address is 0 (class A), the sub-network address must be in the form: 255.xxx.xxx.xxx,
- if the first 2 bits of the IP address are 10 (class B), the sub-network address must be in the form: 255.255.xxx.xxx
- if the first 3 bits of the IP address are 110 (class C), the sub-network address must be in the form: 255.255.255.xxx.

#### DEFAULT ROUTER

IP address of router. This parameter is optional.

## USE LAN B

This option allows the following features to be enabled on the LAN B port:

- Separation of administration and telephony flows (declaring a specific network for each flow type)
- Tracing in real time the ETHERNET frames passing through the integrated switch of the CPU card by connecting a PC to the LAN B interface of the UCV card (twisted cable)
- Using the LAN B interface of the UCV card as backup interface of the main LAN IP interface on UCV.

## ADMIN NETWORK

- Refer also to the specific document AMT\_PTD\_PBX\_0101/EN - Separation of Telephony and Administration Flows (Implementation Manual).

This option is used to activate the separation of MiVoice 5000 Administration and Telephony flows.

This flow separation is configured simply, automatically and statically on Mitel 5000 Gateways and will be fully under the installer's responsibility on MiVoice 5000 Server.

To secure the access to the PBX configuration, it is possible to dissociate voice flows (for telephone subscribers) from administration flows. To make this separation on Mitel 5000 Gateways, the two CPU card accesses are used, one access for each flow, and a firewall integrated into the PBX in order to block administration flows on the voice access and only authorise administration flows on the administration access:

- The CPU card LAN access is dedicated to telephony.
- The CPU card LAN B access is dedicated to administration.

During a first installation, the network separation may be configured with Ctrl + i. See Installation and Maintenance Manual (AMT/PTD/PBX/0058/EN\*).



**Note :** For information about the flows of data handled by the MiVoice 5000 solution and the supported protocols, see the appendix to this document.

## PORT MIRRORING

Connect the PC, dedicated to traces, via a twisted cable to the LAN B port.

The feature is similar to the one used during an IP dump (see Section 0). It should not be activated at the same time.

Selecting this feature displays the following lines so the ports to be captured can be specified (checkbox):

- **CPU port**
- **LAN port**
- **EIP ports 0-09**
- **EIP ports 0-10**

EIP ports 0-09, and 0-10 are only displayed if these cards are fitted on the PBX.

- Click **Confirmation** to activate the feature.



**Note :** If an IP dump is operational, the message **ACTIVE FUNCTION** is displayed.

## BACKUP IP LINK

If this function is activated, access to the IP network is on the LAN B port in case of failure (interruption) of the main LAN port.

For this backup configuration, the LAN B port must be connected to the same network but on a switch different from that of the LAN port. Seen from the network, the IP and MAC addresses are the same.

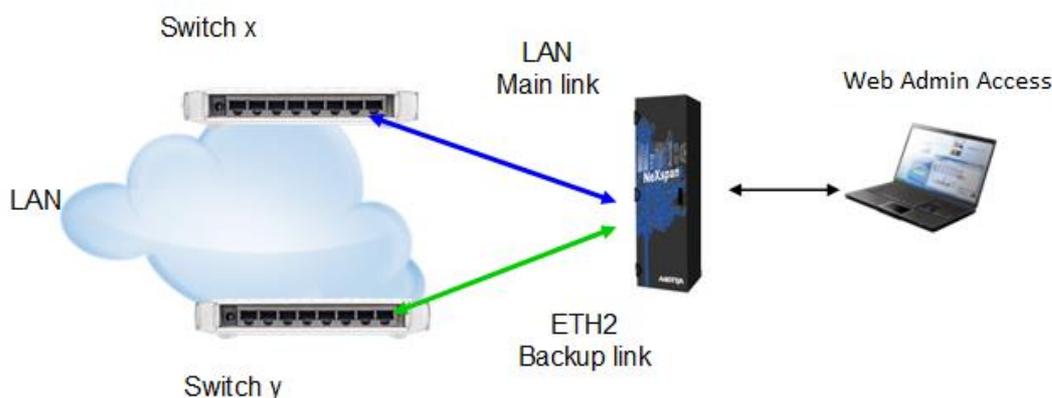
If the LAN port becomes operational again, there is an automatic switchover to the main LAN port.

- Click **Confirmation** to activate the feature.



**Note :** The switchover phases are indicated in the logbook.

Principle:



## IP ADDRESS

IP address of the administration network assigned to the LAN B port.

## MASK

The IP address mask which comprises the number of the sub-network and the number of the set on the sub-network.

## DEFAULT ROUTER

IP address of the router dedicated to the administration network. This parameter is optional.

If the DHCP server of the Mitel 5000 Gateways is used, the Gateway address is the address of the external router.

## DNS ADDRESS 1/2

Names of the DNS of the virtual PTX card. These parameters are optional:



**Note :** These fields are only available for the virtual PTx card.

## UDP PORT

UDP port number of the IP card (value between 2050 and 65000)

Default value: 40000.

## TCP PORTS: FIRST NUMBER

First number of the IP card TCP port range (value between 0 and 65534). Default value: 41000.

**- LAST NUMBER**

Last number of the IP card TCP port range (value between 0 and 65534). Default value: 41999.

The difference between the first and last number of the port must be at least equal to 500. If this difference is not respected, the second number is automatically updated to restore this difference.

**DAYTIME FUNCTION AUTHORISED**

This function is used to send the date (DayTime) to the IPS card connected to the system. This value is sent via the network either from the CPU card or the PTX card of the cabinet, according to the IP access configuration:

- For the CPU card, the box is ticked by default, thus giving priority to date transmission through the CPU card.
- For PTx cards, the box is not ticked by default.

**ETHERNET ADDRESS**

Information field indicating the ETHERNET (or MAC) address of the card(s) in case of network separation (see USING AN ADMIN NETWORK).

This address is displayed as hexadecimal values separated by dashes.

If the card is not in service, the Ethernet address is replaced by: ".....".

**LINK TYPE**

Information field indicating the type of IP link to the card:

- ..... (no link present, card “not connected” or “disabled”)
- 10 Mb HALF DUPLEX
- 10 MB FULL DUPLEX
- 100 MB Half Duplex
- 100 MB Full Duplex

**4.3.4.7 Admin network IP routes**

Menu **System>Setting>Cards>Admin network IP routes**

- This command is not available for MiVoice 5000 Servers.
- Refer also to the specific document AMT\_PTD\_PBX\_0101/EN - Separation of Telephony and Administration Flows (Implementation Manual).

This menu is used to create static IP paths for the administration network if the voice and administration networks are separated (see also the previous section).

When the administration network contains several subnets, a client terminal may reach the Mitel 5000 Gateways device on the administration network through different paths (to access Web Admin, for instance).

Therefore, it is necessary to define a path to this client, or else the Mitel 5000 Gateways device will set up a path via the telephony network because it does not know that this subnet address (and default gateway) used is the default gateway of the telephony network.



**Note :** So, the administration network gateway will always be used during route creation.

#### **PATH X: IP ADDRESS**

X: 1 to 120.

This line is used to enter the IP address of the area to be reached with this path.

The system checks the syntax and displays the error diagnosis "SYNTAX ERROR" if the value entered is not in the w.x.y.z format, or if 0.0.0.0 or 255.255.255.255 is entered.

The first time an IP address is entered, the associated mask is forced to 255.255.255.0.

When an IP address is deleted, the associated mask is deleted as well.

#### **MASK**

This line is used to enter the mask which defines the area to be reached with this path.

This line is only displayed if an IP address exists for this path.

The system checks the syntax and displays the error diagnosis "SYNTAX ERROR" if the value entered is not in the w.x.y.z format, or if 0.0.0.0 or 255.255.255.255 is entered. Moreover, the MMC checks that the value entered is a subnet mask, that is that the significant bits are contiguous and the important bit is on 1. If this is not the case, or if the mask is deleted, the error report "INCORRECT VALUE" is displayed.



**Note :** In this menu, the system does not check whether several paths access the same area (case of network inclusion). On the other hand, the system will delete double entries so only the required routes are configured.

Up to 120 routes can be created (IP address and mask).

The changes are saved when the menu is closed.

#### 4.3.4.8 *ISDN board switches status*

Menu **System>Setting>Cards>ISDN boards switches status**

- This command is not available for MiVoice 5000 Server.

This command is used to display the jumper status for each ISDN access of UCV-S cards (XS). It also displays the status of the LD4X card jumpers available on the system.

The ISDN jumper status display table indicates:

- The ISDN access location (the S/T0 subscribers of the CPU card are located in positions 0-02-00 to 0-02-03)
- The ISDN subscriber type: T0 (trunk group), S0 (set), DECT (DECT base station)
- The name of associated trunk group (for a network, DECT base station) or directory number (for an S0 set)
- Whether access is synchronised status of jumper CA1.1 of the LD4X card)
- Whether the access is powered remotely, in which case the voltage used is displayed (40 V or 48 V).



**Note :** The remote power supply information provided by the LD4X card is only valid if the card is in service.

#### 4.3.4.9 *VMAIL configuration*

Menu **System>Setting>Cards>Vmail configuration**

- This menu is not available for MiVoice 5000 Server.

The system's VMAIL (voicemail) offers the following three functions:

- The announcement function, used to broadcast audio announcements to a remote set
- The IVS function, which offers interactive voice response to a remote set
- The IVB function which offers an interactive voicemail box to each subscriber as well as an e-voicemail service for sending by e-mail the messages left on the interactive voicemail box.



**Note :** The e-voicemail service requires a software key code.  
For more information about the e-voicemail service, see the description of the menu: **System>Setting>E-mail.**

This menu is used to enable/disable voice mail functions, and display IVS characteristics

##### 4.3.4.9.1 **BVF access board configuration**

Menu **System>Setting>Cards>Vmail configuration**

This command is used to display the current status of accesses to the Announcement, IVS and IVB functions, and to modify them.

#### **0-06-00 DIR. NO STATUS**

Physical location of the announcement function and status of access to the function.

The current status of the function is indicated in the field name (here, the announcement function is in service). The possible values for the announcement function status are:

- In service

- Disabled
- Out of service

The drop-down list is used to change the status of the function.

#### **0-06-01 IVS. STATUS**

Physical location of the IVS function and status of access to the function.

The current status of the function is indicated in the field name (here, the IVS function is disabled). The possible values for the IVS function status are:

- In service
- Disabled
- Out of service

The drop-down list is used to change the status of the function.

#### **0-06-01 IVB. STATUS**

Physical location of the IVB function and status of access to the function.

The current status of the function is indicated in the field name (here, the IVB function is in service). The possible values for the IVB function status are:

- In service
- Disabled
- Out of service

The drop-down list is used to change the status of the function.

#### **4.3.4.9.2 General characteristics of IVS IVB**

##### **Menu `System>Setting>Cards>Vmail configuration`**

This command is used to display the hardware information of the interactive voice server and voicemail resource.

The screen displayed is an information screen: no value can be changed.

The IVS general characteristics display screen shows:

- The location of the voicemail resource
- The flash memory size expressed in megabytes
- The firmware version (16 alphanumeric characters maximum)
- The compression law (A law, used in Europe,  $\mu$  law, used in North America, Japan and Australia)
- 2-character value indicating the country's code (XF for France, GE for Germany, GB for Great Britain, etc.)
- Country index (not used)
- The echo cancellation rate (associated with the DTMF detector) expressed in milliseconds.

## 4.3.5 OPERATING TERMINALS

Menu **System>Setting>Operating terminals**

- This menu is used to:
- Define the connection and access mode between the system and its peripheral devices (console, modem, printer).
- Define the numbers authorised to connect to Web Admin via the HSCX modem
- Define the characteristics of PPP connections.



**Note :** On an MiVoice 5000 Server, only connection timeout is concerned.

### CONSOLE TIME-OUT (SECONDS)

Period during which the management session can remain inactive without disconnection. At the end of this period, if no action is taken, the connection expires.

To access iPBX management again, you must open a new connection by clicking the corresponding



button on MiVoice 5000 Web Admin.

By default, this timeout is fixed at its maximum value: 600 seconds.

### 4.3.5.1 *Characteristics*

Menu **System>Setting>Operating terminals**

- This command is not available for MiVoice 5000 Server.

#### CONSOLE:

#### - REMOTE OPER. ACCESS, VIRTUAL PAD

If you tick this box, console access can be through remote operation.

**MODEM:****- REMOTE OPER. ACCESS, VIRTUAL PAD**

The remote maintenance modem integrated into the iPBX is accessible via a remote modem, especially for remote maintenance operations.

If you tick this box, the remote maintenance modem can be accessed through remote operation.

**- ACCESS MODE****MINITEL**

Remote maintenance modem access mode.

**- TO ACTIVATE CALLING FILTERING**

If you tick this box, only the numbers authorised to connect to the maintenance modem can set up connection.

The list of numbers authorised to connect to the maintenance modem is contained in NETWORK AND LINKS>Data links>Remote identifiers.



**Note :** This parameter cannot be modified by the remote caller.

**- TO ACTIVATE CALLS MONIT. (LGB)**

If you tick this box, traces of calls to the remote maintenance modem are activated, as well as their transmission to the logbook.



**Note :** This parameter cannot be modified by the remote caller.

**CONSOLE TIME-OUT (SECONDS)**

Period during which the management session can remain inactive without disconnection. At the end of this period, if no action is taken, the connection expires.

To access iPBX management again, you must open a new connection by clicking the corresponding



button on MiVoice 5000 Web Admin.

By default, this timeout is fixed at its maximum value: 600 seconds.

**LOCAL PPP AUTHENTICATION:****- LOGIN**

Login for the local PPP connection.

Default value: **user**

**- PASSWORD**

Password for the local PPP connection.

Default value: **guest**

**PRINTER**

**- SPEED****V24.1200 V24.2400 V24.4800 V24.9600**

Transmission speed selection for the printer.

**- FLOW CONTROL WAIT IN SECONDS**

Wait duration is seconds, set by default at 40 seconds (maximum 99 seconds).

The wait duration must be selected according to the printer connected and its management type. Some printers only reply with code "XON" (character transmission restart) after a total dump of their internal buffers. In this case, transmission is suspended for 20 or 30 seconds or more. Other printers authorise transmission restart as soon as there is memory space available.

The message "printer unavailable" only appears at the end of the wait period. If a value is too small, the printout is aborted, and the diagnostic message is displayed (incorrectly). It is therefore advisable to adjust this parameter according to the configuration encountered.

**- LOGBOOK OUTPUT DUMP**

If you tick this box, the logbook is gradually printed out on the printer.

**VIRTUAL PAD CONNECTION REMAINS**

If you tick this box, the PAD links are maintained even if no information passes on the line. Otherwise, a link is cut once the inactivity timeout is attained.

**4.3.5.2 HSCX modem allowed numbers**

Menu **System>Setting>Operating terminals>HSCX modem allowed numbers**

- This command is not available for MiVoice 5000 Server.

This command is used to define the numbers allowed for HSCX modem input.

You can define up to 10 number ranges.

**NUMBER 0 TO 9**

Complete or incomplete number (in this case, a range of numbers is defined) according to the numbering plan. The number must contain the output prefix.

All the numbers defined are authorised for input on the HSCX modem, the others will be rejected.



**WARNING : If no number is defined (list blank), all the numbers will be accepted for input on the HSCX modem.**

**4.3.5.3 PPP connections**

Menu **System>Setting>PPP connections**

This command is used to configure the PPP connections for remote IP access.

Up to 5 PPP connections can be configured:

- 1 inbound connection on the serial port
- 1 inbound connection via a HSCX modem (for remote access to Web Admin)
- 3 outbound connections via a HSCX modem (for sending SNMP traps, for example).

The PPP CONNECTIONS screen indicates for each PPP connection configured:

- The connection number
- Its type
- The local IP address (on the iPBX side)
- The remote IP address.

To modify a defined PPP connection or to create a new one, click its number:

If the number corresponds to an undefined connection (type = .....), a first screen opens so you can select the type of connection to be defined:

#### TYPE



Select the type you want.

The PPP connection definition screen opens:

#### TYPE



Selecting the type ..... deletes the PPP connection.

#### LOCAL IP ADDRESS

IP address of the iPBX PPP interface.

#### IP REMOTE ADDRESS

IP address of the remote connection point.

#### AUTHENTICATION

This parameter is only available for incoming connections.

If the box is ticked, the remote system must provide a login/password during connection.

#### IPCP NEGOCIATION FOR IP ADRESS

This parameter is only available for incoming connections.

If this box is ticked, the IPCP control protocol will be implemented during connection. This option is used to connect to an IP address other than the one configured.

#### OPTIONAL WAY TO PPP INTERFACE

These parameters must be defined if a router is used that does not have the NAT (Network Address Translation) function.

#### - IP ADDRESS

IP address of the remote network.

#### - MASK

Subnet mask of the remote network.

#### REMOTE PHONE NUMBER

This parameter is only available for outgoing connections.

Remote PPP server number. This parameter is obligatory.

### **AUTHENTICATION LOGIN ON REMOTE SERVER**

#### **PASSWORD**

These authentication parameters are used for outbound connections.

## 4.3.6 ALARMS

Menu **System>Setting>Alarms**

This menu is used to:

- Define the general alarm-processing parameters
- Configure the transmission parameters for each alarm
- Apply a global configuration to all the alarms by type of output device
- Display the current configuration of alarm transmission parameters.

### 4.3.6.1 *Parameters*

Menu **System>Setting>Alarms>Parameters**

This menu is used to define the general parameters which apply:

- To the processing of alarms returned by the system:
  - possible generation of a service record
  - addresses of the different output devices
- To alarm validation: management of dry loops
- Configurer les seuils des alarmes ressources systèmes gérées par NRPE

This menu has three tabs:

- Alarms management,
- Alarms validation,
- NRPE configuration

#### 4.3.6.1.1 **Alarms management tab**

##### **SERVICE BILLING RECORDING**

###### Box to tick

If you tick the box, all the alarms returned will issue a service ticket.

If you do not tick the box, none of the alarms returned will issue a service ticket.

##### **MONITOR TEL. SET**

###### Box to tick

If you tick the box, all the alarms will activate an LED on the attendant console and on all the maintenance sets.

It is then also possible to request for a call to be sent to the telephone set whose number is indicated in the following field.

**- UNTIL THE NUMBER**

Number of the set from which the calls will be made.

**- AND ACKNOWLEDGED BY CODE**

Acknowledgement code on the called set. 4-digit value (authorised characters: 0, 1, ...9, #, \*).



**Note :** To acknowledge an alarm that has activated an LED on the attendant console and, thus, stop the flashing LED, you must set the EXT. ACK. alarm of the SUBSCR ACTION SBL to return to key.

**TO CENTRALISATION SITE**Box to tick

If you tick the box, all the alarms will be returned to the centralising sites defined by the following parameters SITE 1 and SITE 2.



**Note :** To acknowledge an alarm that has activated an LED on the attendant console and, thus, stop the flashing LED, you must set the EXT. ACK. alarm of the SUBSCR ACTION SBL to return to key.

**- SITE 1 / 2**

Name of the site(s) to which the alarms will be returned.

The drop-down lists of the parameters SITE 1 and SITE 2 contain the names of sites defined in the multi-site configuration.

**SNMP**

Options: V1 or V3 (upper security level)

This SNMP option list is used to set the local iPBX to SNMP V1 or V3. The proposed fields will differ according to the selected mode.

**SNMP V 1 mode****TO SNMP MANAGER 1 / 2 / 3**

SNMP manager IP address. If this field is completed, some SNMP traps will be sent to the corresponding SNMP manager for the alarms that meet the criteria defined in the following parameters.

The following 6 fields are only displayed if an IP address is entered.

Erreur !  
Des objets  
ne peuvent  
pas être  
créés à  
partir des  
codes de  
champs de  
mise en

**NOTE:** If the iPBX is managed by a MiVoice 5000 Manager, the SNMP manager of the MiVoice 5000 Manager must be configured as SNMP 1 Manager.



#### - LANGUAGE

Language in which the traps are sent.

#### - TRAP TYPE

##### ALARM LOGBOOK

Only the alarms meant for the alarm log will be part of an SNMP trap transmission.

##### LOGBOOK

Only the events meant for the logbook will be part of an SNMP trap transmission.

##### ALL

Total of the preceding two cases.



**Note :** For the MiVoice 5000 Manager SNMP manager, it is advisable to select **ALL**.

#### - TRANSMIT THRESHOLD

Indicates the alarm severity level as from which a trap will be sent.

.....

No filtering on the severity level.

##### WARNING

Transmission of an SNMP trap for alarms whose severity level is at least equal to **warning**.

##### MINOR ALARM

Transmission of an SNMP trap for alarms whose severity level is at least equal to **minor**.

##### SEVERE ALARM

Transmission of an SNMP trap for alarms whose severity level is at least equal to **severe**.

##### CRITICAL ALARM

Transmission of an SNMP trap for **critical** alarms only.

#### - COMMUNITY

The same community for all the SNMP traps sent to this SNMP manager.

#### - AGENT IDENTIFICATION

IP address of the agent sending the SNMP trap (value transmitted in the trap).

#### - NRPE (MIVOICE 5000 MANAGER)

This parameter has two functions:

- Activating the NRPE service (see NRPE tab)
- Locally storing the SNMP traps when the link with the server is cut, in order to transmit them in deferred mode

This parameter is activated by default if an MiVoice 5000 Manager is managing the iPbx.

**TO AD. X25 NO 1/2:**

X25 addresses to which alarms will be returned.

**- NOMBRE DE TENTATIVES**

Number of authorised attempts.

**- ATTEMPTS PERIOD (SEC)**

Interval in seconds between two consecutive attempts.

**SNMP V3 mode****Rules:**

It is forbidden to change to SNMP V3 mode if the iPBX does not have any dongle ID.

SNMP V3 mode can be assigned on a site or node basis in a cluster configuration.

If the local iPBX is a cluster server, changing to SNMP V3 also results in local management of message transmission to all the nodes so they take this change in configuration into account.

The following fields are specific to SNMP V3 mode (the others were previously described for SNMP V1 mode):

**EngineID:** PBX ID, greyed out text area, given for information only,

**PBX security name:** greyed out text area, given for information only.

**Secret:** password shared between MiVoice 5000 Manager and the iPBX, so MiVoice 5000 Manager can receive notifications and execute SNMP requests. This attribute can be modified by the user.

This field is limited to 16 characters. A secret must contain at least 8 characters, with at least one figure and one letter.

The **Secret** field is initialised with a value randomly generated by the system while changing to SNMP V3 mode or when an SNMP manager is added to an iPBX set to SNMP V3.

The **Community** field is hidden (not useful).

The Security name field gives a default name to each SNMP agent manager. This field is not modifiable.

The security names of SNMP managers assigned by default are: manager1, manager2 and manager3.

When the attribute **secret** is modified in the iPBX, a warning message is sent to MiVoice 5000 Manager.

It is advisable to manage the secret in MiVoice 5000 Manager during centralised management.

It is forbidden to stop the SNMP service in SNMP V3 mode (Menu **SYSTEM>Configuration>Services**). A warning message will be displayed during a request to stop this service.

Changing from SNMP V1 to V3, and vice versa, modifies the option proposed by the **MIB SNMP** menu (see Section **Erreur ! Source du renvoi introuvable.**).

In case of switchover from one mode to another, MiVoice 5000 Manager is alerted to it by the iPBX concerned. The aim is to prompt MiVoice 5000 Manager to update the site configuration so as to be able to continue managing the iPBX in the updated SNMP mode.

#### 4.3.6.1.2 Alarm validation TAB

- This group of parameters is not available for MiVoice 5000 Server.

##### **DRY LOOP ALARM MANAGEMENT 0 / 1 / 2 / 3**

Box to tick

If you tick the box, alarm transmission to the dry loop is activated.

For each of the fields "DRY LOOP ALARM MANAGEMENT" selected, the following two fields are displayed:

##### **- LABEL: ALARM**

Name of the dry loop input alarm.

##### **- ALARM BEGIN. IF OPEN LOOP**

Box to tick

If you tick the box, this parameter is used to configure the alarm direction.

On Mitel 5000 Gateways, there are 4 "dry-loop" that can return an alarm. The nature of the alarms varies and depends on the physical connection made to these dry loops:

If you select this option:

- Opening the dry loop: Begins the alarm
- Closing the dry loop: Stops the alarm.

If you do not select this option:

- Closing the dry loop: Begins the alarm
- Opening the dry loop: Stops the alarm.

##### **RECORD PARKED EXTENSIONS IN LOGBOOK**

Box to tick

If selected, parking will be recorded in the logbook.

One post parking, apart from the feature of parking his party during a call, is a proprietary terminal physically disconnected.

##### **HARDWARE STATE:**

##### **- TAKE ACCOUNT OF THE DISABLE STATE**

Box to tick

If selected, the calculation of the "site degradation state" indicator takes account of the cards' DISABLED status.



**Note :** During start in MCONF mode, the Disabled status is not taken into account in the severity profile calculation, which allows you to have a NORMAL site status with unused or disabled cards.



**Note :** During start in TOTAL mode, the Disabled status is taken into account in the severity profile calculation; the cabinet is thus seen as impaired with unused or disabled cards.

#### 4.3.6.1.3 NRPE configuration tab

NRPE - Nagios Remote Plug-in Executor

NRPE is an MiVoice 5000 plug-in used to return system resources alarms to the MiVoice 5000 Manager management centre Nagios module.

The monitored resources are the CPU load and system disk free space.

NRPE is managed like a system service: see Menu System>Services.

It is activated in two ways:

- Manually in the "Alarm management" tab, or
- Automatically when the iPbx is managed by MiVoice 5000 Manager.

#### THRESHOLDS BEFORE "WARNING" ALARM (IN %)

For the defined warning values, NRPE generates and sends a warning alarm to MiVoice 5000 Manager:

- **Average CPU load in 1 minute** 15 % by default
- **Average CPU load in 5 minutes** 10% by default
- **Average CPU load in 15 minutes** 5 % by default
- **Disk free space** 10% by default

#### THRESHOLDS BEFORE CRITICAL ALARM (IN %)

For the defined critical values, NRPE generates and sends an alarm to MiVoice 5000 Manager:

- **Average CPU load in 1 minute** 30 % by default
- **Average CPU load in 5 minutes** 25% by default
- **Average CPU load in 15 minutes** 20 % by default
- **Disk free space** 5% by default

#### 4.3.6.2 Individualized configuration

Menu **System>Setting>Alarms>Individualized configuration**

This command is used to configure, for each system alarm, the alarm transmission priority level according to output device. The configuration may apply to:

- A particular alarm
- All the alarms of an SBL group
- All the alarms.

#### DETECTION IN

**LOCAL SITE**

**OTHER SITE**

Origin of the alarm(s) concerned by the current configuration.



**Note :** This parameter is only available in multi-site configuration.

#### BY SBL GROUP

.....	POWER SUPPLY	PROCESSOR	ANAL TRK CARD
DIG TRK CARD	DATA CARD	SUBSCR CARD	VMAIL CARD
ANAL TRK DEV	DIG TRK DEV	DATA DEVICE	SUBSCR.DEV
MANAGEMENT	FALLBACK ACCESS	BILLING	SUBSCR ACTION
DRY LOOP	SUPERVISION	CPU_STARTUP	INTEGR. BUFFER
EXPORT BUFFER	CAC SERVER		

Name of the SBL group to which the alarm(s) concerned by the current configuration belong(s).

If you select ".....", all the alarms of all the SBL groups are concerned by the current configuration.

#### OF ALARM

Name of the alarm concerned by the current configuration.

The drop-down list contains the names of alarms for the selected SBL group.

If you select ".....", all the alarms of all the alarms of the selected SBL groups are concerned by the current configuration.

#### ROUTED TO

SET	Calls the set whose number was defined in the alarm parameters
KEY	Activated an LED on the attendant console.
TICKET	Triggers the transmission of an alarm service record.
MAIN	Returns the alarm to the centralising sites (CG or external set) defined in alarm parameters. This value is only available in multi-site configuration.
X25 ADDRESS	Sends the alarm to X25 addresses 1 and 2 defined in alarm parameters.
SNMP TRAP	For generating an SNMP trap, regardless of alarm ticket output, to SNMP managers whose IP addresses are defined in alarm parameters.

**R2 RELAY**

Activates or deactivates R2 relay when an alarm appears/disappears. This value is not available for an MiVoice 5000 Server.

Select the configuration criteria then click **Select item**.

Depending on type, the following information is displayed:

**ALARM: "TYPE"****Case of return to X25 address:****NOT TRANS.**

Alarm not transmitted.

**ADDRESS 1**

Alarm sent to X25 address 1.

**ADDRESS 2**

Alarm sent to X25 address 2.

**TO 2 ADDR**

Alarm sent to both X25 addresses.

**Case of return to R2 relay:****NOT TRANS.**

Alarm not transmitted.

**RUN**

Alarm results in the activation of R2 relay.

**DEACTIV.**

Alarm results in the deactivation of R2 relay.

**Other cases:****NOT TRANS.**

Alarm not transmitted.

**NOT URGENT**

Alarm with severity level NOT URGENT transmitted.

**URGENT**

Alarm with severity level URGENT transmitted.

**KEYING**

Alarm with severity level URGENT or NOT URGENT transmitted.

### 4.3.6.3 Global reset

Menu **System>Setting>Alarms>Global reset**

This command is used to define default processing for all SBL groups and alarms.



**WARNING : Global reset overwrites all previous individualised configurations made.**

The possible parameter values on this screen have the following meaning:

<b>NOT TRANS.</b>	Alarm not transmitted.
<b>NOT URGENT</b>	Alarm with severity level NOT URGENT transmitted.
<b>URGENT</b>	Alarm with severity level URGENT transmitted.
<b>KEYING</b>	Alarm with severity level URGENT or NOT URGENT transmitted.
<b>ADDRESS 1</b>	Alarm sent to X25 address 1.
<b>ADDRESS 2</b>	Alarm sent to X25 address 2.
<b>TO 2 ADDR</b>	Alarm sent to both X25 addresses.
<b>RUN</b>	Alarm results in the activation of R2 relay.
<b>DESACTIV.</b>	Alarm results in the deactivation of R2 relay.

#### DETECTION IN

**LOCAL SITE**

**OTHER SITE**

Origin of the alarms concerned by the reset operation.



**Note : This parameter is only available in multi-site configuration.**

#### REPORTED TO SET / KEY / TICKET

**NOT TRANS.**

**NOT URGENT**

**URGENT**

**KEYING**

Defines for each output the default processing for all SBL groups and alarms (set, key, ticket).

#### REPORTED TO CENTRAL.

**NOT TRANS.**

**NOT URGENT**

**URGENT**

**KEYING**

Defines, for return to a centralising site, the default processing for all SBL groups and alarms.



**Note : This parameter is only available in multi-site configuration.**

#### REPORT TO X25 ADDRESS

**NOT TRANS.**

**ADDRESS 1**

**ADDRESS 2**

**TO 2 ADDR**

Defines for the X.25 address output the default processing for all SBL groups and alarms.

#### REPORT TO SNMP TRAP

- This command is not available for MiVoice 5000 Server.

**NOT TRANS.**

**NOT URGENT**

**URGENT**

**KEYING**

Defines, for the transmission of an SNMP trap, the default processing for all SBL groups and alarms.

## REPORT TO R2 RELAY

- This command is not available for MiVoice 5000 Server.

**NOT TRANS.****RUN****DEACTIV.**

Defines, for return to the R2 relay, the default processing for all SBL groups and alarms.

## CONFIRMATION REINIT

**YES****NO**

If you select YES, the values selected on the screen are validated.

### 4.3.6.4 *Display of configuration*

Menu **System>Setting>Alarms>Display of the configuration**

This command displays the current configuration for each alarm.

To access this command, click "Display of configuration" from the "Alarms" menu.

## DETECTION IN

**LOCAL SITE****OTHER SITE**

Origin of the alarms concerned by the display operation.

Select the value you want then click **Select item**.

For each of the alarms (classified by SBL), the alarm configuration display screen shows:

- The alarm name
- The type of alarm transmission for return to a key
- The type of alarm transmission for return to a set
- The type of alarm transmission for ticket issuing
- The type of alarm transmission for return to a centralising site
- The type of alarm transmission for return to one or two X25 addresses
- The type of alarm transmission for return to an SNMP manager
- The type of alarm transmission for return to R2 relay.

## 4.3.7 TICKETS

### Menu **System>Setting>Tickets**

Tickets are issued by the site's KITAXE server.

In single-site configuration, the iPBX's integrated buffer module receives tickets from the KITAXE server, stores them in temporary files according to some configuration criteria, and exports the files to an area where they are made available to an external application.

In multi-site configuration, the MUFACT server centralises the tickets issued by the different sites by connecting to the KITAXE servers of each site. The iPBX's integrated buffer, on which the MUFACT server is located, receives the tickets from the MUFACT server and manages them in the same way as in single-site configuration.

### Menu **SYSTEME>Configuration>Records**

**In a Cluster configuration**, charging is centralised on the KITAXE server (See remark in Section 4.3.7.5.1 - General settings, and Section 4.3.7.5 - Menu Integrated buffer - ).

In case of interruption, in Cluster configuration:

- If the Cluster Server is disconnected, the nodes' network records are stored in the nodes.
- Upon reconnection, the records are retransmitted to the Cluster Server. All records are then stored in the Cluster Server BUFTIC.

This menu is used to:

- Configure the ticket output format
- Configure the size of the KITAXE server storage buffers
- Configure MUFACT server connections to the KITAXE server in multi-site configuration
- Configure the integrated buffer.

### 4.3.7.1 *Billing parameters*

#### Menu **System>Setting>Tickets>Billing parameters**

This command is used to configure the issuing of tickets by the KITAXE server, as well as their format.

----- **CHARGE RECORDS** -----

#### **USE OF FORMAT 4500**

**YES**

**NO**

If you select YES, the ticket can either be printed or processed by SMDR.

If you select NO, the ticket will be processed on a PAD link in 6500 format.

#### **STEP BY STEP DEFINITION**

**SMDR**

On a single line in "4500 format". This value is available if you select the 4500 format.

**PRINTER**

On several lines in "4500 format". This value is available if you select the 4500 format.

**PAD LINK**

If you are using PAD link, records are processed by an asynchronous link connected to the KITAXE or MUFACT server, in "6500 format".

**OUTPUT CHANNEL**

Billing data output is carried out on the main card (UCV) serial port in "6500 format".

**SITE NUMBER OVERRIDDEN IN RECORD**

Site number.

When a ticket is issued, the site number of the issuer is indicated on the ticket. This parameter is used to replace this value with a fixed number.

----- **CALL RECORDS** -----

**STEP BY STEP OUTPUT**

**YES**

**NO**

If you select YES, the call records issued by the KITAXE or MUFACT server are printed out on the printer or on the PAD link, depending on the value of the parameter 4500 OUTPUT FORMAT in the CALL RECORDS column.

Issuing call records on the PAD link requires the integrated buffer to call the KITAXE (or MUFACT) server with sub-address 00.

If you select NO, call records are not issued.



**Note :** If you select NO, none of the other parameters in the CALL RECORDS column will be available.

**OUTPUT FORMAT**

**SIMPLE FORMAT**

(82 characters)

**EXTENDED FORMAT V0**

(112 characters)

**EXTENDED FORMAT V1**

(128 characters)

**EXTENDED FORMAT V2**

(210 characters)

**EXTENDED FORMAT V3**

(246 characters)

**EXTENDED FORMAT V4**

(256 characters)

Call record output format. The format determines the number of fields appearing on the record.

**TRUNK IDENTIFIED BY**

**CARD/CHANNE  
L**

Number of the card and equipment channel.

**EQUIPMENT**

NTL (logic terminal number):



**Note :** This is the only pertinent mode in a cluster architecture.

Call ID type.

**TRUNCATE LAST 4 DIGITS**

**YES**

**NO**

If you select YES, the last 4 digits of the number dialled do not appear.

#### CALL TYPE

**INCOM. AND OUTGO.** Incoming and outgoing calls are printed out.

**INCOMING** Incoming calls are printed out.

**OUTGOING** Outgoing calls are printed out.

Filters the call records to be printed out step by step.

#### DELETE RECORDS W/OUT CHARGING

**YES** **NO**

If you select YES, only charged records will be printed out step by step.

**WARNING : If you select YES, incoming calls will also be deleted.**



#### INTERNAL CALL RECORD GENERATION

##### LAST INTERNAL COMPANY

Border company value authorising internal charging according to the parameter value.

**Default value:** all the companies are called internal companies.

**Other values:** (among the numbers defined) all companies below or equal to this border company are described as internal; companies above this border company are described as external.

The list of available company names is sorted in an ascending order of company numbers.

This line has a command for zooming to other company parameters:



**Note : Deleting a company defined as border company is forbidden in the Company name menu.**

#### DÉFINITION OF INTERNAL CHARGING RIGHTS

Default value: no local charging (none of the lines is ticked).

For each of the next lines, tick or untick the box depending on the internal charging rights to apply:

##### IN THE SAME INTERNAL COMPANY

Charging if the caller and called party belong to the same internal company.

Field always displayed.

##### IN THE SAME EXTERNAL COMPANY

Charging if the caller and called party belong to the same external company.

Displayed if at least one external company exists.

##### BETWEEN DIFFERENT INTERNAL COMPANIES

Charging if the caller and called party belong to two different internal companies.

Displayed if at least two internal companies exist.

##### BETWEEN DIFFERENT EXTERNAL COMPANIES

Charging if the caller and called party belong to two different external companies.

Displayed if at least two external companies exist and the multi-company alias indicator is set to YES.

#### **INTERNAL COMPANY TO EXTERNAL COMPANY (BIT 4)**

Charging if the caller belongs to an internal company and the called party belongs to an external company.

Displayed if at least one external company exists.

#### **EXTERNAL COMPANY TO INTERNAL COMPANY (BIT 5)**

Charging if the caller belongs to an external company and the called party belongs to an internal company.

Displayed if at least one external company exists.

#### **----- DATA RECORDS -----**

##### **STEP BY STEP OUTPUT**

**YES**

**NO**

If you select YES, the data records issued by the KITAXE or MUFACT server are printed out on the printer or on the PAD link, depending on the value of the parameter 4500 OUTPUT FORMAT in the CALL RECORDS column.

Issuing records on the PAD link requires the integrated buffer to call the KITAXE (or MUFACT) server with sub-address 10.

If you select NO, records are not issued.

If you select YES, the following field is available.

##### **OUTPUT FORMAT**

**SIMPLE FORMAT**

(82 characters)

**EXTENDED FORMAT V0**

(112 characters)

**EXTENDED FORMAT  
V1**

(128 characters)

Data record output format. The format determines the number of fields appearing on the record.

This field is only available if you select YES for the parameter STEP BY STEP OUTPUT.

#### **-----SERVICE RECORD OUTPUT-----**

##### **OUTPUT FORMAT**

**SIMPLE FORMAT**

(82 characters)

**EXTENDED FORMAT V0**

(112 characters)

**EXTENDED FORMAT  
V1**

(128 characters)

Service record output format. The format determines the number of fields appearing on the record.

#### **“AGENDA” / “PREPAYMENT” / “MONITORING” / “FEATURE” / “C.DIST.” FAMILY**

For each of the families, this parameter defines the type of output for the corresponding records.

**LOGBOOK**

For displaying in the logbook all the records concerning the family.

**STEP BY STEP**

Same function as described above with a link on the output channel or PAD, by means of the KITAXE or MUFACT call with sub-address 30.

**STEP BY STEP AND LOG**

Same function as described above, with a link on the output channel or PAD by means of the KITAXE or MUFACT call with sub-address 30.

**DUMMY**

The records for the family in question are not taken into account.

**Agenda/alarm family**

Wake-up programming, wake-up cancellation, wake-up, no answer to wake-up.

**Prepayment family**

Prepayment processing: credit, prepayment balance, end of current balance.

**Monitoring family**

Message output when the TRACE key is pressed (nuisance call).

Message output during a long call .

**Feature family**

Indicator for validated or cancelled message in home automation function message lamp on set.

**C.Dist. family**

Message output on the call distribution set in or out of service (or on a set in a hunt group).

**-----MONITORING RECORDS-----****STEP BY STEP OUTPUT****YES****NO**

If you select YES, the monitoring records for the subscribers and/or lines are issued according to the criteria defined in the following parameters through a KITAXE or MUFACT call with sub-address 40.

If you select NO, monitoring records are not issued.

If you select NO, none of the following parameters will be available.

**---- SUBSCRIBER MANAGEMENT****CALL TYPE****INCOM. AND OUTGO.****INCOMING****OUTGOING**

Call type criterion for monitoring records output.

A record can be issued for each subscriber whose parameter "SUBSCRIBER MONITORING (RECORD)" is set to YES (box ticked) in "SUBSCRIBERS>Subscriptions>Characteristics>General characteristics".

**---- JUNCTOR MANAGEMENT****TRUNK IDENTIFIED BY****CARD/CHANNEL****EQUIPMENT**

This field determines whether the record is printed with the circuit number or with the card and channel number.

#### CALL TYPE

**INCOM. AND OUTGO.**

**INCOMING**

**OUTGOING**

Call type criterion for monitoring records output.

A record can be issued for each phase: Selection, ringing, speech, release, for lines whose parameter "TRANSITION MONITORING (RECORD)" is set to YES in "NETWORK and LINKS>Equipment>External line".

- "SELECTION" / "RINGING" / "SPEECH" / "RELEASE"

**YES**

**NO**

Indicates whether a record will be issued, for each of the phases.

-----**MONITORING TICKETS**-----

#### MONITORING TICKET GENERATION

**YES**

**NO**

If you select YES, an monitoring ticket is generated for each monitoring counter.

If you select NO, monitoring tickets are not issued.

#### 4.3.7.2 *Kitaxe server parameters*

Menu **System>Setting>Tickets>Server kitaxe parameters**

This command is used to configure the size of the storage buffers of each record type on the KITAXE server.

##### NUMBER OF TICKETS (CURRENT) (REQUESTED)

- TELEPHONY / DATA / SERVICE / SUPERVISION / MONITORING TYPE

Size of the storage buffers of the last records.

The maximum total size for all the five buffers is 580 records.

The request is only taken into account after restarting the system: the current values then become equal to the requested values.

#### 4.3.7.3 *Mufact server profiles*

Menu **System>Setting>Tickets>Mufact server profiles**

This command is used to configure some profiles (maximum 4) which will be used, in multi-site configuration, to connect the MUFACT server to the different KITAXE servers of other sites.



**Note :** In the last 4 columns of the table:

- "Any" means that no filtering has been configured in the profile.
- "Filter" means that filtering has been configured in the profile.

The MUFACT profile display table shows for each profile:

- Its number
- Whether the records are subject to acknowledgement
- Whether the records are issued with separators
- Whether filtering takes place on the telephony records
- Whether filtering takes place on the service records
- Whether filtering takes place on the companies
- Whether filtering takes place on the sites

To display and/or modify a MUFACT profile, click its number.

#### RECORD ACKNOWLEDGEMENT

**YES****NO**

If you select YES, the MUFACT server will acknowledge receipt of records from the KITAXE server.

**RECORDS ISSUED WITH SEPARATORS****YES****NO**

If you select YES, a start character and an end character are added to the record when it is issued.

**TELEPHONE RECORD FILTERING****YES****NO**

If you select YES, you can choose the telephone record filtering you want from the following fields:

There is no default filtering: the following three fields have the value YES.

**- TRANSMIT INCOMING CALL RECORDS****YES****NO**

If you select NO, incoming call records are not issued.

**- TRANSMIT OUTGOING CALL RECORDS****YES****NO**

If you select NO, outgoing call records are not issued.

**- TRANSMIT INTERNAL CALL RECORDS****YES****NO**

If you select NO, internal call records are not issued.

**SERVICE RECORD FILTERING****NONE****BY INCLUSION****BY EXCLUSION**

Filtering type.

There is no default filtering: all the service records for all the families are issued.

This parameter is used to configure a filter **BY INCLUSION**, by indicating the families for which the records will be issued, or **BY EXCLUSION** by indicating the families for which the records will not be issued.

**- FAMILY 1 / 2 / 3 / 4**

.....

**WAKE-UP****PREPAYMENT****SUPERVISION****FEATURES****ALARM****C.DIST**

Names of the families to which filtering applies.

**CALLER COMPANY FILTERING****NONE****BY INCLUSION****BY EXCLUSION**

Filtering type.



**Note :** This parameter is only available in multi-company configuration.

There is no default filtering: all the call records for all the companies are issued.

This parameter is used to configure a filter **BY INCLUSION**, by indicating the names of the companies for which the records will be issued, or **BY EXCLUSION** by indicating names of the companies for which the records will not be issued.

The filter concerns the caller's company.

**- COMPANY 1 / 2 / 3 / 4**

Names of the companies to which filtering applies.

The drop-down lists contain the names of companies declared in the system.

#### CALLED COMPANY FILTERING

**NONE**

**BY INCLUSION**

**BY EXCLUSION**

Filtering type.



**Note : This parameter is only available in multi-company configuration.**

There is no default filtering: all the call records for all the companies are issued.

This parameter is used to configure a filter **BY INCLUSION**, by indicating the names of the companies for which the records will be issued, or **BY EXCLUSION** by indicating names of the companies for which the records will not be issued.

The filter concerns the called party's company.

**- COMPANY 1 / 2 / 3 / 4**

Names of the companies to which filtering applies.

The drop-down lists contain the names of companies declared in the system.

#### CALLER SITE FILTERING

**NONE**

**BY INCLUSION**

**BY EXCLUSION**

Filtering type.



**Note : This parameter is only available in multi-site configuration.**

There is no default filtering: all the call records for all the sites are issued.

This parameter is used to configure a filter **BY INCLUSION**, by indicating the names of the sites for which the records will be issued, or **BY EXCLUSION** by indicating names of the sites for which the records will not be issued.

The filter concerns the caller's site.

**- SITE 1 / 2 / 3 / 4**

Names of the sites to which filtering applies.

The drop-down lists contain the names of sites in the multi-site configuration.

#### CALLER SITE FILTERING

**NONE**

**BY INCLUSION**

**BY EXCLUSION**

Filtering type.



**Note :** This parameter is only available in multi-site configuration.

There is no default filtering: all the call records for all the sites are issued.

This parameter is used to configure a filter **BY INCLUSION**, by indicating the names of the sites for which the records will be issued, or **BY EXCLUSION** by indicating names of the sites for which the records will not be issued.

The filter concerns the called site.

**- SITE 1 / 2 / 3 / 4**

Names of the sites to which filtering applies.

The drop-down lists contain the names of sites in the multi-site configuration.

#### 4.3.7.4 *Call from billing servers*

Menu **System>Setting>Tickets>Call from billing servers**

In a multi-site configuration, the iPBX connects to the MUFACT server to retrieve billing records. The role of the MUFACT server is to centralise the records issued by the different KITAXE servers.

Therefore, the MUFACT server must know the X25 addresses of the different KITAXE servers on other sites. The MUFACT server connects to the KITAXE servers using the X25 number and a sub-address profile.

This command is used to configure:

- The X25 addresses of KITAXE servers
- The MUFACT profile number for connection
- Filtering by type of records to download.



**Note :** This command is only available in multi-site configuration, on the site on which the MUFACT server is located. In single-site configuration, the KITAXE server call number is configured in **NETWORK AND LINKS>Data links>Servers>MUFACT**.

The system is used to define up to 64 accesses to KITAXE billing servers per MUFACT.

**CALL NUMBER 1 TO 64**

KITAXE server call number.

**PROFIL - TEL/PAQ/CIR/SER/SUP/MON**

MUFACT profile number to use for connection: types of tickets to download from the KITAXE server.

This field must be filled in as follows:

- MUFACT profile number
- Ticket download filter:
- Each position represents the type of ticket in their order of appearance in the field name.
- A + sign means that correspondent type tickets will be downloaded.
- A - sign means that correspondent type tickets will not be downloaded.

Example: +---+ means that only telephony and service type tickets will be downloaded.

#### 4.3.7.5 *Integrated buffer*

Menu **System>Setting>Tickets>Integrated buffer**

The role of the integrated buffer is to:

- Receive tickets from a KITAXE server (in single-site configuration) or MUFACT server (in multi-site configuration),
- Distribute tickets in files according to ticket type (a file per ticket type)
- Export these files to an export area for use by external applications.

This menu is used to:

- Configure the integrated buffer
- Enable/disable the integrated buffer
- Configure export parameters (frequency, compression option, etc.)
- Manage the export area (display, purge)
- Export record files manually.

##### 4.3.7.5.1 **General parameters**

Menu **System>Setting>Tickets>Integrated>General parameters**

This command is used to:

- Display/change the functional status of the integrated buffer
- Configure the MUFACT server call number.
- Select the record types to back up.

To access this command, click "General parameters" from the "Integrated buffer" menu.

#### **STATUS: "CURRENT STATE"**

For changing the functional status of the integrated buffer.

• • • • •

The functional status of the integrated buffer is not changed.

**OPERATIONAL**

In service.

**SUSPENDED**

Out of service.

**CURRENT STATE** shows the functional status of the integrated buffer: *operational, suspended*.



**Note :** You must select the status **SUSPENDED** if you want to modify the integrated buffer parameters.



**IMPORTANT NOTE:** Concerning a Cluster configuration

**In a Centralised taxation configuration on a Cluster, the status must remain on Operational and the type of tickets to save the phone tickets must be set to YES.**

**Bufftic must be in service in the nodes, even if Bufftic is not used in charging.**

**MUFACT CALL NUMBER**

MUFACT server directory number.

**NUMBER OF RECORD TYPES TO BACK UP**

- TELEPHONY / DATA PACKET / DATA CIRCUIT / SERVICE (AND ALARMS) / SUPERVISION / OBSERVATION

**NO** **YES**

For each record type:

- If you select YES, a file is opened so you can back up the corresponding records.
- If you select NO, these records are not backed up.

#### 4.3.7.5.2 Billing parameters

Menu **System>Setting>Tickets>Integrated buffer>Billing parameters**

For each type of record, this command is used to:

- Define the maximum sizes of temporary files and of the export area
- Define the rate and time of export
- Configure the exported file availability notification option
- Configure the file compression option before export.

**BY TYPE**

**TELEPHONY**

**DATA PACKET**

**DATA CIRCUIT**

**SERVICE**

**SUPERVISION**

**OBSERVATION**

Record type.

Select a record type then click **Select item**.



**Note :** The default values are summarised in the table that follow the definition of parameters.

**FILE NAME**

Information field indicating the type of tickets contained in the file (this character string is used as the beginning of the file name).

Possible values are: TickTel, TickDataPaq, TickDataCirc, TickServ, TickSuperv, TickObserv.

**MAX. SIZE OF TEMPORARY FILE (MB)**

Maximum size in MB of the integrated buffer storage file for the ticket type concerned. Max. value: = 4000.

When this size is reached, the file is exported to the corresponding export area, regardless of the export frequency Settings.

**MAX. SIZE OF EXPORT ZONE (MB)**

Maximum size in MB of the export area reserved for the type of file concerned. Max. value: = 4000.

When this value is reached, the newly exported files overwrite the oldest ones.

## PERIODICITY OF THE FILES EXPORT

### - DAYS PERIODICITY

Number of days between two exports.

### - HOURS PERIODICITY

Number of hours between two exports.



**Note :** The parameters **DAYS PERIODICITY** and **HOURS PERIODICITY** are independent of each other. The last field completed cancels the value of the other parameter.

### - HOUR OF STARTING (HH:MM)

Time of first export.

## NOTIFICATION REQUESTED

If you select YES, a notice of availability is sent to the logbook.

## EXPORTED FILES COMPRESSED

If you select **YES**, the file is compressed before being exported. Its extension is then **.gz**.

If you select **NO**, the file is not compressed before being exported. Its extension is then **.arch**.

**Table 5: Default values of integrated buffer record parameters**

TYPE OF RECORD	MAXIMUM SIZE OF TEMPORARY FILE (MB)	MAXIMUM SIZE OF EXPORT AREA (MB)	DAYS PERIODICITY	NOTIFICATION	COMPRESSION
Telephony	20	20	1	YES	YES
Data packets	0	0		NO	NO
Data circuit	0	0		NO	NO
Department	0,5	0.5	1	YES	YES
Supervision	0	0		NO	NO
Observation	0	0		NO	NO

### 4.3.7.5.3 Display of the ticket files

Menu **System>Setting>Tickets>Integrated buffer>Display of the ticket files**

This command is used to display the list of exported files available in the export area, that is available for external applications.

#### BY TYPE

**ALL**      **TELEPHONY**      **DATA PACKET**      **DATA CIRCUIT**

**SERVICE**      **SUPERVISION**      **OBSERVATION**

Record type.

Select a record type then click **Select item**.

For the selected record type or for each type, if you have selected ALL, the display table shows for each file available in the area:

- Its name in the following format: **Type\_yyyymmdd\_hhmmss.extension**, where:
- **Type** is record type
- **yyymmdd\_hhmmss** stands for record acquisition start date and time
- **extension** is **.gz** if file compression is required, otherwise it **.arch**.
- Export date
- Export time
- Its size.

Date and time concern a ticket file which corresponds to the last information received from the PBX.

#### 4.3.7.5.4 Export of the ticket files

Menu **System>Setting>Tickets>Integrated buffer>Export of the ticket files**

This command is used to force record file export for use by external applications.

##### BY TYPE

<b>ALL</b>	<b>TELEPHONY</b>	<b>DATA PACKET</b>	<b>DATA CIRCUIT</b>
<b>SERVICE</b>	<b>SUPERVISION</b>	<b>OBSERVATION</b>	

Record type.

Select a record type then click **Select item**.

##### PASSWORD

Enter the password then click **Export of the ticket files**.



**Note :** The password is the one used to connect to the iPBX management portal. If the rights associated with this password are insufficient, the system will reject the file export request.

When the operation is completed, the screen appears:

Files: export all
-------------------

#### 4.3.7.5.5 Deletion of files of export zone

Menu **SYSTEME>Configuration>Tickets>Integrated buffer> Deletion of files of export zone**

This command is used to delete record files from the export area.

##### BY TYPE

<b>ALL</b>	<b>TELEPHONY</b>	<b>DATA PACKET</b>	<b>DATA CIRCUIT</b>
<b>SERVICE</b>	<b>SUPERVISION</b>	<b>OBSERVATION</b>	

Record type.

Select a record type then click **Select item**.

## PASSWORD

Enter the password then click "To suppress the files".

When the operation is completed, the screen appears:

Files: telephony deleted
--------------------------



**Note :** Deleting files from the export area requires the functional status of the integrated buffer to be **SUSPENDED** (command: **System>Setting>Tickets>Integrated buffer>General parameters**).

## 4.3.8 EMAIL

Menu **System>Setting>E-mail**.

### 4.3.8.1 *E-voicemail settings*

The e-voicemail function of the iPBX enables the system to send an e-mail to a subscriber to inform him that he has received a voice mail in his integrated voicemail box.

As of R7.2 SP1, a Modern authentication based on OAuth 2.0 is available if the authentication of POP3 and iMAP4 connections to office365 or ExchangeOnLine servers is not available. See next section 4.3.8.2.

Compatible servers are:

- ExchangeOnLine,
- Office 365,
- Gmail.

Depending on the configuration of his voicemail box class:

- Either no notification is sent,
- Or a simple e-mail is sent, or
- An e-mail is sent with the voice mail as attachment.

To benefit from the e-voicemail service, a subscriber must have an IVB whose class allows this service.

Menu **VOICE MAIL AND TONES>Voice mail>Internal voice mail (IVB)>Voice mail classes** is used to authorise or forbid the e-voicemail service by voice mail box class.

The box class is assigned to the subscriber in Menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**.

The subscriber's e-mail address used is that of his directory record.

Menu **SYSTEM>Configuration>E-mail** is used to define the parameters of the message servers used by the iPBX:

- To send an e-mail to a subscriber,
- To receive an acknowledgement of receipt from the subscriber that has read the e-mail.

### 4.3.8.2 *Authentication types*

As of R7.2 SP1, it is possible to use a new type of identification called Modern Authentication and to define its settings.

The classic authentication for POP3 and iMAP4, and for SMTP should disappear and be replaced with a so-called modern authentication based on the OAuth 2.0 protocol.

This involves setting up authentication for POP3 and iMAP4 connections to office365 or ExchangeOnLine servers.

The aim is to stop having to store a user's password for an application because it can be used and therefore hacked for other applications.

Although for the MiVoice 5000 mail client, the account used is only dedicated to MiVoice 5000, and is therefore not a user account, it is very advisable to set up a modern authentication based on OAuth 2.0.

The **Modern Authentication** field is used to choose whether or not to use modern authentication with Microsoft (required) and Google (preferred) and to retrieve the necessary settings for configuration in the iPBX.

The parameters from these applications are:

- **For Microsoft** (Tenant ID, Application ID (ClientID), Application Secret (ClientSecret))
- **For Google** (Client ID, SecretClient).

However, the **Not configured** option remains available.

### 4.3.8.3 *Description of the different fields*

#### **E\_MAIL ADDRESS**

iPBX mail box address on the mail server. This address is the address to and on which transmission and reception are made.

#### **MODERN AUTHENTICATION:**

List of options:

- Not configured,
- Microsoft OAuth2.0,
- Google OAuth2.0.

**Not configured:** no modern authentication. Then fill in the Transmit and Receive parameters fields (see below).

#### **Microsoft OAuth2.0:**

Settings required for modern authentication with Microsoft (required), associated with the Tenant ID, Application ID and Secret fields.

- Register MiVoice 5000 PBX in the Microsoft Azure application to get the following settings used in the OAuth2.0 authentication process. They are listed below:

Directory ID (tenant),  
Application (client) ID,  
Mute.

Refer to Section Erreur ! Source du renvoi introuvable. Erreur ! Source du renvoi introuvable..

- Fill in all the fields described previously.

**Run the authorisation:**

This action is used to obtain the permissions for the account created for Microsoft or Google which redirects to the corresponding authentication web page (Microsoft or Google) to request that the iPBX be allowed to access the mailbox.

If authentication is successful, the **Start authorisation** link disappears and is replaced by the **Clear modern authentication settings** button.

It is then no longer possible to change the settings above the button.

Clicking this button resets (clears) the modern authentication settings above the button, for reconfiguration if necessary.

Then fill in the **Transmit** and **Receive** parameters fields (see below).

### **Google OAuth2.0:**

Parameters needed for modern authentication with Google (preferred), associated with the (Client ID, SecretClient) fields.

- Register MiVoice 5000 iPBX in the Google application to get the following settings used in the Oauth 2.0 authentication process. They are listed below:

Application (client) ID,

Mute.

Refer to Section Erreur ! Source du renvoi introuvable. Erreur ! Source du renvoi introuvable..

- Fill in all the fields described previously.

### **Run the authorisation:**

This action is used to obtain permissions for the account created for Microsoft or Google which redirects to the corresponding authentication web page (Microsoft or Google) to request that the iPBX be allowed to access the mailbox.

If authentication is successful, the **Start authorisation** link disappears and is replaced by the **Clear modern authentication settings** button.

It is then no longer possible to change the settings above the button.

Clicking on this button resets (clears) the modern authentication settings above the button, for reconfiguration if necessary.

Fill in the **Transmit** and **Receive** parameters fields (see below).

### **Check certificate:**

Defining whether the certificate of an SSL or StartTLS connection should be verified.

Box ticked: verification enabled (default setting).

**Use modern authentication** (Specific to Microsoft and Google modern authentication)

If the box is checked, modern authentication mode is used, associated in emission with the previously declared (Microsoft or Google) account.

**Then complete the fields relating to the Send and Receive parameters (see below).**

### **PARAMATERS OF EMISSION (COMMON TO ALL MODES):**

These parameters enable the iPBX to send an e-mail to a subscriber.

#### **PROTOCOL: SMTP (READ ONLY)**

##### **SERVER**

SMTP message server address

The following two parameters are only to be defined if the SMTP server requires an authentication.

This field can also be entered with a domain name (DNS). This must be complete and correspond to the configuration made in **dns address 1** and **dns address 2** in the menu **SYSTEM/Configuration/Cards/IP card parameters**.

## PORT

Field used to define the SMTP server port number.

## ENCRYPTED CONNECTION (SSL)

Checkbox which allows the use of an encrypted connection between the iPBX and the mail server used for the e-voicemail function in case of message transmission.

This feature makes it difficult for a third party to intercept exchanges between these two systems.

The default port configuration for the connection with or without SSL for the e-voicemail function, and depending on the protocol, is as follows:

PROTOCOL	WITHOUT SSL (BOX NOT TICKED)	WITH SSL (BOX NOT TICKED)
SMTP	25	465
POP3	110	995
iMAP	143	993

## VOICE MAIL ACCOUNT

Name of the iPBX messaging account on the SMTP server.

## PASSWORD

iPBX SMTP messaging account password.

**PARAMETERS OF RECEPTION (COMMON TO ALL MODES)::**

These parameters enable the iPBX to receive an acknowledgment-of-receipt e-mail from the subscriber that has read an e-mail received.

Upon receiving the acknowledgement of receipt, the system marks as READ the corresponding voice mail in the subscriber's IVB.

**E-MAIL ADDRESS**

iPBX mail box address on the mail server. This is the address to which the acknowledgement of receipt is sent.

**PROTOCOL**

The protocol definition field used to define the reception parameters (POP3 or IMAP).

**SERVER**

POP3 or IMAP mail server address as the case may be

**PORT**

Field used to define the mail server port number.

**ENCRYPTED CONNECTION (SSL)**

Checkbox which allows the use of an encrypted connection between the iPBX and the mail server used for the e-voicemail function if a message is received.

For more details, see the above case of message transmission.

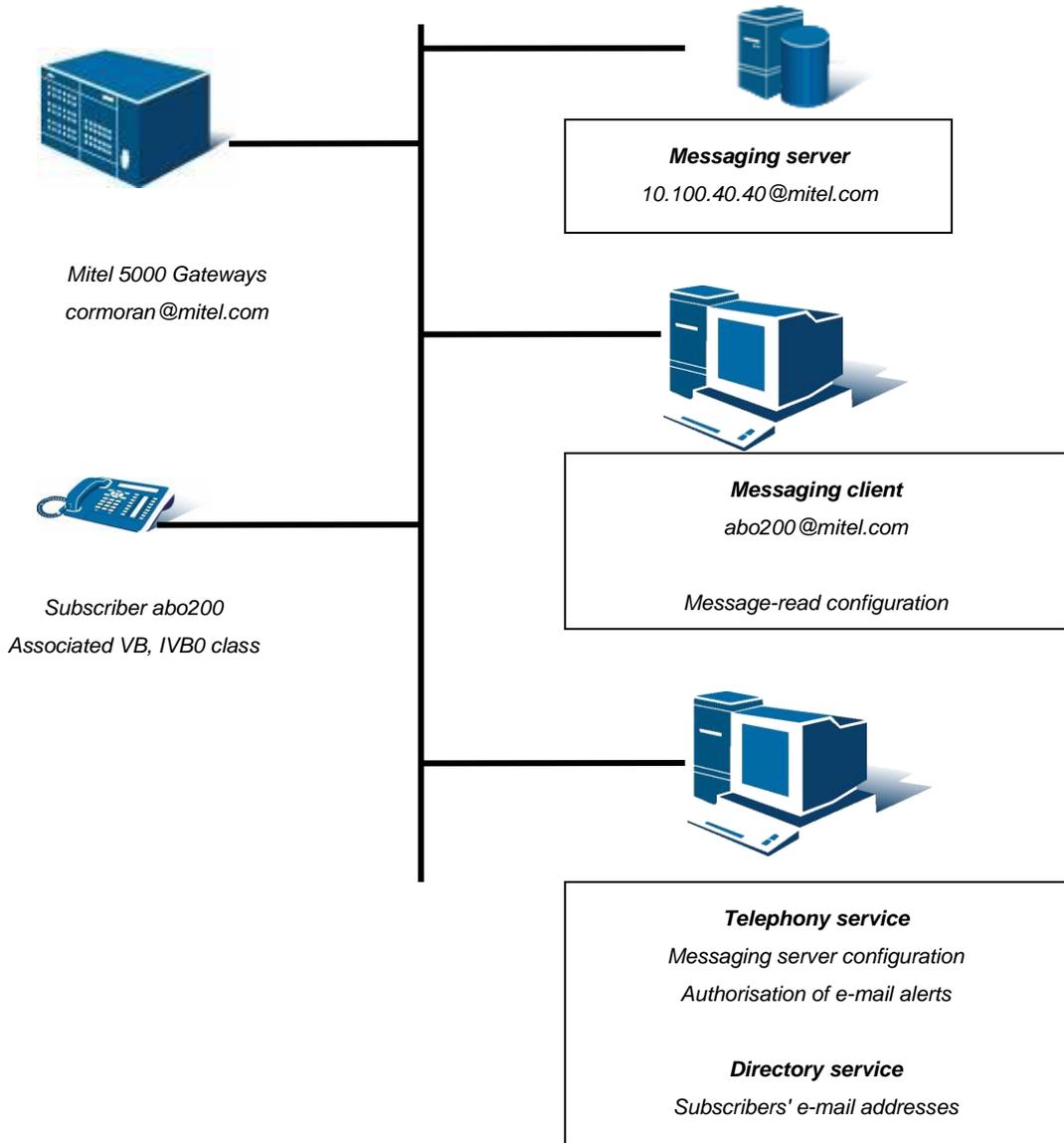
**VOICE MAIL ACCOUNT**

Name of the iPBX messaging account on the mail server.

**PASSWORD**

iPBX messaging account password.

**E-VOICEMAIL IVB: EXAMPLE OF SIMPLE CONFIGURATION**



## TELEPHONY SERVICE

### GENERAL SUBSCRIBER CHARACTERISTICS: DECLARING A VOICEMAIL BOX

- Select the menu **SUBSCRIBERS>Subscriptions>Characteristics**
- Tick the **Integrated voicemail box (IVB)** line.
- Select the **class name** (voicemail box class).

### CONFIGURING THE SMTP MAIL SERVER SO AS TO BE NOTIFIED WHEN A MESSAGE IS LEFT

- Select the menu **System>Setting>E-mail**

In the **Transmission parameters** area:

- Enter the mail server address.
- Enter the account and access password for this server, if necessary.



**Note :** The "Account" and "Password" fields in the "Transmission parameters" part correspond to the mail server access, and not to the subscriber account. It is necessary to indicate whether a password is defined in access to the mail server.

### CONFIGURING THE POP3 MAIL SERVER TO ACKNOWLEDGE RECEIPT

- Select the menu **System>Setting>E-mail**

In the **Reception parameters** area:

- Enter the e-mail address assigned to the iPBX
- Choose POP3 or IMAP
- Enter the mail server address in the **Server** field.
- Enter the e-mail account assigned to the iPBX and the associated password.



**Note :** The "Reception parameters" part enables you to configure the e-mail account associated with the iPBX. Declaring the values of these fields allows acknowledgement of receipt of the notification e-mail.

**CONFIGURING MESSAGE-LEFT NOTIFICATION BY E-MAIL, IN THE IVB CLASS**

- Select the menu **VOICEMAIL AND TONES>Voicemail>Internal voicemail (IVB)>Box classes>Characteristics**.
- Select the item corresponding to the voicemail box in question.
- Define the management parameters for this voicemail box (NOTIFICATION/FORBIDDEN).
- Tick the **voice message enclosed** option if this option is chosen.



**Note :** The IVB is that of the subscriber's voicemail box on which the message is left (in the previous diagram, subscriber 200).  
The "voice message enclosed" option only appears if "Notification" is chosen.

**CONFIGURING THE SUBSCRIBER'S E-MAIL ADDRESS**

From the **DIRECTORY SERVICE** menu:

- Click the link corresponding to the subscriber in question.
- Select **Modify**.
- Enter this subscriber's e-mail address.

**MAIL WITH OUTLOOK 2003:****CONFIGURING THE SUBSCRIBER'S E-MAIL ACCOUNT ON THE MESSAGING CLIENT**

In Outlook:

- Select the menu **Tools>Messaging account**.
- Select **Add a new messaging account**.
- Tick the POP3 box.

On the internet messaging parameters screen (POP3):

- Fill in the following fields successively:

Handset name	Subscriber account name
Mail address	Subscriber's e-mail address
Incoming mail server (POP3)	Mail server address
Outgoing mail server (SMTP)	Mail server address
User name	Subscriber account name
Password	
Store password	



**Note :** Some columns may be associated with the Outlook configuration fixed by the system administrator. Contact him or her, in this case.

## CONFIGURING THE POP3 MAIL SERVER TO ACKNOWLEDGE RECEIPT

In Outlook:

- Select the menu **Tools>Options**.
- Select the Preferences tab.
- Select the **Mail options button**.
- Select the **Monitoring options button**.
- Tick the box you want in the area. Use this option to decide how to respond to message-read confirmation requests.
  - Always send a reply.
  - Ask me before sending a reply.



**Note :** Do not choose the option "Never send a reply" or else the message-read confirmation function would not be activated.

### 4.3.8.4 *User password, User Portal and user*

For more information about this tab, see Menu **SUBSCRIBERS>subscriptions /Characteristics>General characteristics**, Section 3.3.3.1.

This tab is used to enter the content of the mail to be sent by the administrator when the password associated with the subscription is changed.

#### SENDING E-MAIL ON CHANGE OF PASSWORD

By default, this box is not ticked. No e-mail is sent if the password is changed.

If the box is ticked the following lines allow the information message to be created:

#### SUBJECT

40-characters field used to define the subject of the message.

#### MESSAGE:

This 4-paragraph area is used to define the body of the message, which is broken down as follows:

- 2 paragraphs with 80 characters each.
- 2 paragraphs with 40 characters each (for example for the closing formula and signature).

#### - SECTIONS 1, 2, 3 AND 4

A default, modifiable, text is displayed.

The characters are in UTF8 format, allowing the use of accented characters.

The body of the message contains 2 keywords #PWD#, #NUM#, #LOG#, #PBX#, which are automatically replaced, while creating the mail, with the subscription's password and directory number. These keywords must not be modified.

A mail is sent when the password is modified by the user if the subscription's e-mail address has been entered (personal password modification by the user is not part of mail transmission). A mail is equally sent when the e-mail address is entered (directory tab of the extension characteristics) if the subscription's password is the default password backed up in the file install.conf.

### 4.3.8.5 *Subscription locking*



**Note :** For more information about user password management, see Menu **SUBSCRIBERS>Subscriptions /Characteristics>General characteristics**, in Section 3.3.3.1.

The **SUBSCRIPTION LOCKING** tab is used to enter the content of the mail to be sent by the administrator when the user password associated with the subscription is locked.

#### **SENDING E-MAIL ON SUBSCRIPTION LOCKING**

By default, this box is not ticked. No e-mail is sent if the subscription is locked.

If the box is ticked, several lines are displayed so the information message can be created like in the **USER PASSWORD** tab. See the previous section.

#### **Principle of subscription locking**

The subscription is locked after the user has made three unsuccessful password input attempts (password frozen on the terminal or IVB).

#### **SUBSCRIPTION LOCKED IN CASE OF INCORRECT PASSWORD**

Some telephony functions require a password to be entered.

When three incorrect input attempts are made, the subscription is frozen for 5 minutes for the functions subject to a password.

When the operator freezes the subscription, the **To free the subscription** button appears below the **Subscr. status** line in Menu **SUBSCRIBERS>Subscriptions /Characteristics>General characteristics**.

At the same time, if the **SENDING E-MAIL ON SUBSCRIPTION LOCKING** box is ticked and the subscription has a configured e-mail address, the subscriber in question receives an e-mail with the associated text.

No e-mail is sent when the administrator unlocks the subscription or at the end of a timeout (5 minutes before a new attempt).

#### **BLOCKING AN INTERNAL, MULTI-LINE SUBSCRIBER**

All the lines have the same password.

The subscription is locked after three incorrect-password input attempts (cumulative, including IVB).

Unlocking, by the administrator or at the end of the timeout, applies to all the keys.

#### **CLASHES WITH SPECIAL NUMBERS**

Certain configurations require that emergency number calls be accessible on locked terminals. Therefore, it is necessary to declare the first digit of emergency numbers (example the digit "1" of "112", "15", etc.). User passwords must not start with the same digit.

A mail may be sent to users whose passwords have been modified.

See Menu **Numbering plan>User numbering plan>Access to public exchange** (Section 5.2.3).

When the "**First digit of urgent numbers**" field is filled out, it is no longer possible to assign this 1st digit when a subscription's password is modified; in this case, the error message "**Incorrect beginning**" is displayed. The same constraint is applied to the menu **Subscribers>Subscriptions>Create** for the default password.

#### 4.3.8.6 Alarm

The **Alarm** tab is used to enable or disable the sending of alarm e-mails and to indicate their content.

This tab is hidden if there is an SNMP Manager in the configuration.

By default, the sending of alarm e-mails is not enabled.

An alarm transmission threshold (for all users) can be defined.

- .....: Default value, all alarms are sent if no other option has been selected:
- WARNING,
- MINOR ALARM,
- SEVERE ALARM,
- CRITICAL ALARM.

Alarms are sent by e-mail to users if:

- There is no NRPE SNMP manager in the configuration,
- The configuration of local site alarms for routing to SNMP allows alarms to be sent (Menu **Telephony Service>System>Configuration>Alarms>Configuration display**), allowing customisation).
- The sending of alarm e-mails is enabled,
- Operators have an e-mail address,
- Operators are allowed to receive an alarm e-mail,
- The current alarm severity level is above or equal to the transmission threshold,
- The e-mail login settings are entered.

Alarm e-mails are displayed in logbook format, in the operators' language.

The following fields are proposed:

**Transmission threshold:** see above

#### **SUBJECT**

A 40-characters field used to define the subject of the message. A default, modifiable text is displayed.

#### **MESSAGE:**

This 4-paragraph area is used to define the body of the message, which is broken down as follows:

2 paragraphs with 80 characters each.

2 paragraphs with 40 characters each (for example for the closing formula and signature).

#### **- SECTIONS 1, 2, 3 AND 4**

A default, modifiable text is displayed.

The characters are in UTF8 format, allowing the use of accented characters.

The body of these messages contains the keywords #SITE#, #SEVERITY#, #DATE#, #ALARM#, which are automatically replaced when the e-mail is created. These keywords should not be modified.

#### 4.3.8.7 *BluStar Mobile*

The BluStar Mobile tab is used to activate and configure the sending of e-mails to iPad/iPhone users. These latter, upon receiving the e-mail, will be able to download the configuration file allowing them to use the BluStar Mobile application.

To activate the function, tick the **BluStar Mobile E-mail configuration** checkbox. By default, this box is not ticked.

Ticking this box displays the rest of the screen containing a default text. The administrator can personalise the text.

The #NUM# variable stands for the subscriber's number.

#### 4.3.9 MIB SNMP

Menu **System>Setting>mib snmp**

This command is used to enter the iPBX snmp MIB description parameters.

##### **NAME**

This parameter corresponds to the MIB **sysName** variable.

##### **CONTACT**

This parameter corresponds to the MIB **sysContact** variable.

##### **LOCATION**

This parameter corresponds to the MIB **sysLocation** variable.

##### **COMMUNITY**

The "public" default value authorises read access to the MIB.

##### **MIB ACCESSIBLE TO**

**ALL MACHINES** No access restriction

**MANAGERS AND SUBNET** Accessible by all the managers declared on the network and by all the machines on the same subnet.

**MANAGERS ONLY** Accessible by all the managers declared on the network.

In SNMP V3 mode, only the option **MANAGERS ONLY** is proposed.

When returning from SNMP V3 mode to SNMP V1 mode, the field **MIB TO** is reset to **ALL MACHINES** (see also Section **Erreur ! Source du renvoi introuvable.**).

## 4.4 SECURITY

The Security menu contains all the topics for the management of certificates (import, generation, assignment), as well as password policies for MiVoice 5000 products.

### 4.4.1 CERTIFICATES MANAGEMENT

#### Menu **SYSTEM>Security>Certificates management**

This menu is used to manage the certificates installed and/or to be installed on the iPBX, depending on the intended use. This menu contains several tabs:

- A **Certificates** tab used to manage the store of certificates installed on the iPBX, i.e., to import new certificates, (re)generate a self-signed certificate or to delete available certificates
- Let's Encrypt parameters tab, used to define a domain for Let's encrypt trust certificates specific to the integrated SBC
- A **Server certificate assignment** tab used to assign or unassign certificates to deployments during exchanges (Intersite Link, WebAdmin, User portal, Internet Gateway, SIP, LDAP Server and additional TLS profiles for exchanges on SIP trunks if they have been declared and configured)

The screenshot shows the Mitel Telephony service web interface. The main content area is titled "Certificates management" and includes a breadcrumb trail: "Telephony service>System>Security>Certificates management (2.4.1)". There are five tabs: "Certificates", "Servers certificates assignment", "Clients certificates assignment", "Certification authorities", and "Revocation". The "Certificates" tab is selected, and a dropdown menu shows "Available certificates" with "SelfSignedSHA2" selected.

Comment	Authority (CA)	Valid from	Valid until	Common name
Signature SHA256	1C...	10/02/20 11:52	07/02/30 11:52	1C...

Below the table, there are checkboxes for various services:

- Inter-site Link
- WebAdmin
- User Portal
- Internet Gateway
- SIP
- LDAP server

At the bottom, there is another table showing certificate assignments:

Use	Name	Valid from	Valid until
Inter-site Link			
WebAdmin	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
User Portal	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
Internet Gateway	pascal.f...	27/01/20 18:31	24/01/30 18:31
SIP	pascal.f...	27/01/20 18:31	24/01/30 18:31
LDAP server	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
P7CS			
P7CS	pa...	27/01/20 18:31	24/01/30 18:31

- A **Client certificate assignment** tab used to import certification authorities
- A **Certification authorities** tab used to assign certificates for outgoing TLS connections. Additional Client type TLS profiles are necessary here.
- A **Revocation** tab used to activate or deactivate certificate revocation management.

### 4.4.1.1 Server Certificate tab

Certificates management  
 Telephony service>System>Security>Certificates management (2.4.1)

Certificates Servers certificates assignment Clients certificates assignment Certification authorities Revocation

Name	Action	Type	Status	Valid until	Detail
SelfSignedSHA1	Client only	self signed certificate (re)generation (SHA1)	<input type="checkbox"/>	10/02/21 12:41	<input type="checkbox"/>
SelfSignedSHA2	Client only	self signed certificate (re)generation (SHA2)	<input type="checkbox"/>	07/02/30 11:52	<input type="checkbox"/>
pascal.fr.miteldev.labs	Client only	self signed certificate (re)generation (SHA2)	<input type="checkbox"/>	24/01/30 18:31	<input type="checkbox"/>
pascalclient.fr.miteldev.la	Client only	Valid	<input type="checkbox"/>	27/01/20 18:32	24/01/30 18:32 <input type="checkbox"/>

This certificate management tab (in pkcs12 format) is used to:

- Add/Replace a certificate
- Delete a certificate (not assigned)
- Generate or regenerate a self-signed certificate SHA1, if the certificate chain does not support SHA2.
- Generate or Regenerate a Let's Encrypt certificate used specifically for the integrated SBC.



**Note: Regeneration is forced (anticipated).**

In this tab all the certificates available on the iPBX are displayed, with for each certificate:

- The **Name** (entered by the import operator) or self-signed certificate name (SHA2) proposed by default
- The **Type** (Client, Client/Server or Server), depending on the characteristics of the certificate
- Assignment or unassignment to a service. If the corresponding checkbox is ticked, the certificate is assigned to a service (See the **Certificate assignment** tab).
- The **Status**:
  - Invalid
  - Valid
  - Missing file
  - Expired
  - Invalid CA
  - CN error
  - Incompatible key
  - OpenSSL error
  - The validity period
- The **Validity dates** (start and end).

By default, the list contains a self-signed SHA2 certificate assigned by default to WebAdmin and to the User Portal.

The SHA2 certificate cannot be modified by the operator. It is generated during installation and is always available. It may be regenerated after a change of configuration, but it remains transparent to the operator.

Clicking the **Detail** box of a given certificate displays an information list with the following fields:

- **Comment** (fixed by the system for self-signed certificates, or entered for imported certificates)

- **Certification authority (CA)** to which the certificate is attached
- **Identity (CN):** (Possible) **Common Name(s)** and **AltName(s)** declared in the certificate as possible DNS values,

The values **Common Name** and **AltName** stem from the configuration assigned in Menu **System>Configuration>Cards>IP board settings**.

- **Signature:** indicates the type of signature affixed on this certificate (sha1/sha256)
- **Key size:** indicates the encryption key size (1024/2048 bits)

## ADD/REPLACE A CERTIFICATE

This action is used to import a certificate (file in pkcs12 format). After selecting this option:

- Click **Browse** on the File line to be imported.
- Search and select the file in question.
- Click **Download**.

Once the file is downloaded, the different fields must be filled out:

- **Shared secret** field appears so you can enter the passphrase used while generating pkcs12. This field is required to end the import of the pkcs12 file.

The passphrase is made up of an alphanumeric character string, which indicates the password used to decipher the certificate file.

The number of characters entered must be between 4 and 20. The characters are clearly displayed during input, then replaced by **\*\*\*\*\*** when the field is validated.

List of characters authorised for this input field:

- **0 to 9**
- **A to Z**
- **a to z**
- **" # ' ( ) - \_ @ + = % \* > < , . ; / :**
- **Name** field: enter a name for this certificate. This field is pre-filled with the name of the imported pkcs12 file (only if this file name does not already exist among the already installed certificates). This field is required to end the import of the pkcs12 file.
- **Comment** field: this comment field is optional and will be attached to the certificate to help the operator identify this latter in case of multiple import followed by late assignments.

In case of error, the imported file is deleted and will not appear on the list of available certificates.

## CERTIFICATE DELETION.

A certificate can only be deleted if it is no longer assigned (see Certificates assignment tab).

If the certificate is no longer assigned, tick the **Deletion** box for each of the certificates to be deleted then click **Validation**.

Even if it is not assigned to any use, the self-signed SHA2 certificate is never listed among the deletable certificates. This certificate is considered as filled out if a certificate is unassigned for WebAdmin and User Portal deployments.

## SELF SIGNED CERTIFICATE (RE)GENERATION (SHA1)

This action is used to generate a new SHA1 certificate, or to regenerate an already existing certificate.

Once generated or regenerated, the certificate appears on the listing table of the certificates tab.



**Note:** (Re)generating an already existing self-signed SHA1 certificate does not change the current assignment of this certificate.

### Regarding the type of Let's encrypt certificate

- **Let's Encrypt** certificate compatibility facilitates secure TLS access for MiVoice 5000 systems.
- This type of certificate has been added for the integrated SBC, but can be assigned to other services (except for the SIP service which is not offered for technical reasons).
- MiVoice 5000 must be accessible from the Internet via an FQDN (**Let's encrypt settings** tab), which is used by Let's Encrypt to generate the certificate (**Certificates** tab) and for exchange via the ACME protocol.



**Note:** The Session Border Controller (SBC) is used to control and secure the signalling of media streams on video-over-IP or VoIP networks.

#### 4.4.1.2 *Let's Encrypt Settings tab*

This tab is used to define a domain or other alternative names for some, other than FQDN, which may be Wildcards.

These domains concern the Let's encrypt trusted certificates generated or regenerated from the Certificates tab.

#### 4.4.1.3 *Server certificate assignment tab*

Menu **SYSTEM>Security>Certificates management**

The different uses proposed in the menu are:

- SIP terminals deployment allows the management of certificates for encryption in the terminals' SIP channel.
- Inter-site link deployment allows the management of certificates for encryption in this type of links (inter-site Movacs or intra Cluster links).
- Web Admin User Portal and LDAP deployments allow the management of certificates for the encryption pertaining to these access.
- Internet Gateway allows the access to the embedded SBC.

Assigning a certificate to the LDAP service secures the access to the LDAP server in LDAPS (see Section 3.2.1.3).

However, the unsecured LDAP service remains active if Port 389 is not blocked (see Section 4.4.4).

Assigning a Internet Gateway secures the Internet Gateway for the access to the embedded SBC.

The Certificates assignment tab allows assignments or unassignments for the certificates available to the proposed deployments.

This tab contains the following fields:

Available certificates propose a list of available valid certificated.



**Note : The Let's Encrypt certificate is not offered for the SIP service for technical reasons.**

Once the certificate in question is selected, a checkbox area can be used to define its assignment.

A Validation button is proposed to validate the change in assignment. This button appears when the first change is made in the assignments of the certificate selected by ticking the box(es).

A table is then displayed, summarising the assignment for each deployment and validity dates.

The two Web Admin and User Portal deployments must always have a certificate assigned.

Unassigning a certificate relating to any of these deployments results in an implicit re-assignment of the self-signed SHA2 certificate to this/these deployment(s).

The SHA2 certificate cannot be modified by the operator. It is provided by Mitel and always available. It may be regenerated after a change of configuration, but it remains transparent to the operator.

#### 4.4.1.4 *Client certificate assignment tab*

Menu **SYSTEM>Security>Certificates management>Client certificate assignment**

This menu is used to assign certificates for outgoing TLS connections.

Select a certificate and assign it to one of the additional Client type TLS profiles defined for this purpose in

Menu **SYSTEM>Security>Additional TLS** profiles. Refer to Section 4.4.2.

Once the certificate has been assigned to the profiles concerned (checkboxes), the table below summarises the assignment and validity dates.



**IMPORTANT :** TLS profiles are not available for the assignment of self-signed SHA1 or SHA2 certificates, to avoid a security breach for the terminals.

A terminal should not be able to access the PBX via a connection secured by a self-signed certificate when Port 5061 and TLS access is secured with a trusted certificate and MTLs.

#### 4.4.1.5 Certification authorities tab

Menu **SYSTEM>Security>Certificates management**

Issued to	Issued by	Status	Valid from	Valid until	Download the certificate
DigiCloud Services CA	DigiCloud Services CA	Valid	10/02/20 11:52	07/02/30 11:52	<a href="#">Download the certificate</a>
DigiCloud Services CA	DigiCloud Services CA	Valid	04/08/15 14:00	04/08/30 14:00	<a href="#">Download the certificate</a>
DigiCloud Services CA	DigiCloud Services CA	Valid	10/11/06 02:00	10/11/31 02:00	<a href="#">Download the certificate</a>
Entrust Certification Authority - G2	Entrust Root Certification Authority - G2	Valid	05/10/15 21:13	05/12/30 21:43	<a href="#">Download the certificate</a>
Entrust Root Certification Authority	Entrust Root Certification Authority	Valid	27/11/06 22:23	27/11/26 22:53	<a href="#">Download the certificate</a>
Entrust Root Certification Authority - G2	Entrust Root Certification Authority - G2	Valid	07/07/09 19:25	07/12/30 19:55	<a href="#">Download the certificate</a>
GlobalSign	GlobalSign	Valid	15/12/06 10:00	15/12/21 10:00	<a href="#">Download the certificate</a>
GlobalSign	GlobalSign	Valid	01/09/98 14:00	28/01/28 14:00	<a href="#">Download the certificate</a>
JB	JB	Valid	19/03/19 17:28	04/12/38 17:28	<a href="#">Download the certificate</a>

### Principle

The purpose of a certification authority is to allow all TLS clients to check the certificates sent by the secure server to which they connect (in TLS).

Certification authorities are a kind of central store for certificates controlling TLS accesses.

This store contains CA certificates and possibly self-signed certificates.

### How the tab works

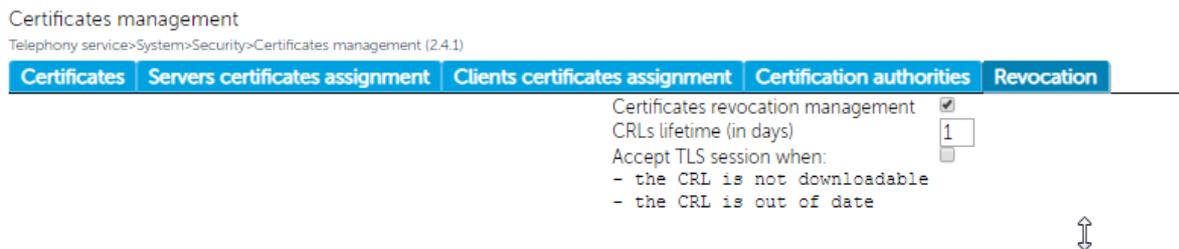
This tab allows you to import into the MiVoice 5000 Server or Mitel 5000 Gateway client the certification authorities of the secure servers deployed.

The certification authority is contained in the file in PEM format.

Possible actions are add or delete a certification authority.

#### 4.4.1.6 *Revocation tab*

Menu **SYSTEM>Security>Certificates management**



This menu is used to activate or deactivate certificate revocation management.

Revocation management is based on the CRL (Certificate Revocation List) method.

During a TLS connection this revocation consists in:

- Retrieving the list of revoked certificates whose address is available in the server certificate
- Checking that the server certificate is not one of them.

By default, certificate revocation management is enabled (ticked) during initial installation and after an update. However, it is only effective if the certificates contain CRL access point information.

The service life of the CRLs is configurable, between 1 and 15 days, and the default value is 6.



**Note: CRL contains its own validity date.**

The session acceptance parameter in case of CRL recovery failure or when the CRL expires is, by default, disabled (not ticked).

When the administrator ticks this parameter, the TLS session is allowed in the cases described above.

When the parameter is unticked, the TLS session is rejected if the CRL file has expired or is not found.



**Note: CRL management does not take place with a self-signed certificate.**

## Services concerned

The services concerned by certificate check are:

### On MiVoice 5000 Server

- Access to the repository for upgrading the MiVoice 5000 and OS patches.
- Access to the repository for upgrading terminals software
- LDAPS: Accessing an LDAP Server
- SIP / TLS: certificate certificate sent by SIP terminal (mutual authentication)
- MOVACS/TLS: Login to link Inersite or intra site
- MOVACS/TLS: Contrôle of the certificate sent by an iPBX (mutual authentication).

### On MiVoice 5000 Manager

- Configuration/HTTPS: Access to the Web Admin of the MiVoice 5000
- LDAPS: Supervision of a LDAP replica
- Configuration/HTTPS: Access to the Web Admin of the MiVoice 5000 via the proxy

The implementation of the revocation service, which consists in installing in MiVoice 5000 and Mitel 5000 Gateways, a server certificate containing the access point address of the revocation list:

- Generating server certificates for each MiVoice 5000 and Mitel 5000 Gateway with the access point address of the revocation list (by the administrator),
- Importing the certificates into each MiVoice 5000 using the Server certificates tab of Menu **SYSTEM>Security>Certificate Management**.

## 4.4.2 MENU SYSTEM>SECURITY>ADDITIONAL TLS PROFILES

This menu is used to reinforce the security of exchanges on trunks by offering profile implementation for TLS/SRTP.



**Note:** In a MiVoice 5000 environment, the TLS configuration must be set to accept the SRTP.

The different tabs of this menu are used to define and configure secure login (TLS) profiles for SIP bundles such as:

- The assignment of Client, Client/Server or Server certificates
- The assignment of specific certificates to a listening port or FQDN (associated with an SNI).

See also Section CERTIFICATES MANAGEMENT - **Certificate management** menu.

This menu is associated with the configuration of SIP trunk characteristics in basic and advanced modes. See Section Characteristics of a VoIP trunk group .



### 4.4.2.1 Names tab

Menu **SYSTEM>Security>Additional TLS profiles**

This menu is used to define the secure connection profile names for the SIP trunks.

### 4.4.2.2 Parameters tab

Menu **SYSTEM>Security>Additional TLS profiles**

This tab is used to define the parameters of an additional TLS profile from the following fields:



**By name:** options list used to select the TLS profile to be configured from those declared in the **Name** tab.

**Security level:** security level for the TLS version selected from the following three options:

- Average (default value)
- High

- Basic

**Type:** options list used to define the type of TLS profile to apply to the connection which can be:

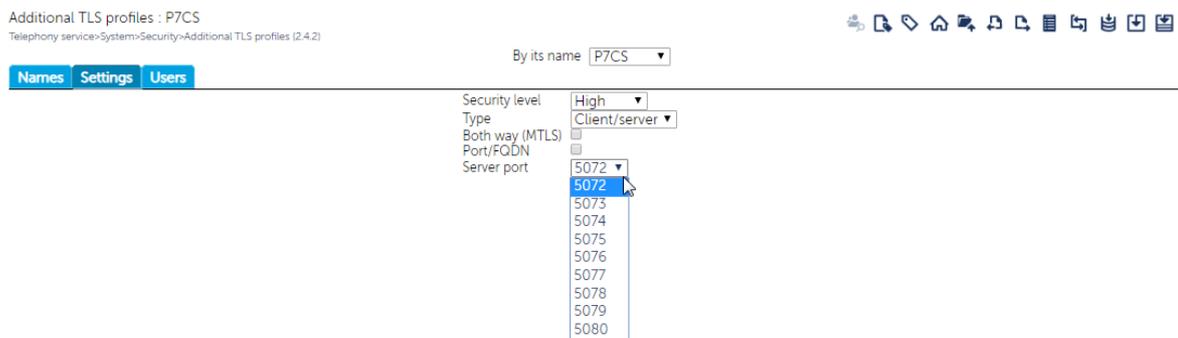
- **Client/Server:** default value
- **Client**
- **Server**

This profile type is then applied in Menu **Security>Certificate management**. Refer to Section **Erreur ! Source du renvoi introuvable..**

For Client/Server and Server types, 3 additional lines identify the server configuration:

- **Bothway (MTLS):** box to be ticked for a two-way TLS connection (MTLS). Checkbox ticked by default
- **Port/FQDN:** box to be ticked so a port can be chosen from the list proposed, or to notify the FQDN server (for SNI).
- **Box not ticked:**
  - **Server port:** options list of available and predefined values between Port 5071 and Port 5080. If some ports are already used by other TLS profiles, they are no longer available and are not displayed when other profiles are configured.

Example:



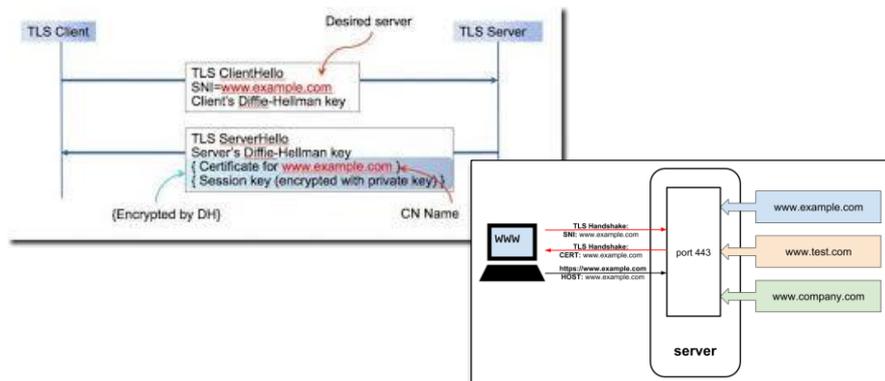
**Bothway (MTLS) and Port/FQDN checkboxes ticked:**

Additional TLS profiles : P1CS  
 Telephony service>System>Security>Additional TLS profiles (2.4.2)

By its name P1CS

Names	Settings	Users
Security level	Medium	
Type	Server only	
Both way (MTLS)	<input checked="" type="checkbox"/>	
Port/FQDN	<input checked="" type="checkbox"/>	
FQDN	mitel.com	

The **FQDN** field must be filled in to allow identification according to the SNI method described below:



Using an FQDN (SNI method) allows a Port 5061 connection to be accepted, and the FQDN certificate to be returned. This full domain name belongs to the iPBX and defines this connection on the trunk.

**SNI** (server name indication): the TLS protocol SNI extension can be used to offer different TLS services on the same server and to distinguish the service required to present the right certificate.

Example, for the domain name **BTIPtrunk.mycompany.com**. This full domain name must be declared in order to be used by the trunk operator or by a remote trunk.

If the FQDN cannot be used, for special reasons, a specific port must be used for trunk connection, because different certificates cannot be assigned to the same port without SNI.

The predefined port list is within the range [5071, 5080] and, since a port can only be used by one TLS profile (different certificates cannot be assigned to the same port), the list should contain only free ports.

FQDN is another way to determine the certificate to present on the server side for a TLS connection, depending on the FQDN reached by the connection.

When a port is selected, it is not possible to define the FQDN and when an FQDN is define, it is impossible to select a port.

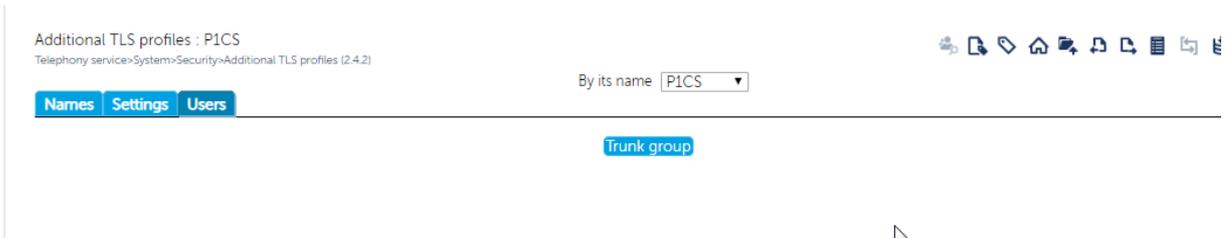
No check is made concerning the existence of the FQDN, only a syntax analysis is made to ensure compliance with the FQDN syntax.



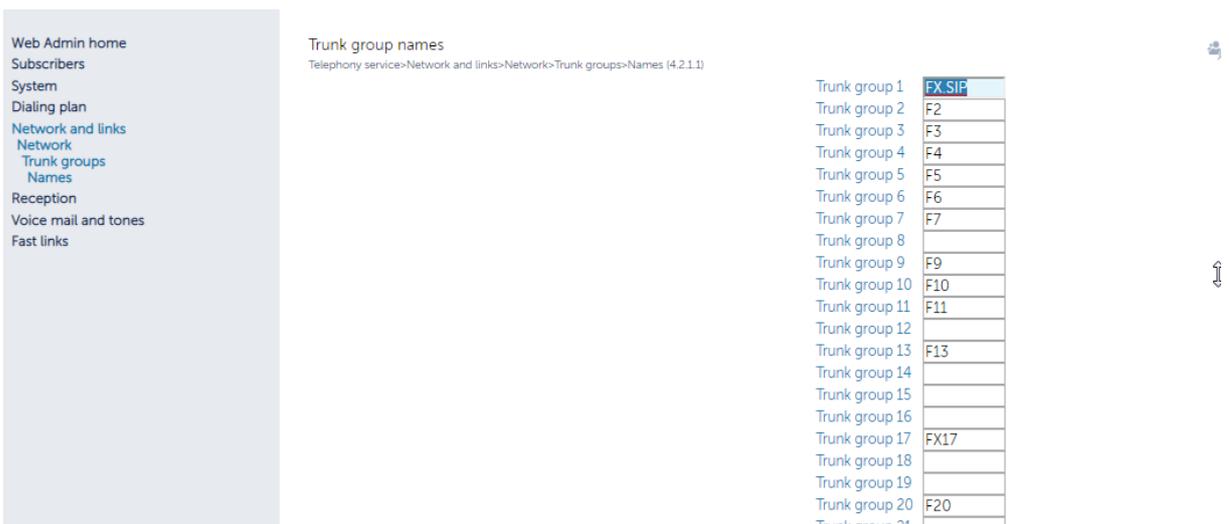
**Note:** For a flow separation configuration, an additional field is used to define the network on which the profile should be assigned.

### 4.4.2.3 Users tab

#### Menu **SYSTEM>Security>Additional TLS profiles**



This menu is used to display the trunks using this profile. Users with the TLS profile in question (**Trunks**) are configured from Menu **Telephony service>Network and Links>Network>Trunks>Characteristics** (advanced mode).



### 4.4.3 USER PASSWORD POLICY

#### Menu **SYSTEM>Security>User password policy**

See also Sections 2.2.4.2, 2.2.4.3 and 4.3.3.

In this menu, the first line is used to indicate whether or not the password policy will be enabled. This activation or deactivation is done for all the user accounts.

**User password policy:** box to be ticked or unticked.

If the box is ticked, the following parameters must be entered to define a user password syntax policy (INSTALLER, OPERATOR, MAINTENANCE, CHARGING, DIRECTORY, XML INTERFACE):

- Minimum password length in terms of number of characters (1 to 16),
- Number of small letters and/or capital letters which it must contain (0 to 16),
- Minimum number of figures it must contain (0 to 16),
- Number of special characters (0 to 16) it must contain, i.e. any of the following characters: « #'()-\_@+=%\*<>,./: »

- Password validity period in number of calendar days (1 to 999).

When the password validity period is modified, the password expiry date is updated for all user accounts if the old expiry date is later than the new date.

It remains unchanged if the expiry date is earlier than the new expiry date.

#### **4.4.3.1** *The keyword must be changed during first login (only on redundant standalone MiVoice 5000 Server integrated in Mitel EX Controller).*

During a first installation, the password policy is enabled by default from R7.2, thus forcing each user to change his/her password immediately on first login. This is applied regardless of the type of Local access or SSO mode.

The following users are all concerned:

INSTALLER,

OPERATOR,

MAINTENANCE, CHARGING,

DIRECTORY,

XML INTERFACE,

USER PORTAL

Immediate password change is also applied the first time the user logs in, if he/she had never logged in.

The password policy is renewed during an update:

**Retained:** No action required

**Activate or deactivate:** In Menu **SYSTEM>Security>Web Admin password policy** (see Section **Erreur ! Source du renvoi introuvable.**).

#### **4.4.4** **FIREWALL**

Menu **SYSTEM>Security>Firewall**

On Mitel 5000 Gateway, when an LDAP local server is secured with LDAPS and all clients on that server are also configured as LDAPS, port 389 can be blocked at the firewall by checking the Close port 389 check box.

 This menu is not available for the MiVoice 5000 Server. Blocking port 389 is to be done at the CentOS Firewall.



**Note : Port 389 of the Firewall is dedicated to the unsecured LDAP protocol.**

#### **4.4.5** **SECURITY LOG**

Menu **SYSTEM>Security>Security log**

This menu allows you to display and download the current security log.

The security log displayed in this menu is a partial security log, limited to the last traces, contained in a file of 500 KB maximum (divided into two files).

The MMI security log could directly display the contents of the corresponding files, which represents about 1500 traces.

The exportable security file log consists of text files.

The security (connection/disconnection and configurations) log is stored in the iPBX trace file.

The size of this trace file is:

- 512 KB on MiVoice 5000 Gateway,
- 2MB on MiVoice 5000 Server.

It can contain:

- Approx. 4000 traces on MiVoice 5000 Gateway,
- Approx. 16000 traces on MiVoice 5000 Server.

It is circular and saved on the disk as a compressed file, in a space whose maximum size can be defined in Menu **Telephony Service>System>Supervision>Filling of the disk space** (2.2.7).

By default, the following spaces are assigned to the traces:

- 50MB on MiVoice 5000 Server,
- 1MB on MiVoice 5000 Gateway.

Once compressed, the trace files are about 21KB on Gateway and 120KB on CallServer, which allows, with the default values of the storage space, to have :

- 415 files, that is approx. 6640000 traces on MiVoice 5000 Server,
- 45 files, that is approx. 180000 traces on MiVoice 5000 Gateway

The compressed trace files can be consulted with TR5000.

Traces, and therefore the security log, can also be exported so they can be saved over a long period of time.

To obtain older logs, it is necessary to export the traces and read them with TR5000 / MAP or to look at the Syslog server side.

## 4.5 SOFTWARE MAINTENANCE

### Menu **SYSTEM>Software maintenance**

This menu is used to:

- Configure and run a system backup operation
- Configure and program a periodic backup operation
- Run a restore operation
- Run an update operation, either by installing a new version, or by installing the current version with patches
- Change massively the configuration of some types of data by importing a data file.
- Download to a specific directory dedicated to the TFTP server, the files for IP DECT base stations, terminals A6XXD, and Wifi terminals 312I.

### 4.5.1 BACKUP

#### Menu **SYSTEM>Software maintenance>Backup**

This menu is used to:

- Configure and run a system backup operation
- Display the list of backup files available on the system
- Configure and program a periodic backup operation.

#### 4.5.1.1 *Constitution of the backup*

#### Menu **SYSTEM>Software maintenance>Backup>Constitution of the backup**

This command is used to configure the content of the backup and run a backup operation.

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

#### **DATA BACKUP**

##### **- PABX DATA**

These two parameters are not modifiable (the corresponding boxes cannot be unchecked). They correspond to the iPBX configuration data and are the minimum content of a backup.

##### **- DIRECTORY RECORDS**

If the box is ticked, the directory records will be backed up.

##### **- ANNOUNCEMENTS**

If the box is ticked, spoken announcements will be backed up.

##### **- IVS MESSAGES**

If the box is ticked, IVS announcements will be backed up.

## - IVB SIGNATURES

- This parameter is not available for MiVoice 5000 Server.

If the box is ticked, the IVB signatures will be backed up. (An IVB signature is the personalised part of the general purpose greeting message).

## CODE BACKUP

If you tick this box, the current software release will be backed up.

Use this option before upgrading the software so as to be able to return to the current release in case of problem.

After entering the backup creation parameters, click "Validation" to start the backup operation.

When backup is completed, the backup file name appears in the field EXPORT OF THE FILE.

## EXPORT OF THE FILE

Information field indicating the backup file name (for more information about the file name, see Section **Erreur ! Source du renvoi introuvable.**)

At the end of the backup operation, the backup file is located on the iPBX.

The backup file can then be copied in two ways:

- On the PC via HTTPS
- On an external disk (USB key).

To copy the backup file on the PC, click on the hypertext link available on EXPORT OF THE FILE. The PC operating system then opens the file download window.

To copy the backup file to the iPBX USB key, click **Save on iPBX USB key**. The file is copied to the directory /BACKUP/EXT created by the system if it is not available on the USB key.



**Note :** If the iPBX USB key is not available, an error message is generated.

### 4.5.1.2 List of backup files

Menu **SYSTEM>Software maintenance>Backup>Display of the backups**

This command is used to display the list of backup files available on the iPBX.

The backup file display table shows for each file:

- The file name in the following format: Bckp\_**X**\_**Y**\_**yyyymmddhhmmss**.sav where:
- **X** shows whether the backup only contains data (d) or data and code (c+d)
- **Y** is the dongle identifier
- **yyyymmddhhmmss** indicates the backup start date and time.
- The backup device: internal or external (USB key)
- The type of backup: d, or c+d
- Backup file backup date (backup end date)

- Backup file backup time (backup end time)
- The file size.

A hypertext link is available on the name of each file from the list used to copy the file on the PC. The PC operating system then opens the file download window.

### 4.5.1.3 *Programmation of periodic backup*

Menu **SYSTEM>Software maintenance>Backup>Programmation of periodic backup**

This command is used to:

- Configure the content of periodic backups
- Indicate whether the backup file must be saved on an external disk
- Confirm the backup frequency as well as date and time of first backup
- Cancel periodic programming.

The backup creation parameters are the same as the ones described in Section 4.5.1.1.

#### **SAVE TO EXTERNAL DISK**

If you tick this box, the backup file will be copied to the iPBX USB key. The file is copied to the directory /BACKUP/EXT created by the system if it is not available on the USB key.



**Note :** If the iPBX USB key is not available during validation, an error message is generated.

#### **INDICATE BACKUP FREQUENCY**

##### **DAILY**

Backup takes place once a day at the time indicated in the HOUR field, as from the day indicated in the DATE field.

##### **WEEKLY**

Backup takes place once a week on the day of the week corresponding to the day indicated in the DATE field and the time indicated in the HOUR field, as from the day indicated in the DATE field.

#### **PROGRAM THE FIRST OCCURENCE**

##### **DATE (DD/MM/YYYY):**

First backup date.

##### **HOUR (HH: MM):**

First backup time on the date indicated in the DATE field.

After defining the periodic backup parameters, click "Validation" to validate them.

The screen that appears summarises the periodic backup programming parameters. All the fields are information fields.

To cancel periodic programming, click "Cancel".

## 4.5.2 RESTORE

Menu **SYSTEM>Software maintenance>Restore**

This command is used to:

- Run or program a restore of the full version (data + application code) or the iPBX configuration (data) from a backup file.
- Delete the current restore programming.

### 4.5.2.1 *Configuring and programming a restore*



**Note :** It is not possible to run or program a restore operation if a software upgrade has been programmed.

If no restore or upgrade operation has been programmed, the screen displays by default **Type of restore: INTERNAL**.

#### TYPE DE RESTORE

**INTERNAL** The backup file to use for restore is on the iPBX.

**PC IMPORT** The backup file to use for restore is on the PC.

Select the type of restore you want then click "Validation".

#### Case of PC IMPORT:

In this case the file to be downloaded must first be located then downloaded:

#### FILE TO DOWNLOAD

Name of the backup file to download from the PC.

Use the "**Browse**" button to locate the required file.

Use the "**Download**" button to download the backup file.

Click "**Validation**" to access the restore constitution screen.

#### INTERNAL:

The screen displayed gives the list of backup files available on the iPBX (either internal or on the external disk).

Click the number of the backup file you want to access the restore constitution screen.

#### APPLICATION: *VERSION NAME*

Version name indicates the software release corresponding to the backup.

#### CHOICE OF THE ITEMS TO RESTORE:

Only the items corresponding to the content of the backup file are proposed. They are ticked by default. To restore only certain backup items, uncheck the boxes for the items that should not be restored.

The restore creation parameters are the same as those of backup creation described in Section 4.5.1.1.

#### - PABX DATA

This item must be part of the restore operation.

-           **DIRECTORY           RECORDS>ANNOUNCEMENTS>IVS           MESSAGES>IVB**  
**SIGNATURES>APPLICATIVE CODE**

These are optional items:

#### TYPE OF SWITCH OVER

##### **DEFERRED**

The restore operation will be run by the system on the date and time indicated in the DATE and HOUR fields.

##### **IMMEDIATE**

The restore operation will be run once you press the “Validation” key.

#### KEY THE SWITCH HOUR

These fields must be filled in if you select DEFERRED switchover.

#### DATE (DD/MM/YYYY):

Restore start date.

#### HOUR (HH:MM):

Restore start time.

After entering the restore creation parameters, click “Validation” to validate them then start the restore operation if you selected IMMEDIATE mode.



**Note :** For a restore operation concerning the application code, you may be prompted for the keycode during validation.

If you choose DEFERRED mode, the following screen allows you to change or cancel the restore programming.

#### Case of an XD system in duplex mode

After the restore phase on the active card, the system automatically restarts in duplex mode.

#### 4.5.2.2 *Modify/delete restore programming*

This screen is displayed in the following cases:

- During access to the menu **SYSTEM>Software maintenance>Restore**, if a restore operation has already been programmed
- After a deferred restore request is validated.

To modify the restore operation, change the parameters then click **Validation** to take account of the modifications.

To delete the programmed restore operation, tick the **DELETE** checkbox then click **Validation**.

## 4.5.3 BACKING UP/RESTORING SPECIFIC DATA FOLLOWING THE CHANGE OF OPERATING SYSTEM IN R6.3

### 4.5.3.1 *Backing up specific data following the change of operating system in r6.2*

The backup indicated in the previous section does not concern certain specific data which require, when the operating system is changed in 6.3, a specific and independent script of the actions taken from Web Admin menus.

The following specific data are not currently backed up / stored from Web Admin:

- Signatures - IVB: wav/was/avi files of the signatures
- Messages left – IVB: wav/was/avi files of the messages left.
- Photos: png files
- TFTP: TFTP firmware and file ima.cfg
- FTP: terminals Mitel 6000 SIP Phone/MiVoice 5300 IP Phone files from an external TMA (firmware, language and configuration files)

This unique storage (and restore) script is independent of Web Admin and must be run manually by the operator if he deems it necessary:

**archive\_restore.sh**



**WARNING : No choice of the data to be stored/restored is offered by this script.**

These specific data can be stored when MiVoice 5000 Server is working.

When R5.3 is upgraded (to R6.1), this operation may be carried out when MiVoice 5000 Server is stopped (command: "service a5000server stop").

During this operation, all the IVB messages and signatures will be backed up regardless of their status (being recorded or already recorded) and regardless of their format (G711/PCM/AVI) or their extension (.wav/.was/.avi).

The backup directory of the message and signature files depends on whether or not MiVoice 5000 Server is duplicated:

- MiVoice 5000 server not duplicated: "/opt/a5000notdupli/infra/mevo/bvim/"
- MiVoice 5000 server duplicated: "/opt/MiVoice 5000/infra/mevo/bvim/"

This script automatically checks the size of the available storage space, compared to the data to be backed up (pictures + IVB messages/signatures).

We advise the PBX user to check the required memory size from Menu **SYSTEM>Supervision>Filling of the disk space**.

The script may correct the action taken by the user.

**Procedure:**

To make this backup, log on as root.

- Select the directory **/opt/MiVoice 5000/infra/tools/bin**
- In the terminal window, enter the command:

```
# chmod 777 archive_restore.sh
```

```
#!/archive_restore.sh archive /mnt/backup
```

This script comprises three parameters.

```
./archive_restore.sh function, directory, file
```

The parameter **function** is used to specify the nature of the operation. For data backup, this parameter is **archive**.

The parameter **directory (/mnt/backup)** is used to specify a target directory which may be on a local disk, a network, or USB key. This must be installed in advance.

The parameter **file** is used to specify the name of the source or destination archive file. This parameter is optional for data backup. The default archive filename is **archive\_YYYYMMDDhhmmss.tar** if it is not specified in the script.

The necessary space can be estimated via Web Admin, in Menu "Filling of the disk space" (Voicemail boxes + Pictures + FTP terminals). The file archive.log is used to display the backed up data (in **/opt/MiVoice 5000/infra/tools/log**).

#### **4.5.3.2** *Restoring specific data following the change of operating system in R6.3*

The data must also be restored from a specific independent script in Web Admin menus.

This script is only available on a MiVoice 5000 Server as of R5.3. This script is located in **/opt/a5000/infra/utills/bin** and is called **archive\_restore.sh**

**Important remarks:**

All the old files in the directories concerned will be erased during restore.

MMiVoice 5000 Server is stopped after the script is run and then restarts automatically.

**Procedure:**

To make this restore, log on as root.

- Select the directory **/opt/MiVoice 5000/infra/tools/bin**
- In the terminal window, enter the command:

```
#!/archive_restore.sh restore /mnt/backup archive_YYYYMMDDhhmmss.tar
```

This script comprises three parameters.

```
./archive_restore.sh function, directory file
```

The parameter **function** is used to specify the nature of the operation. For data restore, this parameter is **restore**.

The parameter **directory (/mnt backup) /** is used to specify the directory containing the archive file which may be on a local disk, a network, or USB key. This must be installed in advance.

The parameter **file** is used to specify the name of the source or destination archive file. For data restore, this parameter indicates the name of the file archive.tar to be restored.

#### 4.5.4 UPGRADE

Menu **SYSTEM>Software maintenance>Upgrade**

As of Release R6.5, the only method of updating the software components of a Cluster, a MiVoice 5000 Server, a Mitel 5000 gateway system, a MiVoice 5000 compact system is the upgrade from the repository.

This Repository server, on which the update packages will be dropped, is located:

- On the operator's PC (Windows),
- On a public Mitel platform,
- On the MiVoice 5000 Manager PC.

Refer to document AMT / PTD / PBX / 0155.

#### 4.5.5 DISPLAY EFFECTS

Menu **SYSTEM>Software maintenance>Display effects**

This menu is used to display the corrected anomalies, sorted in alphabetical order, as well as the name of the production in which this anomaly was first corrected.

#### 4.5.6 MASSIVE DATA IMPORT

Menu **SYSTEM>Software maintenance>Massive import**



**Note :** See also other import modes in Section 2.3.3 from the  icon.

##### Import type

##### Generic

This option is used to import files in .csv format and some archive files in TAR, TAR.GZ or ZIP format.

The import function is used to read an external file in CSV format and, thus, configure all similar items.

These functions can be used to massively modify data on the iPBX:

Import the modified file to reconfigure the data.

Perform a massive import during a first installation from the massive creation form (see the appendix to the *Installation and Maintenance Manual* [1]).

The export function is described in 2.3.2.8.

Other import modes are available, depending on context or files relating to the item processed. See Section 2.3.3.

**For massive tone import, some IVR and IVB, or the associated file(s) available in the archive are also imported.**

## IVB signatures

This option allows massive import of customised greeting messages.

The accepted archive file format is TAR, TAR.GZ or ZIP.

The restrictions are the same for individual import (format, type, size).

A report of the import is displayed (so possible errors can be identified).

Accepted IVB signature formats are:

- Number-based format
- First name/Surname based format

### Number-based format

**<number>\_<signature type>\_[xxx].<ext>**

- <number>: VM number
- <signature type>: Name / AnsRec / AnsOnly
- **Name**: signature type **Name**
- **Ansrec**: signature type **Answering/recording machine**
- **AnsOnly**: signature type **Answering machine**
- [xxx]: option enabling the user to customise the file name
- <ext>: wav or avi

Example: **65010\_AnsRec\_Service1.wav**

In this example:

- The voicemail box number is: **65010**
- Its type is **AnsRec**: Answering/recording machine
- The remark indicates: **Service1**
- Sound file format: **wav**

First name/Surname based format

<first name>\_<surname>\_<signature type>\_[xxx].<ext>

- <first name>: IVB user's first name
- <surname>: IVB user's surname
- <signature type>: Name / AnsRec / AnsOnly
- [xxx]: option enabling the user to customise the file name
- <ext>: wav or avi

Example: **bob\_smith\_AnsOnly\_Agent01.avi**

In this example:

- The voicemail box user's first name is: **bob**
- The voicemail box user's surname is: **smith**
- Its type is **AnsOnly**: Answering machine
- The remark indicates: **Agent01**
- Video file format: **avi**



**Note :** It is advisable to use the Number format for a Multi-Directory configuration with the presence of homonyms.  
During import processing, a consistency check is made with the directory database.

### File to import

Name of the file to download from the PC.

Use the **Browse** button to locate the required file.

After filling in this field, use the **Download** button to download the upgrade file.

At the end of the download operation, use the "Take account of the data button" to apply the downloaded data to the system.

When the data are taken into account, a report window opens.

The report window presents a table, with lines and columns corresponding to those of the imported file.

Only the lines for which at least one error was encountered during processing are displayed. The message displayed below the table gives the number of lines processed without error and the number of requested processing lines.

The data highlighted in green has been modified or created successfully.

The data displayed in red has not been modified or created. An information bubble is available on the data displayed in red, indicating the reason why it has not been taken into account.

The data displayed in black has not been processed (no processing requested).

## 4.5.7 LOADING OF FILES

### 4.5.7.1 *Tftp tab of Menu SYSTEM>Software maintenance>Loading of files*

This menu is used to download the files for the following devices to a specific directory dedicated to the TFTP server:

- IP DECT BASE STATION (ip\_rfp.cnt )
- DECT SIP Mitel RFP 32-34-42 IP (iprfp2G.tftp ) Mitel OMM 4.0 network
- DECT SIP Mitel RFP 35-36-37-43 (iprfp3G.dnld ») Mitel OMM 4.0 network
- IMA CONFIGURATION
- TERMINAL A6XXD ("aafon6xxd.dnld")
- WIFI TERMINAL 312I ("312w.dnld")

The “**Browse**” button gives access to the original directory and is used to select the file to download.

A version exists already for DECT SIP Mitel RFP 35, 43, terminals A6xxd and Wifi terminals 312i; it is displayed in a non-modifiable “**Actual version**” field.

Click “**Confirmation**” after the name of the file to be downloaded to the “**New File**” field is displayed.

If the format for the file to download is incorrect, an error message is displayed.

The TFTP server may be of several types:

- Integrated, available on Mitel 5000 Gateways systems
- Located on the same PC as MiVoice 5000 Server

On a dedicated PC.

For the configuration of this server, no matter the type, see the document [4]



**Note :** The format consistency is checked by detecting the version for terminals A6xxd and 312i files. There is no check for the IP DECT base station software.

### 4.5.7.2 *Terminals spaces tab of Menu SYSTEM>Software maintenance>Loading of files*

This tab available from R7.0 is dedicated to the management and update of terminals:

- 6xxxi,
- 53xxip,
- 53xx.

Refer to the documents AMT/PTD/TR/0014 and AMT/PTD/TR/0043.

## 4.5.8 RESTART REQUEST

Menu **SYSTEM>Restart request**

This command is used to:

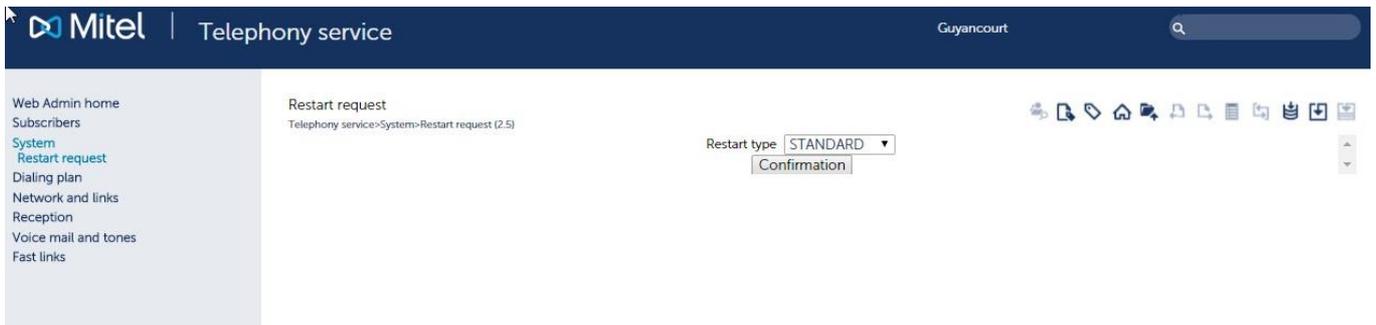
- Validate the active version if it is in test (after software upgrade)

- Return to the validated version if the active version is in test and does not run as expected
- Restart the iPBX application
- Restart the iPBX application and the integrated Linux OS
- Stop the iPBX application and integrated Linux OS.

You may need to restart the system so the modifications to certain configuration data can be taken into account, or after installing a patch.

To access this menu, click "Software maintenance" from the system management main menu.

If you validate the active version, the restart request screen appears as follows:



### Restart request (1)

If the active version is in test, the restart request screen appears as follows:



### Restart request (2)

#### RESTART TYPE

**RETURN TO VALID VERSION**

The iPBX application restarts with the valid version (currently the inactive directory). The integrated Linux OS is only restarted if the OS versions of the active and passive directories are different.

This option is only available if the active version has not been validated.

**STANDARD**

Only the iPBX application is restarted.

**CPU SWITCH**

For a duplex XD configuration, the "CPU switch" restart type causes a switchover from the active to passive CPU card. The passive CPU card takes over and becomes active.

**REBOOT OS**

The iPBX application and integrated Linux OS are restarted. This value is not available for MiVoice 5000 Server.

**STOP OS**

The iPBX application and integrated Linux OS are stopped. This value is not available for MiVoice 5000 Server.

#### 4.5.9 VALIDATING THE ACTIVE VERSION

The restart request screen shows the two software packages available on the system:

- That of the active version in test
- That of the validated inactive version

To validate the version in test, click "Validate the version".

During the validation phase, the "Validate the version" button is orange in colour:

Active version:  
A5000 R6.1 RC /E301 FRA TEST

Validate the version

Inactive version:  
A5000 R6.1 RC /E301 FRA VALID

Restart type: STANDARD ▾

Confirmation

At the end of the operation, the active and inactive versions are identical and have the status VALID.

#### 4.5.10 RETURNING TO THE VALIDATED VERSION

You can return to the validated version when the active version is in test.

To return to the validated version, select RETURN TO VALID VERSION in the RESTART TYPE field then click "Confirmation".

The iPBX restarts to the validated version. A wait message then appears.

At the end of the countdown, this screen disappears and the system becomes operational again.

The active version is then the version running prior to the upgrade operation. This version is validated.

The inactive version is the version installed through upgrade, and it is not in test.



**WARNING :** This status does not present the backup version in case of problem on the active version. It is advisable to reinstall as quickly as possible a new upgrade provided by the manufacturer, which corrects the malfunctions in the previous version.

## 4.5.11 RESTART

To perform a restart, select the type of restart you want then click **Confirmation**.

The iPBX restarts and a wait message is then displayed:

At the end of the countdown, this screen disappears and the system becomes operational again.

### **STANDARD :**

- In a typical configuration, this action restarting the iPBX
- In MiVoice 5000 Cluster Server configuration, this action will restart only the MiVoice 5000 Cluster Server.

### **STANDARD WITH THE NODES :**

- In MiVoice 5000 Cluster Server configuration, this action will restart the MiVoice 5000 Cluster Server and all the associated nodes.

## 4.6 EXPERT

### Menu **SYSTEM>Expert**

This menu is used to:

- Deploy investigation tools to solve problems
- Display/change the different call and ringer-related timeouts
- Change the configuration data parameters and identify the changes compared to the original values
- Test some connections
- manage the list of Mitel owner sets.
  - The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 SERVER.

### 4.6.1 PROCESSOR ACCESS

#### Menu **SYSTEM>Expert>Processor access**

This menu is basically meant for a special investigation requested by Technical Support.

It is used to:

- Deploy investigative tools such as activation of traces, recovery of error files
- Identify excess loads on the card processors
- Access the atomic information of the system configuration via PAS files.

#### 4.6.1.1 *Debug tools*

##### Menu **SYSTEM>Expert>Processor access>Debug tools**

This menu is used to:

- Manage traces (configuration, export, etc.)
- Recover error files
- Send a Ping request to test the accessibility of a remote device.

#### 4.6.1.1.1 **Traces**

##### Menu **SYSTEM>Expert>Processor access>Debug tools>Traces**

This menu is used to:

- Configure traces
- Manually export traces to a file
- Display the configuration
- Display the list of available traces available on the iPBX

- Download the traces files available on the iPBX.

#### 4.6.1.1.1.1 Parameters

Menu SYSTEM>Expert>Processor access>Debug tools>Traces>Parameters

This command is used to:

- Modify the IP address used to redirect traces to a SYSLOG client,
- Change the current configuration of traces by downloading a configuration file,
- Apply the default configuration,
- Manually export traces to a file.

### **SYSLOG PARAMETERS**

**TLS:** checkbox for secure connection to Syslog servers. This requires importing the root authority of certificates from Syslog servers.

### **SERVER 1 AND 2 IP ADDRESS PORTS**

Choice of 2 IP addresses to redirect traces to a server, or two remote SYSLOG(s) to send the security log.

Processing is carried out by UDP.

The address format is either IP V4, IP V6 or FQDN.

**Note:** The SYSLOG service must be installed on MiVoice 5000 Server. See the document Mitel 5000 Gateways and MiVoice 5000 Server Activation - AMT/PTD/PBX/0151.

This service must also be activated in Menu **System>Services**.

Messages are sent in real time to the Syslog server(s).

When the session with a Syslog server is lost, there is no repetition of the messages sent. Similarly, a message can be lost if it is sent in UDP.

To avoid this loss of message, the Syslog connection mode in TLS may be preferred to the standard mode.

The **Syslog Test** button is used to test the connection to these servers.

### **CONFIGURE TRACE BY FILE**

Name of the traces configuration file.

The "**Browse**" button opens a browser used to search for a file on the PC. When the file is found and selected in the browser, the Download button can be used to replace the current configuration file with the new one. The new configuration is taken into account once downloading is completed.

The application of a new trace configuration file is generally used for a special investigation and is limited in time. To restore the default configuration at the end of the investigation, click **Default configuration**.

## EXPORT TAB

### EXPORT OF THE TRACE

The "Export of the trace" button is used to force traces export to a file before the maximum size (512 KB) of the buffer containing the trace on the iPBX is reached (when this size is reached, automatic storage takes place on the system).

### EXPORT LAST TRACES FILE

This field indicates, on the right, the name of the last available traces file, and the title of the left column field is a link that gives access to the downloading of the said traces file.

### XX TRACES FILES PRESENT

XX represents the number of traces files stored locally. The link gives access to the list of corresponding traces files, in Menu.

**System>Expert>Processor access>Debug tools>Traces> List of traces files.**

### DELETE THESE FILES

Pressing this button definitely deletes the available traces files.

### RECOVER TRACES FILES GENERATED BETWEEN:

This command is used to group together in a .tar file all the traces files between two dates/timeslots.

The following fields represent the **start and end dates and time** of the traces files to be recovered.

The CONFIRMATION button generates the **traces.tar** file which can be downloaded via the link on the next menu **EXPORT OF THE FILE**.

#### 4.6.1.1.1.2 *Configuration*

Menu **SYSTEM>Expert>Processor access>Debug tools>Traces>Configuration**

This menu enables the installer to configure the following trace levels individually:

- INFO
- ERR0201
- WAR
- ERR.

For each trace, select the **ml** name and the corresponding **module** name.

#### 4.6.1.1.1.3 *Display the configuration of the traces*

Menu **SYSTEM>Expert>Processor access>Debug tools>Traces>Configuration display**

This command is used to display the software modules and severity levels for which the traces are activated.

#### 4.6.1.1.1.4 *List of trace files*

Menu **SYSTEM>Expert>Processor access>Debug tools>Traces>Display**

This command is used to display the list of the traces files which have been exported either automatically by the system (maximum size has been attained) or manually (**EXPORT OF THE TRACE** in the menu **SYSTEM>Expert>Processor access>Debug tools>Traces>Parameters**).

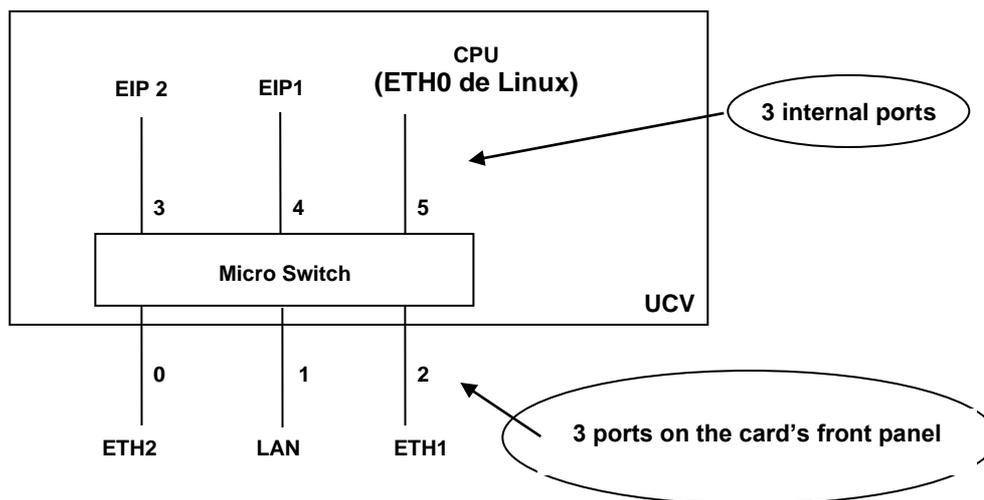
The list of stored files shows for each storage:

- The file name (trace\_date\_time.tar.gz)
- The date and time of storage
- The file size.

Click the name of an archive to download the archive for possible transmission to Technical Support.

## 4.6.1.1.2 Dump IP

### 4.6.1.1.2.1 General information



A microswitch is integrated into the UCV card of Mitel 5000 Gateways and has 6 ports.

- Three internal ports for the CPU (main processor on which Linux and the telephony application are run) and EIP daughter cards
- The other three correspond to the Ethernet sockets on the card's front panel (except on XD where port ETH1 is internally used to synchronise the two UCVD cards).

The **Dump IP** feature is used to capture the traffic sent and received on the Dump IP interface (Port 5).

The corresponding menu is possibly used to filter and modify the capture according to one of the profiles proposed (or type of dump; see below for the proposed options).

The capture files are in **.pcap** format and can be used by various tools, including Wireshark (not supplied).

Menu **SYSTEM>Expert>Processor access>Debug tools>Dump IP>Configuration**

**Description of the fields:**

**Type of dump:**

Several Dump IP types are possible:

- GENERIC
- SIP
- PORT

This applies to Mitel 5000 Gateways. For MiVoice 5000 Server, the choice of **PORT** is not authorised, and the interfaces depend on the host PC.

### GENERIC

This option, which corresponds to the **Generic** profile, is used to capture the traffic on the CPU port.

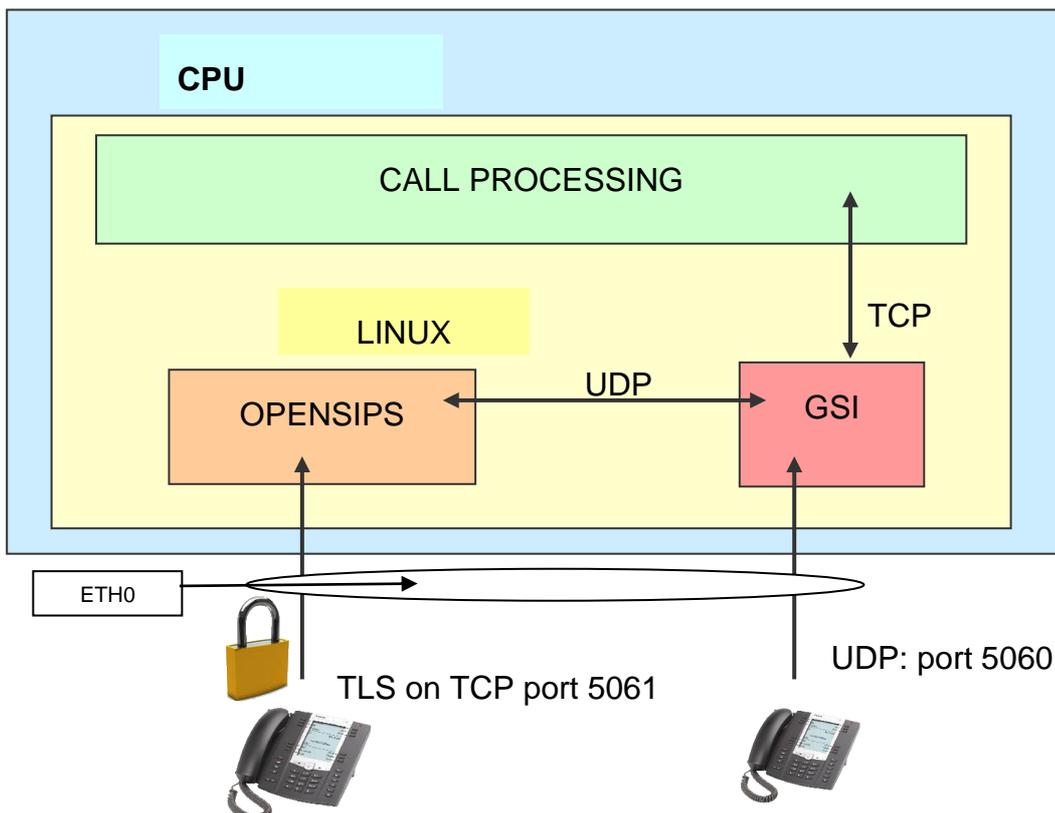
The dump interface options are the same as for the SIP (see below).

### SIP

This option, which corresponds to the SIP profile, is used to capture the encrypted/unencrypted SIP signalling traffic.

SIP signal processing is presented in the diagram below: the GSI serves as a gateway between system call processing and the devices communicating in SIP mode. It translates proprietary signalling messages to SIP messages and vice-versa.

If the calls are encrypted, signal encryption/decoding is handled by OPENSIPS.



The following dump interfaces are available:

- **ALL:** both traffics mentioned above are captured.
- **INTERNAL:** capturing the SIP packets exchanged on the internal loopback IP address (127.0.0.1), i.e. the packets exchanged between the software modules of the CPU, GSI and OPENSIPS. It is all about unencrypted SIP messages corresponding to the encrypted messages exchanged with encrypted SIP terminals.
- **ETHERNET 0:** capturing the SIP messages sent and received on the ETH0 interface of Linux: everything circulating on Port 5 of the microswitch. It is all about encrypted and unencrypted SIP messages exchanged with encrypting and non-encrypting SIP terminals.



**Note:** On the **INTERNAL** interface, the packets are exchanged using the standard loop-back address 127.0.0.1. To facilitate the reading of traces, a different IP address is assigned to the two modules during the capture (GSI/OPENSIPS).

This option, which corresponds to the PORT profile, is used to capture the traffic on the CPU port (5) after programming the mirroring of another microswitch on Port 5.

The parameter "**dump port**" is used to choose the port to be mirrored. The port number is the one indicated on the microswitch diagram (see above):

- 0: ETH2
- 1: LANUCV
- 2: FROM UCV (that is, from another UCVD in case of duplex configuration). See the note below.
- 3: EIP 0-10 (EIP2)
- 4: EIP 0-09 (EIP1)



**Note:** In a duplex configuration, port 2 (ETH1) is not wired on the front panel of the card; it is reserved for dialogue between the two UCVD cards. In this case, the different captures show a VLAN (id #2640) dedicated to the synchronisation dialogue of the two duplicated UCVD cards (supervision, data duplication). Due to mirroring, the packets sent by the CPU to a mirrored port can appear twice in the capture.

Traffic from an EIP is available on the LAN interface. However, it is useful to activate EIP mirroring for a card that triggers sporadic restarts. In fact, when a capture with EIP mirroring is activated and the card concerned restarts, the capture operation stops and the capture file is added to the error file for investigation.

In addition to voice itself (RTP traffic), the different EIP traffic captures contain a dialogue corresponding to EIP module control with a MAC address: 00-11-22-33-44-xx.

## **FILTER**

When a filter input field is proposed, its syntax is that of the TCPDUMP tool (for the syntax, refer to the various web sites about this tool).

The filter entered by the operator is not stored and must be entered again each time capture is started.

The Dump IP capture tool does not support the other PT2 type IP expansion cards.

Examples:

- - Port 1234 for filtering the port
- - Port 1234 or Port 4321 for capturing on both ports only
- - Tcp Port 1234 for capturing the tcp port only
- - Src 1.2.3.4 for capturing traffic from 1.2.3.4 only
- - Src 1.2.3.4 or dst 1.2.3.4 for capturing traffic from and to 1.2.3.4 only

### **In summary:**

In general, the most frequently used configurations will be:

- **GENERIC / ETHERNET 0:** for capturing the entire data and signal traffic only sent and received by the system (excluding voice over IP)
- **SIP / INTERNAL:** for unencrypting encrypted SIP signals
- **PORT / LANUCV:** for capturing all the traffic from the main connection LAN port to the network switch: data traffic, signalling and voice/IP flows

## Running captures

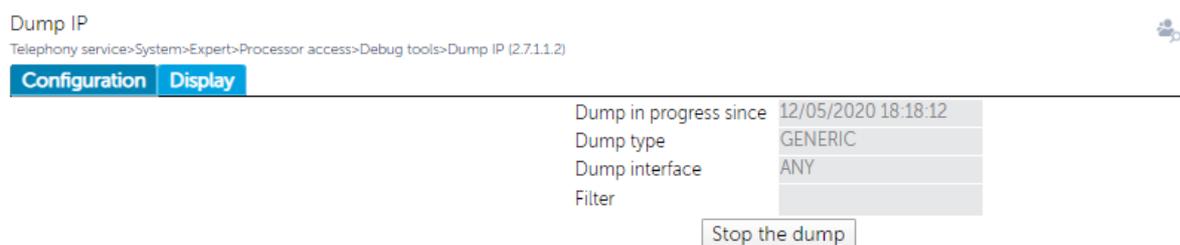
### From the Configuration tab:

After configuring the dumps, click the **Run the dump** button to run the capture.



When this capture is in progress, the display shows the initial configuration by indicating all the previously configured fields.

Example:



After the capture is started, only one **Stop the dump** button is displayed in the configuration menu used to stop the action.

Stopping the Dump creates a file containing the full log of actions taken since the launch.

The resulting file can be viewed in Menu **SYSTEM>Expert>Processor access>Debug tools>Dump IP>Display** (see next section).



**Note:** During start or stop, if the command is not correctly executed, the message “System error” is returned to the operator.

### Erase all dump files button

If no capture is started, this button can be used to erase all the already stored capture files, to avoid keeping unnecessary traces.

### Store capture files

Captures are stored in automatically truncated files, with 5 MB each, which are then compressed to limit the space occupied on the CPU card compact flash.

At the moment, the possible storage area for the capture files is limited to 100 MB (2 GB on CF).

If this area is filled up, the oldest captures are automatically erased to avoid exceeding the storage capacity.

This value can be adjusted in Menu **System>Supervision>Filling of the disk space** in the Dump IP export field.

#### 4.6.1.1.2.2 Displaying Dump IP

Menu **SYSTEM>Expert>Processor access>Debug tools>Dump IP>Display**

This column is used to display and/or download capture files.

On the displayed page, each line presents a capture file, its date, time and size.

- Select the file concerned to download it to a directory you want so you can then use it.

The files are compressed and timestamped. They contain the capture in .pcap format allowing the traces to be used by a network analyser.

Dump IP  
Telephony service>System>Expert>Processor access>Debug tools>Dump IP (2.711.2)

Configuration Display

Name	Date	Hour	Size
dumpip_00003_20200430163519.tar.gz	30/04/2020	16:35:19	3,02 MB
dumpip_00002_20200205162725.tar.gz	05/02/2020	16:27:25	19,85 KB
dumpip_00001_20191216173121.tar.gz	16/12/2019	17:31:21	1,16 KB
dumpip_00000_20191003161541.tar.gz	03/10/2019	16:15:41	2,6 KB

When exporting from this tab, all files viewed are exported to a compressed .tar file.

#### 4.6.1.1.3 Errors display

Menu **SYSTEM>Expert>Processor access>Debug tools>Errors display**

Serious errors such as system failures are logged and stored in error files.

This command is used to display the list of error files.

The list of stored files shows for each storage:

- The file name (crash-date+time.tgz)
- The date and time of storage
- The file size.

Click the name of an archive to download the archive for possible transmission to Technical Support.

#### 4.6.1.1.4 Ping request sending

Menu **SYSTEM>Expert>Processor access>Debug tools>Ping request sending**

This command is used to send a Ping request to a remote device in order to check that it is accessible via the network.

##### TO IP ADDRESS

IP address to which the request is sent.

Once this field is completed, the following field appears on the screen.

##### WITH IP CARD

Location of the IP card to be used to send the ping request to the IP address mentioned above. The drop-down list contains all the IP card slots in the cabinet.

Once this field is completed, the following fields appear on the screen.

### **DATA SIZE**

Size of the IP packet that will be sent. By default, the value is 32. Possible values range between 32 and 1024 bytes.

### **TIME TO LIVE OF THE IP DATAGRAM**

Packet service life (maximum number of routers crossed to reach the target). The default value is the value used by the PTx cards. Possible values are between 1 and 255.

**WAITING PERIOD (MS)**

"Pinged" equipment response timeout. The default value is 1 second. Possible values are between 100 and 65500 ms.

After entering the parameters, click "Confirmation" to start the request.

The results of the ping request are presented in form of a table of all the basic requests sent by the system, and a statistical summary.

The table indicates for each basic request sent by the system:

- The IP address of the target equipment
- The size in bytes of the IP packet sent
- The transmission and reception time in milliseconds (if the response time is very short, the IP card cannot know it with precision; it is then indicated by an upper base station)
- The return TTL (generally, the target sets the TTL value to 255 before returning the IP packet; the number received is therefore 255 less than the number of routers passed through on the way back)



**Note :** The character "\*" shows that the target equipment's response was not received within the WAITING PERIOD.

The statistical summary indicates:

- The IP address of the source equipment (iPBX) and the IP address of the target equipment
- The number of packets sent, received and lost for all the basic requests
- The minimum, maximum and average packet transmission time.



**Note :** The time indicators only take into account the packets received within a period known to the system.

#### 4.6.1.1.5 Integrated debug

Menu **SYSTEM>Expert>Processor access>Debug tools>Integrated debug**

This menu is used to manage the light debugger integrated into the iPBX, by proposing to:

- Create or delete a breakpoint
- Activate or deactivate a breakpoint
- Create a breakpoint for a limited number of times
- List breakpoints and their status
- View a disassembled code

This menu is used to configure at most 16 breakpoints.

For a breakpoint, the possibilities for configuring the action to take on arriving on this breakpoint are:

- Displaying registers
- Displaying call stacks (the depth is configurable)
- Displaying the content of the stack (the depth is configurable)



- Display the content of a memory area (in bytes, word, dword, ASCII, byte+ASCII)

**Note :** The iPBX's integrated debugger does not work simultaneously with GDB.

This screen is used to:

- View all the set breakpoints, as well as the processing operations to be performed upon arriving on these breakpoints.
- Select a breakpoint (by clicking the link available in the first column) to edit its characteristics.

**No. (breakpoint number):** Value between 1 and 16; represents a breakpoint

**Address:** hexadecimal value (format : 0x12345678), representing the breakpoint address; this field is empty if no breakpoint is configured.

The following columns are not filled in unless the breakpoint address exists.

**Status:** field representing the status of the breakpoint (active or inactive)

**Iteration:** displaying the number of iterations made (5 characters) compared to the number of requested iterations (5 characters completed by some '0s'). If the number of requested iterations is indefinite, the 5 characters are replaced by the character '-'. *Example: 00002/00010 means that 2 iterations have been made out of 10 iteration requests, 5/----- means that 5 iterations have been made.*

**Memory:** if the display of a memory area is configured on arriving on this breakpoint, @MEM/TIII type information is displayed. With:

- @MEM: memory address in 0x12345678 format, or name of a register
- T: export type: B (byte or byte + ASCII), W (Word), D (Double Word), A (ASCII)
- III: length to be displayed on decimal (de 000 to 999)

**Stack:** displaying the digit corresponding to the depth of the stack to be displayed on arriving on this breakpoint (between 1 and 999). The character '\*' is displayed if the display of the entire stack is requested. If this parameter is not configured, a 'space' character is displayed.

**Registers:** the character '\*' is displayed if register display is configured on arriving on this breakpoint.

**Calls stack:** displaying the digit corresponding to the depth of the call stack to be displayed on arriving on this breakpoint (between 1 and 20). If this parameter is not configured, a 'space' character is displayed.

### Defining a breakpoint

Selecting an item in the selection menu gives access to the configuration of this breakpoint in the terminal input menu.

This menu presents the following lines:

**Code address:** Field with 8 upper-case characters; the authorised characters are [0 .. 9] and [A .. F]. This field is used to enter the address at which the breakpoint will be placed.

The address is entered and displayed in hexadecimal format, but the characters 0x are neither displayed nor authorised for input. The address cannot be entered if a debug script is being executed because these two debug methods are exclusive. It is not possible to enter two breakpoints with the same code address. It is automatically activated during breakpoint creation.

The following lines are only displayed if a code address is entered.

**Assembler:** a set of 6 lines which present the assembler code from the address entered. This is used to check that the breakpoint is correctly placed compared to the listing.

**Active:** shows whether the breakpoint is active or inactive. This field is a checkbox for web terminals

**Number of iterations:** This field presents in brackets the current number of iterations obtained. The input field is used to specify the number of required iterations.

When the number is reached, the breakpoint is deactivated. If this number is not entered (default value) this means that the number of iterations is indefinite. The values authorised for this field are between 1 and 65500.

**Number of steps:** This field is used to specify the number of instructions to be executed in step-by-step mode after reaching this breakpoint.

The values authorised for this field are between 1 and 10. Leaving this field empty (default value) means that no step-by-step mode will be used.

The lines which follow 'traced elements' are optional and are used to configure the display of particular items upon arriving at the breakpoint.

**Registers:** indicates whether register output is requested upon arriving on this breakpoint. This field is a checkbox for web terminals.

**Stack:** indicates whether stack output is requested upon arriving on this breakpoint. This field is a checkbox for web terminals.

- **Depth:** this line is only displayed if the stack is required. The input field is used to specify the stack depth to display. If this number is not entered, this means that the entire stack will be displayed (default value). The values authorised for this field are between 1 and 999.

**Calls stack:** indicates whether call stack output is requested upon arriving on this breakpoint. This field is a checkbox for web terminals.

- **Depth:** this line is only displayed if the call stack is required. The input field is used to specify the number of calling functions to display. The values authorised for this field are between 1 and 20 (default value).

**Memory:** indicates whether output from part of the memory is requested upon arriving on this breakpoint. This field is a checkbox for web terminals.

- **Address:** field with 8 upper-case characters; the authorised characters are [0 .. 9] and [A .. Z]. This field is used to enter the name of a register, or a memory address. The address is entered and displayed in hexadecimal format, but the characters 0x are neither displayed nor authorised for input. The authorised registers are EAX, EBX, ECX, EDX, ESI, EDI, DS, ES, SS, FS and GS. If a register is entered, the memory will be displayed at the address contained in the register. This line is only displayed if memory display is required.

- **Type:** This line is only displayed if memory display is required. The input field is a list of the following options: byte, word, double word, ascii, byte + ascii. This indicates the memory display format.

- **Length:** This line is only displayed if memory display is required. The input field is used to specify the number of items to display. The values authorised for this field are between 1 (default value) and 999.

All the values entered in this menu are stored in the MMC variables and will be written in the file `dbg.conf` when exiting this menu or while changing from the next or previous breakpoint. After reading the file, the debug ML is alerted to the fact that it must update its breakpoint configuration by rereading the file thanks to `dbg_set_config` interface procedure.

#### 4.6.1.1.5.1 *Managing the file dbg.conf*

Access to the file **dbg.conf**, which contains the breakpoint configuration, is via the interface procedures offered by the Keyfile ML.

The names of the keys and sections used are described in the common file `dbg_litteraux.h` available under `COM_SAFE`.

The MMC handles only the break points associated with the `CMSTART` process. Moreover, only breakpoints 1 to 16 are analysed.

Each time a key or section is written, the MMC adds a comment line indicating the modification date for this key or section.

During the break point writing phase, all the keys of the associated section are deleted and only the keys required to describe this new breakpoint are created.

Example of the content of a file `dbg.conf`:

```
[break 1]
# Key modified on 02/11/2009 at 09:11:29
Process = CMSTART
# Key modified on 02/11/2009 at 09:11:29
Address = 0x46001500
# Key modified on 02/11/2009 at 09:11:29
State = 1
# Key modified on 02/11/2009 at 09:11:29
Passcounts = 6000
# Key modified on 02/11/2009 at 09:11:29
Dump = reg, stack, bt, mem
# Key modified on 02/11/2009 at 09:11:29
Stack Size =
# Key modified on 02/11/2009 at 09:11:29
Backtrace = 20
# Key modified on 02/11/2009 at 09:11:29
Memory address = eax
# Key modified on 02/11/2009 at 09:11:29
Memory type = byte
# Key modified on 02/11/2009 at 09:11:29
Memory size = 0x64
```

#### 4.6.1.1.6 Debug script

Menu **SYSTEM>Expert>Processor access>Debug tools>Debug scripts**

This command is used to activate/deactivate a debug script when required by Technical Support which will provide, if necessary, the right debug script as well as the instructions to start the script, stop the script and export the generated traces.

##### DEBUG TYPE

**INTERNAL**      **Remote**

Shows whether the script is executed internally or from a remote PC (for an Mitel 5000 Gateways system only).

##### SCRIPT FILE

Name of the file to download. Use the **Browse...** and **Download** buttons to download the script provided.

##### SCRIPT OF

Information field indicating the date and time of the current file containing the debug script.

A check is made when Debug is started. The script will not be executed if a breakpoint exists in the file **dbg.conf**.

Follow the instructions from Technical Support to start/stop debug mode.

#### 4.6.1.2 Processor load measurement

Menu **SYSTEM>Expert>Processor access>Processor load measurement**

This command is used to measure, over a given period, the available free time in a card's processor.

##### PROCESSOR TYPE

- This field is not available for MiVoice 5000 Server.

Type of card whose processor load you wish to measure.

The drop-down list contains the types of iPBX cards with a processor.

##### CARD SLOT

Card slot in XYY format, where X is the cabinet number, and YY the card's slot in the cabinet.



**Note :** This field is only available if several cards of the type selected are available on the system.

##### SAMPLE DURATION IN SECOND

Time during which the measurement must be taken (maximum (120 s).

After entering the parameters, click "Confirmation" to start the measurement.

The result is displayed at the end of the end of the measurement period:

- The processor load of the selected card is expressed in percentage (\*100) of free time during the measurement period.
- The free time is the average value of the processor's free time during the measurement period.

- The minimum free time is the lowest value of the processor's free time observed during the measurement period.



**Note :** The value **MINIMUM FREE TIME** is only available for real PTX cards.

#### 4.6.1.3 *Format of PAS files*

Menu **SYSTEME>Expert>Processor access>Format of PAS files**

PAS files are data files which describe the installation configuration.

For a given PAS file, this command is used to display the internal address, type of access and length of each of its table.

##### **SELECTION OF DESCRIPTOR**

PAS file identifier.

The drop-down list contains all the PAS file descriptors.

##### **FROM TABLE**

First table number (hexadecimal value) in the PAS file to take into account for display. If this field is not filled in, the start rank will be rank 0.

Select the criteria then click **Select item**.

The PAS file name is displayed in the screen title.

The selected PAS file display table shows for each table with a rank above or equal to the selected "FROM TABLE" value:

- Its number
- Its location address in the memory
- Its type, if it is an access table
- The key type, if it is a table of access by key (nothing for simple key, "double" for double key)
- The number of sub-tables, in case of double index
- The number of items on the table
- The length of each item.

#### 4.6.1.4 *Display of PAS files*

Menu **SYSTEME>Expert>Processor access>Display of PAS files**

This command is used to view the address and value of the items on a given table for a given PAS file.

##### **SELECTION OF DESCRIPTOR**

PAS file identifier.

The drop-down list contains all the PAS file descriptors.

**AND OF THE TABLE**

Number of the table to be displayed (hexadecimal value). If this field is not filled in, table 0 will be displayed.

**START RANK**

Rank of the first item to display. If this field is not filled in, the start rank will be rank 0.

**END RANK**

Rank of the last item to display. If this field is not filled in, the end rank will be the rank of the last item on the table.

Select the criteria then click **Select item**.

The display screen presents information about the required table.



**Note : To display the previous or next tables, use the << and >> buttons.**

The PAS file name is given on the screen title, as well as that of the displayed table.

The selected PAS file display screen shows for the table displayed and its table index, if applicable:

- The internal address
- The table type, if it is an access table
- The key type
- The number of sub-tables
- The number of items
- The length of each item.

The display screen of the table displayed shows for each item with a rank between the values “START RANK” and “END RANK”:

- Its rank
- Its internal address
- Its value

For a key code table, the screen displays both the address and the value of the key code and the address and value of the structure associated with the key code.

Tables with two indexes are displayed in the same way as tables with a single index: the number is the result of multiplying the two indexes together.

For key code tables and tables with two indexes, the key code section of the table which is common to x elements in the sub-table is repeated for each element (customised abbreviated number, etc.).

## 4.6.2 TIMEOUT

Menu **SYSTEM>Expert>Timeout**

This command is used to display and change the different call and ringer timeouts and durations.

To access this command, click "Timeout" from the "Expert" menu.

The timeout management screen is organised into four timeout/duration groups:

- Time in seconds
- Time in 1/10 sec.
- Time in 1/100 sec.
- Time in minutes.

### **TIME IN SECONDS**

#### **DIALLING TIME-OUT**

Timeout activated on off-hook without dialling. At the end of the timeout, the set receives a busy tone.

Default value: 22 seconds

#### **TIME-OUT BEFORE PERM. OFF-HOOK COND.**

Time-out activated after the DIALLING TIME-OUT, or on an attempted call to a busy set, after reception of the busy tone.

At the end of this time-out, the set goes to the forced release state (forced release corresponds to a request to on-hook).

Default value: 10 seconds

#### **DELAYED HOT LINE TIME-OUT**

Timeout activated on set off-hook by a subscriber for whom a DELAYED hot line is defined (see SUBSCRIBERS>Subscriptions>Characteristics>General characteristics).

End of timeout triggers transmission of the number associated with the delayed hot line.

Default value: 5 seconds

#### **RECORDED CALL TIME-OUT**

Timeout activated when the set goes off-hook. End of timeout triggers automatic transmission of a number that has been stored with the help of the feature STORED CALL (see NUMBERING PLAN>User numbering plan>Access to features>By feature).

Default value: 5 seconds

#### **TRANSFER TO PARK TIME-OUT**

Timeout activated when a call is parked. If the call is not picked up before the end of the time-out, it is released (if it is an internal call) or rerouted to the operator (if it is an external call).

Default value: 120 seconds

## **INTERNAL CALL RINGING DURATION**

Timeout activated on a call to a set internal to the system. Corresponds to the time during which the ringing signal is transmitted, before transition to the line lockout phase.

Default value: 40 seconds

## **DID CALL RINGING DURATION**

Timeout activated on a DID call to a set with no reply. The call is rerouted to the attendant at the end of the timeout.

Default value: 40 seconds

## **SPEC. TIMEOUT: REROUT. TO CONSOLE**

Value of timeout before return to the ATDC.

## **AUTO CALLBACK TO CALLER RING. DURAT.**

Timeout activated when a busy set is called back: it corresponds to the time during which the caller set is rung.

Default value: 15 seconds

## **ANNOUNCEMENT DURATION BEFORE RINGING**

Time-out activated on presentation of an external call to a set. It is used to connect an announcement message before the set rings (hospital configuration).

Default value: 8 seconds

## **RINGING DURATION BEFORE DELAYED FORWARD**

The following four parameters are used to configure four different ringing durations before deferred forwarding. A ring tone can be assigned to a subscriber using the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**.

### **- STANDARD RINGING**

Default value: 15 seconds

### **- SPECIFIC RINGING NOS. 1 / 2 / 3**

Default value: 15 seconds

## **MAXIMUM DURATION WITHOUT ROUTING (BIS):**

Timeout for automatic PSTN routing during which the telephone translation server is not called.

The minimum and maximum timeouts are 5 and 120 seconds respectively. The timeout must be a multiple of 5 seconds.

Any value between 5 and 120 may be entered, but this value is automatically rounded off to the multiple (below or above) of 5 seconds.

The default value corresponds to a 120 seconds timeout by default.

## **RESUMING A CALL ON HOLD UPON ENQUIRY CALL FAILURE**

Timeout for resuming a call on hold upon enquiry call failure also applies in case of call diversion.

Timeout expressed in seconds.

**No value:** automatic resumption of a call on hold upon enquiry call failure, after 5 seconds (500), is reserved for terminals supervised by TAPI or CSTA; upon failure after an attempted call diversion, the failure screen is displayed without timeout.

**Values between 5 and 600 seconds:** automatic resumption of a call on hold when an enquiry call fails, after the timeout applicable to all terminals upon failure after an attempted call diversion, the failure screen is displayed and the configuration data contains the timeout value at the end of which the call is resumed.

#### **CHARGING INDICATION DELAY**

Timeout activated on transition to conversation mode. At the end of this timeout the user receives a series of beep signals so he can hang up if the parameter CHARGE INDICATION is set to YES in the routing characteristics concerned.

#### **TIME IN TENTHS OF A SECOND**

##### **INTERNAL CALL RING. DURATION ON**

Duration of a full internal call ringing cycle. Associated with the following time-out, this particular time-out is used to calibrate the ringing tone of a set called by an internal extension.

Default value: 2.5 seconds

##### **DURATION ON INTERNAL CALL RING.**

Duration of the internal call ringing cycle timer off. Associated with the previous timeout, this particular timeout is used to calibrate the ringing tone of a set called by an internal extension.

Default value: 2.5 seconds

##### **DURATION OFF OUTGOING RINGING DURATION ON**

Duration of a full external call ringing cycle. Associated with the following two timeouts, this particular timeout is used to calibrate the ringing tone of a set called by an external extension.

Default value: 1.5 seconds

##### **OUTGOING RINGING DURATION OFF 1**

Duration of the first external call ringing cycle timer off. Associated with the next and previous timeout, this particular timeout is used to calibrate the ringing tone of a set called by an external extension.

Default value: 3.5 seconds

##### **OUTGOING RINGING DURATION OFF 2**

Duration of the second external call ringing cycle timer off. Associated with the previous two timeouts, this particular timeout is used to calibrate the ringing tone of a set called by an external extension.

Default value: 3.5 seconds

##### **CALL WAITING BEEP DELAY**

Length of the beep signal for a waiting call.

Default value: 0.3 seconds

##### **DELAY BETWEEN CALL WAITING BEEPS**

Timeout between 2 "CALL WAITING" beeps.

Default value: 20 seconds

### **TIME IN HUNDREDTHS OF A SECOND**

#### **ROTARY DIAL SET FLASH TIMER**

Duration from which a line opening may be interpreted as a FLASH on a rotary dial set.

Default value: 180 ms

#### **DTMF SET FLASH TIMER**

Duration from which a line opening may be interpreted as a FLASH on a DTMF set.

Default value: 180 ms

#### **DIGIT PULSE DELAY (MAX)**

This corresponds to the length of a digit pulse for a rotary dial set.

Default value: 80 ms

Maximum value: 100 ms

#### **ROTARY DIAL SET ON-HOOK ACKNOWLEDGE**

The minimum on-hooking time for a rotary dial set.

Default value: 400 ms

#### **DTMF SET ON-HOOK ACKNOWLEDGE**

Minimum on-hooking time for a DTMF set

Default value: 400 ms

### **TIME IN MINUTES**

#### **TRUNK AUDIT FREQUENCY**

Trunk audit frequency. The system tests the trunks at regular intervals: if the line is not connected, neither to an internal set nor to another set, the system releases it.

Default value: 30 minutes

#### **LONG CALL RECORD**

The length of the call which leads to the transmission of a long call record.

#### **HOLD NETWORK CALL IN CASE OF ERROR**

Depending on the value of the **AUTOMATIC TRUNK RELEASE** field (see below) and if terminal type is TDM, some beeps will be sent at the end of call holding.

Line displayed for multi-site configuration only.

**Default value = 60:** network calls are held for 1 hour.  
**Value 0:** network calls are not held.

**Other values:** timeout value for call on hold.

Timeout expressed in minutes based on 5 minutes in the table. The values entered are rounded off to a tenth below for any value of the units between 1 and 4. Possible values are between 5 and 1440 minutes (24 hours).

### MAXIMUM DURATION OF CONFERENCES

Wait timeout before conference circuits are released

Default value = 60, which corresponds to one hour wait time before the conference circuit is released.

Other values: Timeout expressed in minutes based on 10 minutes in the table. The values entered are rounded off to a tenth below for any value of the units between 1 and 4, and to a tenth above for any unit value between 5 and 9. Possible values are between 10 and 720 minutes (12 hours).

### AUTOMATIC TRUNK RELEASE

**Box ticked:** the trunks are automatically released on the trunk groups for which the anti-gossip function is activated. Two configurations are associated with this release (interruption):

For the application of this function to trunk groups, see the field **COMPELLED RELEASE OF TRUNKS** in the menu **Telephony service>Network and links>Network>Trunk groups – Characteristics** tab.



**WARNING :** The automatic trunk release is not applied to calls made from priority terminals (subscriber characteristic parameter).

**Box not ticked:** no automatic trunk release

**Lines appear if this box is ticked:**

### DURATION BEFORE WARNING (MIN)

Wait time before warning about trunk release

Timeout based on  $n \times 5$  minutes.

This timeout corresponds to the timeout between audits and not the timeout before release.

- Default value: 60 minutes
- Minimum value: 5 minutes\*
- Maximum value: about 18 hours

### WARINING BEFORE CUTTING (SEC)

Associated with the previous field, this allows the definition of the warning timeout transmitted to users before the trunk is released (before cutting). This timeout is based on 1 second.



**WARNING :** Beeps are made for TDM terminals only. If the terminal is an IP terminal, there is no beep even if the trunk is released.

- Default value: 120 seconds
- Minimum value: 10 seconds (transmission of a sequence of 3 beeps)
- Maximum value: 300 seconds (5 minutes)

### 4.6.3 DCF PARAMETERS

Menu **SYSTEM>Expert>DCF parameters**

DCF parameters are configuration data parameters.



**WARNING : DCF parameters may only be modified under the control of Technical Support.**

This command is used to modify the system configuration data.

#### **NUMBER (IN DECIMAL) OF THE DCF**

Index of the configuration data to be modified.

Enter the value then click **Select item**:

#### **VALUE IN DECIMAL**

Current value in decimal of the configuration data.

#### **VALUE IN HEXADECIMAL**

Current hexadecimal value of the configuration data.



**Note : The value may either be changed in decimal or in hexadecimal.**

### 4.6.4 DCF DIVERGENCE / INIT. VALUES

Menu **SYSTEM>Expert>DCF divergence/init. values**

This command is used to display the configuration data that has been modified compared to the initial data.

The display table indicates for each modified configuration parameter:

- Its number
- Its initial value in decimal and hexadecimal ( )
- Its current value in decimal and hexadecimal ( )

### 4.6.5 CALL SIMULATION

Menu **SYSTEM>Expert>Call simulation**

- This command is not available for MiVoice 5000 Server.

This command is used to set up unilateral, bilateral or 3-party connections between designated circuits on tones, on demand.

This command offers the possibility of Setting up 2 separate calls and to check the iPBX transmission plan, between TRK -> SET and SET -> TRK.

#### **CALL 1**

##### **- PHYSICAL SLOT A**

Physical slot of the 1st equipment of call 1.

**- PHYSICAL SLOT B**

Physical slot of the 2nd equipment of call 1.

**- PHYSICAL SLOT C**

Physical slot of the 3rd equipment of call 1.

**- TONE**

<b>SILENCE</b>	<b>TONE 330 HZ</b>	<b>TONA 440 HIGH</b>	<b>TONE 440 LOW</b>
<b>TONE 440 + 330</b>	<b>INTERNAL MUSIC</b>	<b>EXTERNAL MUSIC</b>	

Tone type for call 1.

**- COMMAND TYPE**

<b>DISCONNECT.</b>	<b>CONNECT A --&gt; B</b>	<b>CONNECTION B --&gt; A</b>
<b>CONNECTION A &lt;--&gt; B</b>	<b>CONNECTION TONE --&gt; A</b>	<b>CONFERENCE A-B-C</b>
<b>CONF A TR, B/C REC</b>	<b>A LOOP B1 CHANNEL</b>	<b>A LOOP B2 CHANNEL</b>

Type of connection to set up (call 1).

**CALL 2****- PHYSICAL SLOT A**

Physical slot of the 1st equipment of call 2.

**- PHYSICAL SLOT B**

Physical slot of the 2nd equipment of call 2.

**- PHYSICAL SLOT C**

Physical slot of the 3rd equipment of call 2.

**- TONE**

<b>SILENCE</b>	<b>TONE 330 HZ</b>	<b>TONA 440 HIGH</b>	<b>TONE 440 LOW</b>
<b>TONE 440 + 330</b>	<b>INTERNAL MUSIC</b>	<b>EXTERNAL MUSIC</b>	

Tone type for call 2.

**- COMMAND TYPE**

<b>DISCONNECT.</b>	<b>CONNECT A --&gt; B</b>	<b>CONNECTION B --&gt; A</b>
<b>CONNECTION A &lt;--&gt; B</b>	<b>CONNECTION TONE --&gt; A</b>	<b>CONFERENCE A-B-C</b>
<b>CONF A TR, B/C REC</b>	<b>A LOOP B1 CHANNEL</b>	<b>A LOOP B2 CHANNEL</b>

Type of connection to set up (call 2).

## 4.6.6 NAMES OF THE MITEL SETS

Menu **SYSTEM>Expert>MITEL set names**

Mitel sets are identified by the range to which they belong, a reference and a name.

This command is used to manage the list of Mitel proprietary sets: The actions available are:

- creation of a new reference in a range,
- renaming of an existing reference,d
- deletion of a reference.

### RANGE

Range name: M4/5/6/7xx - 53xx – 53xxIP – Mitel 6000 SIP Phone – SIP APPLICATION – BluStar – BluStar PC – BluStar handset – Mitel SIP DECT

### REFERENCE (HEXA)

Reference of the Mitel set in hexadecimal.

### OR REFERENCE (DECIMAL)

Reference of the Mitel set in decimal.

To create a new set reference, select the range to which it belongs and the reference to create, then click **Select item**.

To modify or delete a set reference, select the range to which it belongs and its reference, then click **Select item**.

### NAME TO BE ASSIGNED

Character string (20 maximum).

If the selected reference exists, this field contains the name of the set, otherwise it is empty.

### ACTION

**MODIFY** Modifies the name of a listed Mitel terminal.

**CREATE** Used to add a new Mitel terminal reference.

**DELETE** Used to delete an Mitel set reference.

**.....** No action.

## 4.6.7 LIST OF MITEL SET NAMES

Menu **SYSTEM>Expert>MITEL set names**

This command is used to list all Mitel set types.

## 4.6.8 TERMINAL MANAGEMENT DATA

Menu SYSTEM>Expert>Terminal management data

This menu has three tabs for viewing terminal version and data index information:

- Production version data,
- Test version data,
- Data from download servers for terminals.

For production and test data, the Global Index column is used to compare the values with those of Menu Terminal service. In case of inconsistencies, restart the actions in Menu Terminal service.

## 4.7 EX/GX CONFIGURATION

Menu **SYSTEME> Configuration EX/GX**

This menu is intended for MiVoice 500 installation and configuration of the EX Controller and GX Gateway.

Refer to the document: MiVoice 5000 - Installing and Configuring Mitel EX Controller and Mitel GX Gateway – AMT/PTD/PBX/0173.

## 4.8 CONFIGURE OPERATING MODE

This menu is used to configure the iPbx operation mode for a multi-site environment.

The operator has two options:

### **STANDALONE**

Standalone mode is the default configuration which allows the iPbx to work independently or to be included in a multi-site system.

### **NODE**

Node mode should only be chosen under the responsibility of the technical support.

In this mode, the iPbx is part of a large network which can be extended to 2000 iPbxs.

## 5 NUMBERING PLAN

This management domain is used to define:

- Management levels (“directions”)
- The user numbering plan (translation, by the system, of a number dialed by a user and routing to the right direction)
- The numbering plan for incoming lines (translation, by the system, of an incoming call and routing to the right direction in case of transit)
- The list of barred numbers, for barring access to a certain number blocks according to subscribers
- abbreviated numbers, for access to emergency services (special abbreviated numbers)
- The number translations that allow calls to be rerouted, either systematically (if a subscriber moves to another site, for instance), or upon inaccessibility (for a “vital” subscriber, for instance, who must be reachable at any time), or even according to caller number (rerouting a call to a call distribution service according to geographic origin, for example).

A default numbering plan is provided when the iPBX is installed. It may be modified or recreated after a reset. This latter operation must be used with precaution and requires special rights (password required).

Menu **NUMBERING PLAN**

### 5.1 DIRECTION NAMES

Menu **NUMBERING PLAN>Direction name**

This command is used to define the different call routing directions.

Each direction is given a name (8 characters). A direction with no name cannot be managed as it does not exist.

The system can manage up to 64 private directions.

Default directions are pre-defined during installation. Some of them cannot be modified because they are used by the numbering plan provided by default. To modify them, you must first delete all their references in the numbering plan.

- PSTN incoming : NETWORK
- Local outgoing /81H : LOCAL
- Regional 5 outgoing /89H : REGIONAL
- International outgoing /83H : INTER.
- Emergency calls /8bh : EMERGENCY

The other fields are used to create additional directions.

A paging access is considered as a direction which must have a trunk group and a route assigned to it.

There are two types of paging:

- Direct: calling a person's beeper by dialling a prefix, followed by the beeper number
- Automatic: automatic paging is activated when a set with paging rights and forwarded to its own number is called.
- If it is an internal call, the caller number is forwarded to the beeper. The holder of the beeper calls this number from any set in the system. This type of search is also called "without meeting".
- For an external call, the caller line is parked, and the holder of the beeper carries out the parked call recovery request. This type of search is also called "with meeting".

Depending on the device, different numbering plans must be translated out according to the type of call.

### **AUTO DIRECT PAGING**

Direction name.



**Note :** An access prefix must be defined for direct paging (see **NUMBERING PLAN>User numbering plan>Access to directions**).

### **AUTO PAGING INTERNAL CALLS**

Direction name.

### **AUTO AUTO PAGING EXTERNAL CALLS**

Direction name.

### **CONSULTATION CALL OVER TRUNK**

This indicates the direction name without a route. Its prefix is assimilated to a direction prefix which is used to define various number lengths.

For the definition of external consultation call parameters, see command: **NETWORK AND LINKS>Network>Translators>Operations behind PBX**.

### **PACKET CIRCUIT COUPLER**

Direction to declare if a special action is required on outgoing AID management (**NETWORK AND LINKS>Network >AID handling> Outgoing handling**).

### **OPERATORS**

Direction to declare if a special action is required on outgoing AID management (**NETWORK AND LINKS>Network >AID handling> Outgoing handling**).

### **SIGNIFICANT DIAL NUMBERS**

Direction to declare if a special action is required on outgoing AID management (**NETWORK AND LINKS>Network >AID handling> Outgoing handling**).

### **VOICE MAIL**

Direction to declare if a special action is required on outgoing AID management (**NETWORK AND LINKS>Network >AID handling> Outgoing handling**).

## 5.2 USER NUMBERING PLAN

### Menu **NUMBERING PLAN>User numbering plan**

The user numbering plan indicates the analysis which is made by the system concerning a number dialled by a particular user. It describes:

- Access to internal numbers
- Access to features
- Access to public exchange
- Access to directions (public and private)
- Access to operations during a call (definition of suffixes).

When the system is installed, a default plan is provided, which depends on the country's numbering plan.

This menu is used to modify the user numbering plan.



**Note :** The values displayed in the screens in this section are shown as examples.

### 5.2.1 ACCESS TO EXTENSIONS

#### Menu **NUMBERING PLAN>User numbering plan>Access to extensions**

This command is used to define internal number blocks.

#### **NUMBER OF DIGITS**

In standard configuration, an internal number has three digits: from 200 to 799 (Note: 798 is the common bell number and 799 is the modem number).

Consecutive directory numbers are assigned automatically to the existing sets on initial start-up (TOTAL RESET). The internal number length and the number block to create during installation are parameters of the file INSTALL.CONF.

Possible values: 3 to 6.



**Note :** To change the internal number length, you must first delete the number blocks.

#### **NUMBER OF DIGITS TO DELETE**

The number of digits not included in a directory number seen by the extension MMC. This line is to be filled in for an internal numbering plan more than 6 digits long.

#### **RANGE 1**

This line contains ranges 2, 3, 4, 5, 6, and 7, corresponding to internal numbers in the default plan provided.

A block is defined by the first digits in the number. A range is a set blocks.

*Example:* RANGE 1, enter 2-7 on this line for the six blocks.

As a standard, and according to number length, enter:

2 for (20 to 29) or (200 to 299)

- 3 for (30 to 39) or (300 to 399)
- 4 for (40 to 49) or (400 to 499)
- 5 for (50 to 59) or (500 to 599)
- 6 for (60 to 69) or (600 to 699)
- 7 for (70 to 79) or (700 to 799)

You can enter other numbers: example: 32 for 320 to 329.

### **RANGE 2 TO 46**

These lines are used to increase the number of internal numbering plan ranges.



**Note :** If the internal directory numbers are changed, all the numbers must be of the same length, including:

- extension numbers
- additional extension numbers
- operator numbers
- common bell numbers (including the internal relay number)
- hunt groups numbers
- remote maintenance modem number

To change the numbering length, you must follow up the operation with an AUTO RESET.

## **5.2.2 ACCESS TO FEATURES**

Menu **NUMBERING PLAN>User numbering plan>Access to features**

This menu is used to display and modify the features access codes.

The characters authorised for feature access codes are:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, \*, #.



**Note :** The features directory can be fully modified.

Access to features can be displayed and/or modified in three ways:

- Displaying all the features (by feature)
- Displaying a given feature (by prefix)
- Displaying the short number feature.

### 5.2.2.1 *By feature*

Menu **DIALING PLAN>User dialing plan>Access to features>By feature**

This command is used to:

- Display all the features on the same screen
- Modify the access codes

#### **PACKET CIRCUIT COUPLER CALL**

Packet circuit coupler internal directory number. This number must be consistent with the internal numbering plan.

#### **CANCEL FORW. FROM FORWARDED SET**

Deactivates assistant-manager type forwarding.

To activate this feature, use the "ASSISTANT-MANAG. FORWARD (ACTIVATE)" feature.

#### **CALL WAITING (VIEW)**

This code is used for putting a call on hold. The equivalent code features in the suffix plan for consultation calls. You are advised to make these two codes identical.

#### **RECORDED CALL (RECORD) / (DELETE) / (USE)**

Record: for recording an incoming call number so it can be used later.

Delete: for deleting the recorded number.

Use: for dialling the recorded number.

#### **BROADCAST CALL LIST 0/1/2**

Possibility to call a group of digital or 6xxxi terminals using the loudspeaker function. The call is broadcast on all free digital terminals, including those on the corresponding announcement list (announcement lists are defined in **SUBSCRIBERS>Hunt groups and companies>Announcement list**).

#### **SPEAKER ANNOUNCEMENT CALL**

Call presented on a digital or 6xxxi terminal, with activation of its loudspeaker (direct switchover to conversation).

#### **NUISANCE CALL**

A message is recorded in the logbook.

#### **SINGLE VOICE MAIL CALL**

Enables a user to directly access his own voicemail box, or the voicemail system.

#### **VOICE MAIL CALL**

Call to a voicemail box in answering mode

#### **OPERATOR CALL**

Operator extension number.

**PAGING SERVICE CALL WITHOUT ANSWER**

A pager is used to alert a user with a beeper that somebody has tried to reach him. In this mode, the user leaves a message on his correspondent's receiver.

**PAGING SERVICE PAGING SERVICE CALL WITH ANSWER**

A pager is used to alert a user with a beeper that somebody has tried to reach him. In this mode, a call will be set up between the user and his correspondent.

**CHOICE FOR CTI TERMINAL (ACTIVATION)**

This feature is used to choose the sound terminal (by feature code) for a CTI terminal in an association.

The choice applies to all the subscription lines.

In previous releases, it was the last communicating sound terminal that was automatically chosen, or the wired terminal of the association.

The two fields proposed are used to enter (create and modify) activation prefixes and cancel the feature.

The feature codes for this feature are:

- **\*09** for activation
- **#09** for deactivation

**OVERRIDE ALL FORWARDS**

Possibility to reach a forwarded or filtered terminal directly.

**VOICE ANNOUNCEMENT (ACTIVATE) / (DEACTIVATE)**

Enables the user to activate/deactivate the voice prompt for his account.

**CALL PICK-UP IN A HUNT GROUP**

Enables a set to pick up a call ringing on another set that is part of the same hunt group.

**CALL PICKUP GENERAL**

Enables a set to pick up a call ringing on another set that is part on the installation.

**CALL PICKUP COMMON BELL**

Enables a user to pick up a call presented to a common bell system.

**MESSAGE LAMP (ON) / (OFF) / (INTERNAL OFF)**

For activating/deactivating an indicator lamp on a set (hotel room type) from another set (hotel reception type) to indicate that messages have been left (on/off).

The "internal off" feature enables the set user (hotel room) to switch off the LED.

**CONSULT MAIL BOX DIRECTLY**

Allows users to consult their mailbox directly.

**LOGIN (ACTIVATE) / (DEACTIVATE)**

Feature offered to all users declared on digital or IP sets, enabling them to move to another set and find their rights and features. Any multi-site subscriber with a subscription associated to a digital or IP set may log on/off with any other digital or IP set on the multi-site configuration.

**DIRECT ACCESS MESSAGES**

Enables a user to listen to spoken announcements.

**MESSAGE NO 0 SHORT CALL**

Enables a user to listen to message 0 with direct access.

**SET LISTENING**

Allows a set to listen to another set without being heard. This feature is activated for the set to be listened to. This function is enabled once an authorised set calls the set being listened to.

**PASSWORD MODIFICATION**

Enables a user to order from his set the modification of his secret code (used for login, set unlocking, etc.).

**DO NOT DISTURB (ACTIVATE) / (DEACTIVATE)**

A user who does not want temporarily to be disturbed by the telephone ringer and, thus, does not want to receive calls can activate/deactivate the “Do not disturb” function. Within the period when this feature is activated, internal callers receive a busy signal and external callers are routed to an operator.

**DIRECTORY NUMBER (CHECK)**

Used to check a set's directory number.

**REDIAL (USE) / (DELETE)**

Enables a set to redial on demand the last internal or external number dialled.

**SPECIAL NUMBERS (LIST 0,...LIT9)**

Used to associate an access code with each of the special numbers lists. If a code is associated with a list, the numbers on that list will be accessible via the access code, followed by the abbreviated number defined in the menu “NUMBERING PLAN> Special numbers”.

**COMMON ABBREVIATED DIALLING**

For accessing the common abbreviated numbers defined in the directory records.

Depending on the value of the MULTIPLE PREFIXES parameter in “**SUBSCRIBERS> Rights>General parameters**” you can either define a single prefix or one prefix per block. In this case, the last digit of the prefix must be that of the block.

**COMMON ABBREV. PERSONAL ABBREV. NUMBER (RECORD) / (DELETE) / (USE)**

Enables users to manage (save a number, delete a number) and use a list of 10 personal abbreviated numbers.

**OVERRIDE NECESSARY**

Used to ring the set even if it is forwarded.

**PARKING**

For putting an internal or external call on hold, with a view to resuming it later from any other terminal on the installation.

**PARKING (RESUME) / TAKE**

For resuming a parked call.

**EXTERNAL TERMINAL (ACTIVATION/DEACTIVATION)**

Code used to activate or deactivate call reception on external terminals.

**AUTOMATIC CALLBACK (ACTIVATE) / (DEACTIVATE)**

For activating/deactivating the automatic callback of a subscriber found busy.

**FORWARDING (CANCEL ALL)**

Cancelling all your forwarding operations.

**ASSISTANT-MANAG. FORWARD (ACTIVATE)**

Enables a user with the "secretary" function to activate forwarding of calls meant for another set ("director") to his own set.

To deactivate this feature, use the feature "CANCEL FORW. FROM FORWARDED SET".

**FORWARD ON NO ANSWER (ACTIVATE) / (DEACTIVATE)**

Re-routing all calls to the forwarding set on no answer.

**FORWARD ON BUSY (ACTIVATE) / (DEACTIVATE)**

Re-routing all calls to the forwarding set on set busy. Forwarding can only concern external calls:

**- FOR EXTERNAL CALLS (ACTIVATE)**

Re-routing external calls to the forwarding set on set busy.

**PREDEFINED FORWARD (ACTIVATE) / (DEACTIVATE)**

Forwarding for which the addressee is programmed by the operator.

Predefined forwarding can be defined for all calls, for internal calls only or for external calls only, using three different access codes. The same deactivation code is used for the three types of predefined forwarding.

**- FOR INTERNAL CALLS (ACTIVATE)**

Re-routing internal calls to the forwarding addressee.

**- FOR EXTERNAL CALLS (ACTIVATE)**

Re-routing external calls to the forwarding addressee.

**- OF HUNT GROUP (ACTIVATE) / (DEACTIVATE)**

Re-routing calls meant for a hunt group to the forwarding addressee.

**IMMEDIATE FORWARD (ACTIVATE) / (DEACTIVATE)**

Re-routing calls systematically to the forward set. Forwarding can be carried out for all calls or by call origin.

**- FOR INTERNAL CALLS (ACTIVATE) / (DEACTIVATE)**

Re-routing internal calls systematically to the forward set.

**- FOR EXTERNAL CALLS (ACTIVATE) / (DEACTIVATE)**

Re-routing external calls systematically to the forward set.

**VOICE MAIL FORWARDING**

Forwarding calls to voicemail.

**- IMMEDIATE**

Forwarding calls immediately to voicemail.

**- DEFERRED**

Forwarding calls to voicemail on no answer.

**- ON BUSY**

Forwarding calls to voicemail when the set is busy.

**SIGN OFF HUNT GROUP**

Enables a user belonging to a hunt group to leave the hunt group.

**SIGN ON HUNT GROUP**

Enables a user to return to the hunt group to which he belongs.

**GO BACK TO CALLING PARTY**

Enables a set to return an exterior call to the user that had transferred the external call to it.

**AGENDA (ACTIVATE) / (DEACTIVATE)**

Possibility offered to a user to ring his set at a programmed time (feature code + HHMM). Up to 4 requests can thus be stored per set.

Possibility to wake up a room set. Only one request can be stored at a time per set.

The programming can be cancelled selectively or globally:

- Selective cancellation: (feature code + HHMM) Hotel room or Meeting call type.
- Global cancellation: (feature code + 9999) Hotel room or Meeting call type.

**SUBSTITUTION**

This feature enables a user to find on any set on the installation certain rights of his set (access to the public switched network, forwarding and agenda programming, personal abbreviated numbers).

**MANUAL TEST OF JUNCTORS**

Not initialised. Only fill in if necessary.

**WORK IN HUNT GROUP (START) / (END)**

Used during work start or end to issue a service record in the “Call distribution” family, and a CSTA event.

The user dials the activation code, followed by the CSTA ID. The length of this identifier can be configured in the menu “SUBSCRIBERS>Hunt groups and companies>Hunt groups>Parameters”.

**LOCK (ACTIVATE) / (DEACTIVATE)**

Enables a user to lock (and unlock) his set's access to the public switched network.

Certain set categories can be locked permanently (they cannot unlock themselves).

### 5.2.2.2 *By prefix*

Menu **NUMBERING PLAN>User numbering plan>Access to features>By prefix**

This command is used to view and modify a specific feature. It is also used to configure certain special emergency type numbers, such as 15, 17 and 18 in France, which must initiate the call without waiting for additional digits.

Enter the feature access prefix then press “Enter” to confirm.

The screen is used to modify an existing feature, or to create a new feature using an access code not yet used.

#### **ACCESS CODE**

Characters allowed: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, '\*', '#'.

This field is used to enter the access code for the feature requested.

#### **RUNNING PROGRAM**

This second line, not modifiable by the operator, shows the current definition of the prefix in the description tables.

#### **DESIRED PROGRAMMING**



**Note :** These field are only displayed if the feature code is modifiable.

#### **FEAT.**

The drop-down list contains all the feature labels.

Select the feature you want.

To configure an emergency special number, select a SPECIAL NUMBERS LIST X list.

#### **TYPE**

**RUN**   **CANCEL**   **USE**   **DISPLAY**

One or more of these values are available in the drop-down list, depending on the selected feature.

Select the type you want.

To configure an emergency special number, select the UTILISATION type.

#### **STANDARDS VALUES MODIFYING**

**NO**   **YES**

Select YES to configure an emergency special number.

If you enter YES, the following 2 lines appear.

#### **LAST DIGIT PRESERVED**

**NO**   **YES**

Select YES to configure an emergency special number.

#### **SIGNATURE**

**NO**   **YES**

Password request. Only used for certain specific features.

**ACTION**

Type of action to take. The content of the drop-down list depends on access code context. Possible values are:

.....

Displays the selected value.

**MODIFY**

Modifies the feature selected (by access code) according to the parameters entered.

**DELETE**

Deletes the feature selected (by access code).

**CREATE**

Creates a new feature for an unused access code.



**Note :** When one of the two standards values lines is modified, the prefix in the previous list (By feature) is deleted.

Example: Create 3 special prefix numbers (emergency) 10, 11 and 12 (to release 13 .... 19) and retain the last digit. When you dial 10, the number stored as 0 in list 0 is dialled.

### 5.2.2.3 *Speed dialling*

Menu **NUMBERING PLAN>User numbering plan>Access to features>Speed dialling**

This number translation feature enables the user to access a long number by dialling a shorter number. (32 number ranges can be programmed in this way).

It applies to an internal numbering plan with more than 6 digits.

If programmed by the operator, this feature is available for all users.

#### **DIGIT TO TRANSLATE**

Enter the format for the short numbers to be dialled by the users in n(lg) format, where:

- n is the 1 or 2-digit number
- lg is the total length of the short number.

Validating with the "Enter" key refreshes the screen and displays the speed dialling definition parameters.

#### **NUMBER OF DIGITS TO DELETE**

Number of digits to delete: value from 1 to 9.

#### **DIGITS TO ADD**

Sequence of digits to add.

#### **COMPLETED BY CALLER**

**NO**

**YES**

If you select YES, the number is completed by the caller's number so rerouting can be managed according to call origin.

*Example of speed dial programming:*

Digit to translate	7(5)
Number of digits to delete	1
Digits to add	821761
Completed by caller	NO

The user dials the number 7MCDU: "7" is deleted and "821761" is added. The number 7MCDU is therefore analysed as 821761MCDU, regardless of the calling party directory number.

### 5.2.3 ACCESS TO PUBLIC EXCHANGE

Menu **NUMBERING PLAN>User numbering plan>Access to public exchange**

This screen differentiates business calls from private calls, for purposes of charging and access restrictions.



**Note :** Before programming the access codes for the public exchange (for example: 00 for business calls and 01 for personal calls), you must first delete the access codes (directions: NATIONAL, INTERNAT, REGIONAL), the specific numbers, and the business call prefix and then program the prefixes of the specific numbers.: This does not apply if you retain "0" for business calls and, for example, "8" (or "80") for personal calls.

#### BUSINESS CALLS

Access code for external business calls.

The default access code for external calls is 0, but may be 0 to 99.

#### PERSONAL CALLS

Access code for external personal calls (0 to 99).

The set must feature a personal access code (SECRET CODE).

Personal calls are not subject to charging according to category. They can be barred according to lists of barred numbers.

#### DEFAULT DIRECTION



The default direction is selected by the iPBX when no direction prefix (or specific direction number) is detected in the number which follows the public exchange access code.

#### DEFAULT LENGTH

Number of digits by default.

#### FIRST DIGIT OF URGENT NUMBERS

This field is used to define the first digit of the PSTN emergency numbers. in France, 1 is used (15 ambulance service, 17 POLICE, etc.). These numbers must be accessible from a locked set that requires a password after dialling the network access code. It must be able to recognize whether the first digit dialled is the start of an emergency number, and if so, to bypass the password requirement.

This field is for a specific configuration allowing locked terminals to dial 0 + 1x. It is not advisable to use it because the constraint is that the password should not start with this prefix. It is advisable to use special numbers 1x, configured by default; see Section 5.6.1.

When the "**First digit of urgent numbers**" field is filled out, it is no longer possible to assign this 1st digit when a subscription's password is modified; in this case, the error message "**Incorrect beginning**" is displayed.

See Menu **SUBSCRIBERS>Subscriptions /Characteristics>General characteristics**, Section 3.3.3.1.

#### **NO. OF USERS WITH PASSWORD TO CHANGE**

Information field indicating the number of users whose first password digit is the same on the first emergency number digit.

#### **NEW START OF THEIR PASSWORD**

This field only appears if the parameter NO. OF USERS WITH PASSWORD TO CHANGE is not 0.



**Note :** To see the list of users concerned so as to inform them about the changes made to their password, click "Display subscriptions to modify" **BEFORE** making the change. The list is displayed in form of a table:

Enter the first digit of the password for these users and click "Confirmation" to validate the modification.

### 5.2.4 ACCESS TO DIRECTIONS

Menu **NUMBERING PLAN>User numbering plan>Access to directions**

This command is used to assign an access code and a number length to each outgoing direction declared in the system.

It is also used to assign specific numbers to a direction: numbers whose length is different from the numbering length for this direction.

#### **BY NAME**

**LOCAL**

**REGIO  
NAL**

**INTER.**

**TIE  
L00**

Select a direction from the drop-down list then click **Select item**.



**Note :** If other directions have been created through the menu "**NUMBERING >Direction names**", they will appear on the drop-down list.

### 5.2.4.1 Access to national

Menu **NUMBERING PLAN>User numbering plan>Access to directions**

NATIONAL access corresponds to the direction "Local outgoing /81h" whose name is NATIONAL on the direction display menu (command: NUMBERING PLAN>Direction names").

#### DIRECTION DEFINED DOWNSTREAM OF

**NETWORK**   **INTER.**

Used to define a tree structure for the numbering plan.

#### LENGTH OF NEXT NUMBER

Number of digits the iPBX waits to receive before transmitting the dialling signal on the network, and before switching to the conversation phase:

- A digit indicates a closed numbering plan
- An asterisk indicates an open numbering plan

#### SPECIFIC NUMBERS

Specific numbers are "NATIONAL" direction numbers whose length is different from the length defined above.

For each specific number block to define, enter on a line the beginning of the number, followed by the number of digits for this number in brackets.

*Example 1:* 07(\*) : all the numbers starting with 07 and which have an undefined length.

*Example 2:* 10(4) : all numbers starting in 10 are considered as 4 digit numbers.

*Example 3:* 112 (3) : the number 112.

*Example 4:* 310-1(4) : all numbers starting with 310 and 311 are considered as 4 digit numbers.



**Note :** A zero in brackets means that the prefix is invalid.

There are 119 lines for defining specific numbers, (numbers which have a different length from the initial value so as to be accepted and transmitted to the public network without delay).



**Note :** In certain configurations (for the USA, for example), it is possible to have 2 packets of 120 ranges. There is an extra line for selecting one of the two packets.

The \* and # codes are authorised for specific numbers: example: \*21\* (13).

Only the opening digits of a specific number are definable: the number in brackets allows the system to connect to the network as soon as it receives the number of digits indicated.

### 5.2.4.2 *Regional access*

Menu **NUMBERING PLAN>User numbering plan>Access to directions**

REGIONAL access corresponds to the direction "Regional 5 outgoing /89h" whose name is REGIONAL in the direction display menu (command: NUMBERING PLAN>Direction names").

This direction is used to access the regions and comprises only specific numbers.

#### **DIRECTION DEFINED DOWNSTREAM OF**

**NETWORK** **INTER.**

Used to define a tree structure for the numbering plan: the direction code must consist of the rest of the direction code defined upstream.

#### **ACCESS CODE**

Code which follows the direction code defined upstream. If this field is not completed, the code will be the same as that of the direction defined upstream.

#### **SPECIFIC NUMBERS**

For each specific number block to define, enter on a line the beginning of the number, followed by the number of digits for this number in brackets.

*Example:* 0590(10) : all numbers starting in 0590 are considered as 10 digit numbers.

### 5.2.4.3 *Access to internet.*

Menu **NUMBERING PLAN>User numbering plan>Access to directions**

INTERNATIONAL access corresponds to the direction "International outgoing /83h" whose name is INTER. in the direction display menu (menu: **NUMBERING PLAN>Direction names**").

#### **DIRECTION DEFINED DOWNSTREAM OF**

**NETWORK**

Used to define a tree structure for the numbering plan: the direction code must consist of the rest of the direction code defined upstream.

This parameter is used to define the international direction from the national direction in the export configurations for which national access is through the code 0 and international access through the code 00:

- "NATIONAL" access is defined downstream of "NETWORK" with the access code 0.
- "INTERNATIONAL" access is defined downstream of "NATIONAL" with the access code 00.

#### **ACCESS CODE**

Code which follows the direction code defined upstream. If this field is not completed, the code will be the same as that of the direction defined upstream.

#### **tone AFTER ACCESS CODE**

If you select YES, a tone is heard after dialling the access code.

#### **PASSWORD REQUEST**

If you select YES, the user must enter a password for a night category override.

#### **LENGTH OF NEXT NUMBER**

Number of digits the iPBX waits to receive before transmitting the dialling signal on the network, and before switching to the conversation phase:

- A digit indicates a closed numbering plan
- An asterisk indicates an open numbering plan

#### **DIRECTION OBTAINED ON TIME-OUT**

The option YES is reserved for export.

#### **SPECIFIC NUMBERS**

Specific numbers are "INTERNATIONAL" direction numbers whose length is different from the length defined above.



**Note :** If the numbering plan is defined as open (value "\*" in the LENGTH OF NEXT NUMBER field, specific numbers are not entered.

For each specific number block to define, enter on a line the beginning of the number, followed by the number of digits for this number in brackets.

#### **5.2.4.4 Access to TL 0**

Menu **NUMBERING PLAN>User numbering plan>Access to directions**

TL 0 access corresponds to private direction 1, whose name is TL 0 in the direction display menu (menu: **NUMBERING PLAN>Direction names**").

#### **ACCESS RESTRICTION, BELONGS TO**



The areas are used to configure access restrictions for a subscriber (see subscriber description screen: **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**).

Select an AREA: A to H.

#### **ACCESS CODE**

Enter an access code for the TIE LINE concerned.

#### **TONE AFTER ACCESS CODE**

If you select YES, a tone is heard after dialling the access code.

#### **PASSWORD REQUEST**

If you select YES, the user must enter a password.

#### **LENGTH OF NEXT NUMBER**

Number of digits the iPBX waits to receive before transmitting the dialling signal on the network, and before switching to the conversation phase:

- A digit indicates a closed numbering plan
- An asterisk indicates an open numbering plan

## DIRECTION OBTAINED ON TIME-OUT

The option YES is reserved for export.

## SPECIFIC NUMBERS

Specific numbers are private TL 0 direction numbers whose length is different from the length defined above.



**Note :** If the numbering plan is defined as open (value "\*" in the LENGTH OF NEXT NUMBER field, specific numbers are not defined.

For each specific number block to define, enter on a line the beginning of the number, followed by the number of digits for this number in brackets.

## 5.2.5 SUFFIX DEFINITION

Menu **NUMBERING PLAN>User numbering plan>Suffix definition**

A suffix is a code to be entered during a call to perform an action. The suffix must be preceded by a flash (R key).

This command is used to define a suffix for each operation. Operations are actions that can be taken from a telephone set during a call.

Suffixes are defined by default in the system and can be modified by the operator. A suffix is made up of one or two characters (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, \*, #).

### RECOVERY FROM ON HOLD (CODE 1)

After setting up a consultation call and carrying out a broker's call operation, you can return to one call and release the other.

### BROKER'S CALL (CODE 2)

After setting up a consultation call, you can recover each call alternately (broker's call).

### CONFERENCE (CODE 3)

After setting up a consultation call, you can recover the two calls simultaneously in the conference mode.

### AUTOMATIC CALLBACK (CODE 5)

On an internal call to a busy set, there is a function you can set for automatic call-back.

### INTRUSION (CODE 8)

On an internal call to a busy set, you can intrude on the existing conversation (third party intrusion) but both parties hear the intrusion.

### DISCRETE INTRUSION (CODE 7)

Discrete intrusion: the correspondent on the called party set does not hear your conversation (discrete intrusion is only possible after the intrusion procedure).

### END OF INTRUSION (CODE 9)

This operation ends an intrusion or discrete intrusion.

**ANSWER WAITING CALL**

This field is used to consult a call received during another conversation.

**NUISANCE CALL (CODE # \*)**

This field is used to record in the logbook an internal or external incoming call. For an ISDN call, program configuration parameter 309.



**Note :** A record can also be sent to the operator if the iPBX has an ETSI trunk group.

**PAGING SERVICE**

This field is used to run the pager function with a consultation call.

**SUFFIX FOR EXTERNAL ENQUIRY CALLS****- RECOVERY FROM ON HOLD**

This field is used to recover a call on hold during conversation after an external consultation call.

**- OPERATION A TO I**

This field is used for special operations after an external consultation call. For information on how to use these operations, see the menu **NETWORK AND LINKS>Network>Translators>Operations>Operations behind PBX**.

**5.2.6 DISPLAY OF THE PLAN**

Menu **NUMBERING PLAN>User numbering plan>Display of the plan**

This command is used to display the “user” numbering plan using different filters:

- In tone
- For a plan for a range of DNs
- For "direction" numbers
- For "feature" numbers
- For wrong numbers (unused directory numbers).

**FOR NUMBERS BEGINNING WITH**

Enter zero, one or more digits.



**Note :** If no value is entered in this field and the type selected is **.....**, the entire “user” plan will be displayed.

**OR TYPE**

**.....** **DIRECTION** **FEATURE** **WRONG NUMBER**

Select the filter you want.



**Note :** If the two fields are completed, the resulting filter is a combination of both filters.

Click **Select item** to validate the filter.

The "user" plan display screen is a table that gives for each numbering plan range:

THE COLUMN...	INDICATING:
FEATURE/DIRECTION	<ul style="list-style-type: none"> <li>• Direction name if the number range corresponds to a direction</li> <li>• Feature name if the number range corresponds to a feature</li> <li>• "Wrong number" if the number range is not used</li> </ul>
TYP/LG/LCR	<ul style="list-style-type: none"> <li>• Name of the tone to be sent to the caller if necessary (type)</li> <li>• Total number length (lg) expected if the number range corresponds to a direction</li> <li>• Call-related action (lcr) if the number range corresponds to a feature; possible values are: <ul style="list-style-type: none"> <li>○ activate</li> <li>○ cancel (deactivate)</li> <li>○ use</li> </ul> </li> </ul>

## 5.2.7 RESET OF THE PLAN

Menu **NUMBERING PLAN>User numbering plan>Access to directions>Reset of the plan**

This command is used to delete the "user" numbering plan before creating a new plan.

Resetting the plan resets:

- The features directory
- The access prefixes
- The special abbreviated numbers
- The internal numbering plan ranges.

**USE THIS COMMAND WITH PRECAUTION.**

### PASSWORD

Enter the password then click "Reset user plan".



**Note :** The password is the one used to connect to the IPBX management portal. If the rights associated with this password are insufficient, the system will reject the numbering plan reset.

When the operation is completed, the screen appears:

Reset done

## 5.2.8 DISPLAY AREA COMPOSITION

Menu **NUMBERING PLAN>User numbering plan>Display area composition**

When a private direction is configured (**User numbering plan>Access to directions**) it is assigned to an area. The areas are used to configure access restrictions for a subscriber (see subscriber description screen: **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics**).

This command is used to display, for each area, all the private directions assigned to it.

For each of the areas to which at least one private direction has been assigned, the list of assigned directions is displayed.

## 5.3 INCOMING CALL NUMBERING PLAN

Menu **NUMBERING PLAN>Incoming call numbering plan**

The incoming call numbering plan is used to define the analysis made by the system for incoming calls from the network (DID and TL).

This menu is used to modify and display the incoming call numbering plan.

### 5.3.1 INTERNAL DIALING

Menu **NUMBERING PLAN>Incoming call numbering plan>Internal dialling**

This command is used to define the length of the DID numbers received, as well as the specific number ranges that do not meet this length criterion (incoming TL calls).

#### DEFAULT NUMBER OF DIGITS

Enter the number of digits received for DID directory numbers: by default, 4 digits. You can also enter a 2- or 3-digit number so as to match the internal numbering plan.

For PSTN access, which always forwards the MCDU (last four digits of the telephone number), associate an incoming digit translator with the trunk group in order to delete the first one or two digits in the number: the number of digits set by default must be the same as the length of the translated number.

#### NUMBER OF DIGITS TO DELETE

The number of digits presented to the iPBX for deletion.

Consequently, the total dialling length corresponds to the sum of the DEFAULT NUMBER OF DIGITS + NUMBER OF DIGIT TO DELETE.

#### SPECIFIC NUMBERS (1-8)

These fields are used to define up to 8 number ranges the length of which is different from the one defined through the parameter DEFAULT NUMBER OF DIGITS.

Enter the specific numbers in form of a prefix, followed in brackets by the expected number length.

#### OPERATOR CALL

Operator set DID number (used for export configurations only).

#### CALL NUMBER OF TEST DEVICE

Number not used. A testing device can be called by a DID number (reserved for a specific application).

#### CALL NUMBER TO LINK SERVER

Multi-site circuit setup prefix.



**Note :** This parameter is only available in multi-site configuration.

### 5.3.2 ACCESS TO PUBLIC EXCHANGE

Menu **NUMBERING PLAN>Incoming call numbering plan>Access to public exchange**

This command is used to define access to the transit public network.

### ACCESS CODE

Enter the code to access the PSTN in transit. You should make this access code the same as the one used in the extension plan for simplicity purposes.

Validating with the "Enter" key refreshes the screen and displays the access definition parameters.

### DEFAULT DIRECTION

**LOCAL**   **REGIONAL**   **INTER.**

Same principle as for the extension plan.

### DEFAULT LENGTH

10 digits: same principle as for the extension plan.

## 5.3.3 ACCESS TO DIRECTIONS

Menu **NUMBERING PLAN>Incoming call numbering plan>Access to directions**

This command assigns to each direction defined via the menu **NUMBERING PLAN>Direction names**:

- A prefix
- A dialling tone after the prefix
- A dialling length
- Specific numbers.

These characteristics are used by the iPBX to split incoming transit between two directions.

### BY NAME

**LOCAL**   **INTER.**   **REGIONAL**   **TL0**

If other directions that require an access code have been created through the menu **NUMBERING PLAN>Direction names**, they will appear on the drop-down list.

Select a direction from the drop-down list then click **Select item**.

The screen masks are the same as the ones proposed for the definition of access to directions on the user plan ("NUMBERING PLAN>User numbering plan>Access to directions"), but no default value is provided.

The operator has to program the tables for each of the directions to enable the iPBX to manage call transit.

### 5.3.4 ANSWERING SERVICES

This menu is currently not proposed if DID dialling via SDN is enabled (Menu **Subscribers>Rights>General parameters**).

DID number management must be carried out from MiVoice 5000 Manager. See the document DID number management- AMT/PTD/PBX/0099.

- Call distribution services
- Operator services
- The packet switch
- The link server in multi-site configuration.

The system allows the definition of up to 64 DID corporate numbers.

This command is used to display the DID corporate numbers defined on the system. It is also used to create these numbers and create new ones.

The list of DID corporate numbers shows, for each number, the company and department associated with this number, as well as its use.

The character \* in the column "Handled by" indicates that handling depends on the caller's number.



**Note :** **COMPANY – DEPARTMENT names are only displayed in multi-company configuration.**

To modify an already defined number, click the rank number of the number to be modified on the list of DID corporate numbers. The definition screen of the DID number to modify is displayed. The parameters to modify are the same as the ones described below for creating a new number.

To define a new DID corporate number, click a rank number corresponding to an empty line.

#### RECEIVED DIGITS

Enter the MCDU (last four digits of the telephone number) of the incoming call according to the handling that will be carried out by the iPBX (see the field Routing). This number must not already be used elsewhere and must be compatible with the internal ranges of the incoming numbering plan.

Validating with the "Enter" key refreshes the screen and displays the DID number definition parameters.



**Note :** **A general DID corporate number cannot be declared if the directory number has already been assigned.**

#### FREE ANNOUNCEMENTS

When the box is ticked, the free-waiting-time service is activated.

The caller is then charged when the called party off-hooks (like for a normal call without welcome message).

#### COMPANY



**Note :** **This parameter is only available in multi-company configuration.**

The drop-down list contains the company names defined on the iPBX.

Select the company associated with the received digits.

#### SERVICE



**Note :** This parameter is only available in multi-company configuration.

The drop-down list contains the names of the departments declared on the iPBX for the selected company.

Select the department associated with the received digits.

**ROUTING**

A call received with the number declared on the RECEIVED DIGITS line is routed to one of the following:

- A call distribution service
- An operator group (OP GP1 to OP GP15)
- The packet switch
- A LINK SERVER, for a multi-site configuration using dynamic links

**RECEPTION SERVICE**

This parameter only appears on the screen if the CALL DISTRIBUTION SERVICE value is selected for the ROUTING parameter.

The drop-down list contains the names of the call distribution services declared in the system.

Select the name of a call distribution service.

**HANDLED ACCORDING TO CALLER**

**NO** **YES**

This parameter is used to route incoming calls by called number and caller number.

If you select YES, the system routes incoming calls with certain numbers to a call distribution service or operator group (a concatenation of the calling party number and the called party number): in this way, you can centralise incoming calls according to where they come from.

The values of the two parameters that follow determine the re-routed number format (see command "NUMBERING PLAN>Call rerouting> Update").

**NUMBER OF DIGITS OF CALLING PARTY**

**Note :** This parameter only appears if you select the value YES for the parameter HANDLED ACCORDING TO CALLER.

Number of caller number digits which will be used to form the rerouting number.

Enter a digit from 1 to 8 (default value = 4).

*Example:* caller number = ABPQMCDU

- By default, ABPQ is kept for rerouting number formatting
- For the value 2, it is AB that will be kept.

**NUMBER OF DIGITS OF CALLED PARTY**

**Note :** This parameter only appears if you select the value YES for the parameter HANDLED ACCORDING TO CALLER.

Number of called number digits which will be used to form the rerouting number.

Enter a digit from 0 to 4 (default value = 4).

*Example:* Called number = MCDU

- By default, MCDU is kept for rerouting number formatting
- For the value 2, it is DU that will be kept.

### 5.3.5 DISPLAY OF THE PLAN

Menu **NUMBERING PLAN>Incoming call numbering plan>Display of the plan**

This command is used to display the “incoming” numbering plan, either in full or for a number range.

#### FOR NUMBERS BEGINNING WITH

Enter zero, one or more digits.



**Note :** If no value is entered in this field, the "incoming" numbering plan field will be displayed in full.

Click **Select item**.

The "incoming" numbering plan display screen is a table that gives the same type of information as the "user" plan display screen.

### 5.3.6 RESET OF THE PLAN

Menu **NUMBERING PLAN>Incoming call numbering plan>Reset of the plan**

This command is used to delete the "incoming" numbering plan before creating a new plan.

**USE THIS COMMAND WITH PRECAUTION.**

#### PASSWORD

Enter the password then click "Reset incoming numbering plan".



**Note :** The password is the one used to connect to the iPBX management portal. If the rights associated with this password are insufficient, the system will reject the numbering plan reset.

At the end of the operation, a screen appears, indicating that the plan has been reset.

### 5.3.7 EXTERNAL NUMBER RANGES

Menu **NUMBERING PLAN>Incoming call numbering plan>External numbering range**

This menu is currently not proposed if DID numbering by SDN is enabled (Menu **Subscribers>Rights>General parameters**).

DID number management must be carried out from MiVoice 5000 Manager. See the document DID number management- AMT/PTD/PBX/0099.

#### If DID numbering by SDN is not enabled:

External number ranges are used to automatically assign a DID number to subscribers if the “Automatic creation of DID numbers” box is ticked while creating subscribers (see the menu **SUBSCRIBERS>Subscriptions>Create**).

Defining external number ranges creates a correspondence between public number ranges and internal number ranges.

### 5.3.7.1 Names

Menu **NUMBERING PLAN>Incoming call numbering plan>External numbering range>Names**

This command is used to declare external number ranges.

#### EXTERNAL RANGE 1 TO 4

Enter the numbering range name to declare (8 characters).

### 5.3.7.2 Characteristics

Menu **NUMBERING PLAN>Incoming call numbering plan>External numbering range>Characteristics**

This command is used to configure the declared external number ranges.

#### BY ITS NAME

The drop-down list contains all the names of the external numbering ranges declared previously.

Select the name of the range to configure then click **Select item**.

If the range is not already configured, the operator is asked to enter the name of the plan and the DID directory start number before the external numbering range definition screen is displayed. These parameters are defined below in the description of the external numbering range definition screen.

1. Select the name of the plan for which the range will be defined:
2. Press "Enter" to validate then enter the first DID directory number for the range:
3. Press "Enter" to confirm.

The external numbering range definition screen is displayed. (If you have already configured the range, this screen is displayed directly after you have selected the external numbering range.)

#### PLAN

The drop-down list contains the names of the internal numbering plans defined using the menu **NETWORK AND LINKS>Network>AID handling>Definition of the internal plans**.

Select the plan for which the range will be defined:

#### - TYPE OF PLAN

This information field indicates the type of plan selected.

#### DID DIRECTORY NUMBER

The following three parameters concern DID directory numbers.

#### - BEGIN

Indicate the first DID directory number to define for the external numbering range.

#### - END

Indicate the last DID directory number to define for the external numbering range.

#### - NUMBER OF ELEMENT

This information field gives the number of DID directory numbers for the external numbering range.

**PUBLIC RANGE****- BEGIN**

Indicate the first public number to define for the external numbering range.

**- END**

This information field indicates the last public number for the external numbering range.

**ASSOCIATED TO THE LOCAL RANGE:****- BEGIN**

Indicates the first internal number to be associated with the public range.

**- END**

This information field indicates the last internal number for the external numbering range.

**5.3.7.3** *Display*

Menu **NUMBERING PLAN>Incoming call numbering plan>External numbering range>Display**

This command is used to display, for a given plan, the declared external numbering ranges.

**TYPE OF PLAN**

Select the type of plan to view external numbering ranges.

.....

No particular type; you can select it with the parameter OR PLAN NAME

**PSTN/TL**

PSTN or TL type plan.

**PSTN**

PSTN plan only.

**TL**

TL plan only.

**OR PLAN NAME**

For selecting a plan by name instead of by type.

The drop-down list contains the names of the internal numbering plans defined using the menu **NETWORK AND LINKS>Network>AID handling>Definition of the internal plans**.

Select a name.

When you fill in any of the above fields, click **Select item**.

The external numbering range display screen is a table that gives each external numbering range defined:

**NAME**

Name of external numbering range.

**DID RANGE**

DID directory number range defined for external numbering range.

**EXTERNAL NUMBER**

First external number defined for the external numbering range.

**TYPE**

Type of internal numbering plan for which the external numbering range is defined.

**PLAN**

Name of the internal numbering plan for which the external numbering range is defined.

**LOCAL RANGE**

Internal number range that will be associated with the external numbering range for automatic creation of DID numbers during subscriber creation.

## 5.4 PLAN FOR INTERNET LINKS

Internet links: SIP trunk allowing SIP URI calls.

### 5.4.1 ACCESS TO ALL DOMAINS

This menu is used to define the general internet direction that gives access to all domains.

In a cluster configuration, this menu is only available on the cluster server.

The option only proposes the private directions with a defined name, which are not used in the following menus:

Subscriber numbering plan

- Network numbering plan
- Routes
- AID processing,
- Plan for internet links/ Access to specific domains.

The value "....." indicates that the access direction to all domains is not defined and does not allow this latter to be deleted.

Selecting another value available on the list allows you to define the access direction to all the domains.

## 5.4.2 ACCESS TO SPECIFIC DOMAINS

This menu is used to define the internet directions that give access to specific domains.

In a cluster configuration, this menu is only available on the cluster server.

A select by name menu is used to choose the direction to configure.

The option only proposes the private directions with a defined name, which are not used in the following menus:

- Subscriber numbering plan
- Network numbering plan
- Routes
- AID processing,
- Plan for internet links/ Access to all domains.

If the value "....." is displayed, this means that there are no longer any available private directions. Create a new direction in the Direction name menu.

If at least one direction is available, pressing the Select item button displays the domain configuration menu.

This menu displays 200 Domain/IP address lines with 50 characters maximum.

One line may contain one IP address or domain name.

In a cluster, the list is automatically updated in the nodes by the replication mechanism.

## 5.4.3 DISPLAY PLAN

This menu is used to list all the internet directions with, for each access direction to specific domains, all the associated domains.

In a cluster configuration, this menu is only available on the cluster server.

## 5.4.4 RESET PLAN

This menu is used to fully reset the plan for internet links.

In a cluster configuration, this menu is only available on the cluster server.

This menu is operator-account-password-protected.

If the password is correct while the operation is validated by pressing the Reset plan button for internet links, the MMC:

- Deletes the routing for the directions:
- Access to all the domains
- Access to specific domains on the internal iPBX.
- Deletion of direction associations:

- Access to all the domains
- Access to specific domains in internet link type trunks (reset to "...." of the associated direction field) on the internal IPBX.

Re-assigning to area A the TL restrictions of all the directions found in the definition of internet link plan:

- Access to all the domains
- Access to domains.

At the end of the reset operation, the menu displays the reset made.

## 5.5 BARRED NUMBERS

Menu **NUMBERING PLAN>Forbidden numbers**

Barred numbers are external numbers that can be barred for subscribers either individually or for all the subscribers of an administrative hierarchy.

Barred numbers are defined in the form of lists. You can define up to 50 lists of 100 numbers.

Each entry in a barred numbers list is either a complete external number (including the access prefix) or the beginning of an external number, the effect of which will be to bar all numbers starting with this entry.

A list of numbers is barred for a subscriber in day and/or night service in the following conditions:

- The list is associated with the subscription.
- The day and/or night service category associated with the subscription takes into account the restrictions linked with the barred numbers lists.

The association of a list of forbidden numbers with a subscription is done via the menu **SUBSCRIBERS>Subscription>Characteristics>General characteristics**.

The association of a list of forbidden numbers with an administrative hierarchy is done via the menu **SUBSCRIBERS>Directory>Hierarchic administration**.

The parameters for acceptance by a category of the restrictions linked with the forbidden numbers lists is configured via the menu **SUBSCRIBERS>Rights>Categories>Characteristics**.



**Note :** When a barred numbers list is associated directly with a subscription, the number control is done only in respect of this list: even if lists are associated with administrative hierarchy levels concerning the subscription, no control is carried out as regards these lists.

The menu **NUMBERING PLAN>Forbidden numbers** is used to declare and define the list of forbidden numbers:

To declare forbidden number lists, click "**Forbidden number lists**" from the menu **NUMBERING PLAN>Forbidden numbers**:

### LIST 1 TO 50

Name of the barred numbers list (8 characters maximum).

To declare forbidden number lists, click "**Forbidden numbers definition**" from the menu **NUMBERING PLAN>Forbidden numbers**.

## FOR THE LIST

Name of the list to define. The drop-down list contains the names of the barred numbers declared on the system.

Select the name of the list to define, then click **Select item**:

## NUMBER 0 TO 99

In these fields, enter the numbers to be barred by this list: 22 digits maximum per number, including direction access prefixes, are available.

The number entered can be closed or open. In this case, all numbers starting with these digits are barred numbers.

### USA configuration:

It is possible to use "all digit" characters. These characters are the letters A, B, C and D.  
Example: 00134AB7 bars all numbers beginning with 0134 and having 7 as their seventh digit (for example 00134007, 00134017, 00134267, 00134597, etc.).

Any of the letters A, B, C and D can be used by the operator.  
Example: 00134AB7 is the same as 00134AA7, 00134CD7, 00134DD7...

Attention : letters must not be used in the prefix which determines the direction.

## 5.6 SPECIAL NUMBERS

### NUMBERING PLAN>Special numbers

Special abbreviated numbers are used to call emergency services, and are not barred by category. They must not appear in the barred lists.

The special numbers are organised by lists. A special number is made up of the access prefix for the list on which it is defined (NUMBERING PLAN>User numbering plan>Access to features) followed by its rank on the list.

The lists are used to define the number translations to apply to the special numbers.

A special number may require number translations that differ according to the geographic location of the caller, especially in a multi-site configuration. To allow this different management, a code is associated with each location and a set of special number lists can be associated with each code. For a description of location management, see the MiVoice 5000 operating manual: Multi-site management [2].



**Note :** In a multi-site configuration, the special numbers must be configured on the site containing the CAC server. It is advisable to use the site copy tool for copying the lists of special numbers applicable to each site.

A special number (for a given location code) can have two different number translations for the day period and the night period.

A maximum of 200 number translations can be defined. This can be, for example, 10 lists of 10 number translations for two different location codes.

The SPECIAL NUMBERS menu is used to:

- define the names of the location codes,
- define the lists of special numbers for each location code,
- display the list of special numbers defined for a given code.

## 5.6.1 DEFAULT CONFIGURATION OF SOME SPECIAL NUMBERS

In release R5.1 and later, the following special numbers are predefined by default:

CODE	LIST	NUMBER	DAY NUMBER	LABEL
0	0	2	112	EMERGENCY
0	0	5	115	EMS
0	0	9	119	MALTREAT
0	1	5	15	EMS
0	1	7	17	POLICE
0	1	8	18	FIRE SERVICE

- The numbers 0112, 0115, 0119, 015, 017 and 018 are associated with the EMERGENCY service
- The prefix 11 is associated with list 0 of the special numbers.
- The prefixes 15, 17 and 18 are associated with list 1 of the special numbers by retaining the last digit.

## 5.6.2 SPECIAL NUMBER CODE NAMES

### NUMBERING PLAN>Special numbers>Names of special numbers code

This command is used to define the names of the codes associated with the geographic locations.



**Note :** The definition of the names of the special numbers codes is done on the site containing the CAC server.

#### CODE NUMBER 0

Name of CODE 0 (value created by default)



**Note :** The lists of the special numbers associated with this code are used in fallback on a site when the location of the caller set cannot be obtained. Therefore, it is advisable not to associate this code to a specific location.

#### CODE NUMBER 1 TO 19

Names of the codes associated with the different geographic locations.

### 5.6.3 DEFINITION OF THE SPECIAL NUMBERS

Menu **NUMBERING PLAN>Special numbers>Special numbers definition**

This command is used to define the translation of the special numbers for each code defined previously.



**Note :** The definition of the special numbers is done on the site containing the CAC server. If no CAC server is activated, the definition of the lists of special numbers only concerns code 0 which will be the only one used locally for number translation.

#### FOR THE CODE

Special numbers code name.

The drop-down list contains all the names of the codes defined previously.

#### AND THE LIST

Name of the list of the numbers to define.

Select the definition criteria then click **Select item**.

#### NUMBER (N) 0 TO 9

*N* represents the prefix defined in the access to the features.

*Examples:*

FOR THE FOLLOWING FEATURE PREFIXES...	... THE ABBREVIATED NUMBERS (BY LIST) ARE:		
	LIST 0	LIST 1 (*)	LIST 2
Special numbers (list 0)	Number (11) 0	Number (1) 5	Number (2) 0
Special numbers (list 1)	Extended day No.	Extended day No.	Extended day No.
Special numbers (list 2)	Extended night No.	Extended night No.	Extended night No.
	Label	Label	Label
	Number (11) 1	Number 6	Number (2) 1
	Extended day No.	Extended day No.	Extended day No.
	Extended night No.	Extended night No.	Extended night No.
	Label	Label	Label

\* : the abbreviated numbers on list 1 are defined "by prefix" in access to features (see Section 5.2.2.2).

#### EXTENDED DAY NO.

In this field, enter the full number to dial during the day period: 18 digits maximum, including direction access prefixes, are available.

#### Specific configuration relating to the location of teleworkers behind an MBG

It is also possible to enter abbreviated numbers (example above: \* 3000) in the configuration of special numbers. This is in particular to be able to manage emergency calls for teleworkers who are configured behind an MBG and who cannot therefore be located and make emergency calls corresponding to their real geographical location. Refer to the document Remote Worker via an MBG - AMT / PTD / PBX / 0161 /.

## EXTEND. NIGHT NO

In this field, enter the full number to dial during the night period: 18 digits maximum, including direction access prefixes, are available.

### LABEL

Enter in this field a name (maximum 7 characters) which corresponds to the number stored. This name is internal to MMCs and is only displayed on the digital set when the number is called.



**Note :** **Switchover from day number to night number (and vice versa) is controlled by the barring calendar (common to all subscribers in single-company configuration, by company in multi-company configuration), or by a maintenance set (if the barring management right is granted to maintenance sets).**

## 5.6.4 VIEW THE SPECIAL NUMBERS

Menu **NUMBERING PLAN>Special numbers>Special numbers display**

This command is used to view the special numbers defined for a given code.

### FOR THE CODE

Name of the special numbers code to view.

The drop-down list contains all the names of the codes defined.

Select the code you want then click **Select item**. The following screen is displayed:



**Note :** **The << and >> scroll arrows are used to view the special numbers for the other codes.**

## 5.7 CALL REROUTING

Menu **NUMBERING PLAN>Call rerouting**

This menu is used to translate the number that the telephone translation server uses to reroute calls, either systematically or on no answer. A number translation may concern a specific number or a number range identified by a dialling start.

### 5.7.1 UPDATE

Menu **NUMBERING PLAN>Call rerouting>Update**

This command is used to create and/or change rerouting operations.

#### OPERATION TYPE

**CREATE**

**MODIFY**

**CREATE**

Creates a rerouting operation.  
The iPBX must be reset when a rerouting operation is created.

**MODIFY**

Modifies the parameters of a rerouting operation. If no rank number is set, it is the rerouting of the lowest rank number for the feature concerned that is selected.

**FEATURE**

<b>EXTERNAL CALL</b>	<b>FUNCTIONAL FORWARDING 1</b>	<b>FUNCTIONAL FORWARDING 2</b>
<b>VITAL EXTENSION</b>	<b>PRIVILEGED SUBSCRIBER</b>	<b>DID NUMBER</b>

<b>EXTERNAL CALL</b>	Rerouting by translating a PSTN or TL number to a PSTN, TL, or internal number.
<b>FUNCTIONAL FORWARDING 1</b>	Systematic rerouting by translating an internal number to a PSTN, TL, or internal number.
<b>FUNCTIONAL FORWARDING 2</b>	Rerouting for an unknown internal number – translation of an internal number to a PSTN, TL, or internal number.
<b>VITAL EXTENSION</b>	Rerouting for an inaccessible internal number or a TTS number – translation of an internal number to a PSTN, TL, or internal number.
<b>PRIVILEGED SUBSCRIBER</b>	Reserved.
<b>DID NUMBER</b>	Combined rerouting for a DID number, used to supervise various OP GP call distribution services according to the calling party number (calling and called party: ISDN).

**IN MODIF: UPDATE: NUMBER BEGINNING WITH**

This field is not significant during creation.

During modification, indicate a complete number or the start of numbers to modify. This value is not obligatory but can be used to directly access the rerouting operation to modify.

**RANK REROUTING**

This field is not significant during creation.

Rank number fixed automatically on creation: it is used to call a record for a possible modification. This value is not obligatory but can be used to directly access the rerouting operation to modify.



**Note :** If you fill in the previous two fields, the most significant is the number or number start, and the rank is used if necessary, in addition to the number start.

Fill in the appropriate fields then click **Select item**.

**5.7.1.1 Create rerouting**

Menu **NUMBERING PLAN>Call rerouting>Update**

If the operation type "CREATE" has been selected, fill in:

**NUMBER TO BE REROUTED**

Enter the number to be translated.

Validating with the "Enter" key refreshes the screen and displays the rerouting definition parameters.

The proposed definition screen varies according to the selected feature:

DEFINITION SCREEN	FOR FEATURES:
Number to be rerouted: 34	FUNCTIONAL FORWARDING 1
Replaced by:	FUNCTIONAL FORWARDING 2
	VITAL EXTENSION

Number of digits to be added: 0	
Number to be rerouted: 0013969 Replaced by: Number of digits to be added: 0 Or handled by:	EXTERNAL CALL
Number to be rerouted: 027000 Replaced by: Or handled by:	DID NUMBER

**REPLACED BY**

Enter the number resulting from the translation.

**NUMBER OF DIGITS TO BE ADDED**

Identifies the number range concerned by this rerouting:

0 means that the number to be rerouted is complete and rerouting only concerns this number.

n means that rerouting concerns the number range starting with the value "Number to be rerouted", and completed by n digits.

**OR HANDLED BY**

..... **C.DIST** **OP GP1** **OP GP2** ... **OP GP15** **IVR**

Select the department you want for rerouting.



**Note :** If you complete this field, it replaces the value possibly entered in the field "Replaced by".

**5.7.1.2 Modify rerouting**

Menu **NUMBERING PLAN>Call rerouting>Update**

If the operation type "MODIFY" has been selected, fill in the following fields:

- Number to be rerouted: 0145454545
- Replaced by: 4545
- Number of digits to be added: 0
- Or handled by:

The screens proposed for rerouting modification are the same as the creation screens, but the fields initially contain the values for the rerouting operation being modified.

**5.7.2 PROCESSING**

Menu **NUMBERING PLAN>Call rerouting>Handling**

Processing of rerouting defines whether rerouting is systematic or is activated on failure. Processing configuration concerns external calls only: for the features FUNCTIONAL FORWARDING 1, FUNCTIONAL FORWARDING 2 and VITAL EXTENSION, processing is not configurable (see the description of the FEATURE parameter).

#### FOR DIRECTION NATIONAL

**DIRECTLY** Systematic rerouting

**ON FAILURE** Rerouting on congestion.

#### SEARCH VIA DIRECTORY

This box must be ticked in case of specific DID number management (see the document AMT/PTD/PBX/0099/EN).

- Not available for MiVoice 5000 Server

#### FOR DIRECTION INTERNATIONAL

**DIRECTLY** Systematic rerouting

**ON FAILURE** Rerouting on congestion.

#### FOR DIRECTION REGIONAL

**DIRECTLY** Systematic rerouting

**ON FAILURE** Rerouting on congestion.

#### FOR DIRECTION EMERGENCY

**DIRECTLY** Systematic rerouting

**ON FAILURE** Rerouting on congestion.

#### FOR DIRECTION TL 0

**DIRECTLY** Systematic rerouting

**ON FAILURE** Rerouting on congestion.



**Note :** The NATIONAL, INTERNAT, and TL directions are automatically determined according to the numbers to be rerouted that are created: 0 NATIONAL, 00 INTERNATIONAL and 8 TL. If no rerouting operation is created for a direction, the corresponding field does not appear on the processing configuration screen.

#### - REROUTE CALL AFTER TRANSLATION

Indicator specifying whether or not STT is implemented after a translation obtained via a vital subscriber.

Default value, box not ticked: existing processing; STT is implemented after a translation obtained via a vital subscriber.

**Box ticked:** STT not implemented after a translation obtained via a vital subscriber.

### 5.7.3 DISPLAY

Menu **NUMBERING PLAN>Call rerouting>Display**

This command is used to display, by feature, the rerouting operations defined in the system.

#### FEATURE

<b>EXTERNAL CALL</b>	<b>FUNCTIONAL FORWARDING 1</b>	<b>FUNCTIONAL FORWARDING 2</b>
<b>VITAL EXTENSION</b>	<b>PRIVILEGED SUBSCRIBER</b>	<b>DID NUMBER</b>

<b>EXTERNAL CALL</b>	Rerouting by translating a PSTN or TL number to a PSTN, TL, or internal number.
<b>FUNCTIONAL FORWARDING 1</b>	Systematic rerouting by translating an internal number to a PSTN, TL, or internal number.
<b>FUNCTIONAL FORWARDING 2</b>	Rerouting for an unknown internal number – translation of an internal number to a PSTN, TL, or internal number.
<b>VITAL EXTENSION</b>	Rerouting for an inaccessible internal number or a TTS number – translation of an internal number to a PSTN, TL, or internal number.
<b>PRIVILEGED SUBSCRIBER</b>	Reserved.
<b>DID NUMBER</b>	Combined rerouting for a DID number, used to supervise various OP GP call distribution services according to the calling party number (calling and called party: ISDN).

Select the feature type you want.

#### **NO. TO BE REROUTED STARTS WITH**

For defining a number range to be displayed.

If this field is not completed, all rerouting operations for the selected feature will be displayed.

Fill in the appropriate fields then click **Select item**.

The list of rerouting operations corresponding to the request is displayed in form of a table.

Rank	No. Cal. Rerout	Replaced by
0	00237373737373	01234

## **5.8 E.164 NUMBERING**

Menu **NUMBERING PLAN>Numbering parameters of E164 format**

This command is used to define the E.164 numbering parameters.

#### **COUNTRY CODE**

iPBX location country code.

#### **INTERNATIONAL / NATIONAL PREFIX**

Prefixes used to translate E.164 format to diallable format.

## 6 NETWORK AND LINKS

This management domain is all about configuring the items required to set up calls (signals and voice) and transfer data.

Routing a subscriber's calls to the switched telephone network (TDM network) consists in: assigning an external direction, selecting a route (direct or rerouted) and selecting a trunk group.

It is also possible to set up calls by connecting to an IP network.

Multi-site configuration, which must also be defined in this domain, is described in another document entitled "Multi-site management", ref. AMT/PTD/BPX/0081/EN.

### Menu **NETWORK AND LINKS**

This menu proposes five major functions used to:

- Manage external lines and subscriber equipment
- Define network characteristics (trunk group, routing)
- Define various aspects of multi-site management
- Configure the quality of service
- Configure links and data.

### 6.1 EQUIPEMENT

#### Menu **NETWORK AND LINKS>Equipment**

This screen is used to display all the functions available in terms of external line equipment.



**Note :** For MiVoice 5000 Server, many restrictions exist concerning the use of these functions, especially in the Equipment part of external line and subscriber equipment management.

#### 6.1.1 EXTERNAL TRUNK

##### Menu **NETWORK AND LINKS>Equipment>External trunk**

 This command is not available for MiVoice 5000 Server.

This screen is used to select the external line.

A line can be selected according to three criteria :

- By equipment number: rack number, card number, circuit number,
- By trunk group
- By physical type

##### **BY EQUIPMENT NUMBER**

Enter the line's equipment number. The line is selected by cabinet number, card slot and equipment number (a 5-digit number on MiVoice 5000).

See "Selecting a user by equipment number" (menu **Extension characteristics**).



**Note : Entering the equipment number is optional.**

#### AND BELONGS TO TRUNK GROUP

..... FT0-ETSI ANA.TG TLIE.TG FT2.ETSI PCM.TG SVL-IP.TG

Selection of external line by trunk group. In this case, the first line belonging to the selected trunk group is displayed.

By default, there are trunk groups, depending on which cards are fitted in the system.



**Note : Trunk group selection is optional.**

#### AND BELONGS TO THE CARD

Selecting a line by choosing the card equipment number of the lines to configure. In this case, the selected line corresponds to the first equipment of the card.

We recommend that you select the line by card equipment number if you wish to carry out the same configuration on all the external lines of the card.



**Note : This selection is also optional, but if it is filled in, it must be consistent with the first field (position on the first equipment).**

#### AND PHYSICAL TYPE

..... DIGITAL TRK ANALOG.TRK TIE LINE ISDN: T0 (BRI) ISDN: T2 (PRI)

External line selection by its physical type (signalling type). In this case, the first line belonging to the selected signalling type is displayed.



**Note : Selecting the physical type of external line is optional.**

#### 6.1.1.1 ISDN trunk line characteristics

Menu **NETWORK AND LINKS>Equipment>External trunk**

The numbers in the heading after the "Type of line" (example: ISDN:T0 1-10-00) indicate the equipment number of the trunk line.



**Note : For S0 equipment used like T0, the display is as follows: S0 type physical address.**

#### STATUS: CURRENT STATE

Line transition status (for example, the line can be DISABLED if you want to remove a card from the system or change trunk group.)

#### S0 TYPE PHYSICAL ACCESS

If you tick this box, the type of access used is S0. Otherwise, the type of access used is T0.

#### LEVEL 1: CONTENTION MANAGEMENT

If you tick this box, the iPBX is seen as a DTE: where several iPBXs are connected to the same T0.

#### LEVEL 2: EXTENSION PERFORMANCE

**SLAVE** When the line is connected directly to the PSTN.

**MASTER** When the line is connected to another system which uses QSIG signalling.

**LEVEL 2: LINK SET UP BY EQT**

Reserved for multi-site configuration with QSIG signalling.

Do not tick the box when the line is connected to the public network.

**TEI NUMBER VARIABLE**

If you tick this box, the line acts like an S0 interface instead of a T0 interface at level 2 (only used for certain Export options).

**TRANSITION MONITORING (RECORD)**

If you tick this box, the system generates a monitoring record after the line has changed status (ringing phase, call set up phase, conversation phase, and release phase).

The menu System>Setting>Tickets can be used to define whether the monitoring records will be included in the logbook.

**TRUNK GROUP 1ST B CHANNEL**

Once you have an ISDN line or a T0 access, this corresponds to 2 B channels and 1 D channel: this line is used to specialise the 1st T0 access B channel.

**TRUNK GROUP 2ND B CHANNEL**

This line is used to specialise the 2nd T0 access B channel. When this line is connected to another PBX using QSIG signalling.

The T0 interface comprises two B channels and one D channel for signalling: 2 B + D.

The two B channels have a capacity of 64 kbit/s each, and the D channel 16 kbit/s, amounting to a total of 144 kbit/s.

### 6.1.1.2 T2 ISDN trunk line characteristics

Menu **NETWORK AND LINKS>Equipment>External trunk**

The numbers in the heading after the "Type of line" (example: 1-03-01) indicate the equipment number of the trunk line.

Access by 385 indicates that you can program direct access to this equipment on the digital set using the function SUP. TRUNK LINE (monitoring trunk line).

#### STATUS: CURRENT STATE

**IN SERVICE**

**DISABLED**

.....

Line transition status (for example, the line can be DISABLED if you want to remove a card from the system or change trunk group.)

#### LEVEL 2: EXTENSION PERFORMANCE

**SLAVE**

When the line is connected directly to the PSTN.

**MASTER**

When the line is connected to another system which uses QSIG signalling.

#### LEVEL 2: LINK SET UP BY EQT

Reserved for multi-site configuration with QSIG signalling.

Do not tick the box when the line is connected to the public network.

#### LINK RESTORE BY CALLING

If you do not tick this box, this corresponds to a T2 type connection mode which can set up the link more quickly in the event of the connection being cut off.

Do not tick the box.

#### CRC4 MANAGEMENT

Not managed by France Telecom: do not tick the box.

#### TRANSITION MONITORING (RECORD)

If you tick this box, the system generates a monitoring record after the line has changed status (ringing phase, call set up phase, conversation phase, and release phase).

The menu System>Setting>Tickets can be used to define whether the monitoring records will be included in the logbook.

#### TRUNK GROUP

This field indicates which trunk group the line belongs to.

If you want to change trunk group, the trunk line must be DISABLED.

### 6.1.1.3 *Tie line characteristics*

Menu **NETWORK AND LINKS>Equipment>External trunk**

The numbers in the heading after the "Type of line" (example: TIE LINE 1-11-00) indicate the equipment number of the trunk line.

Access by 28 indicates that you can program direct access to this equipment on the digital set using the function SUP. TRUNK LINE (monitoring trunk line).

#### **STATUS: CURRENT STATE**

**IN SERVICE**      **DISABLED**      ●●●●●●●●

Line transition status (for example, the line can be DISABLED if you want to remove a card from the system or change trunk group.)

#### **TRANSITION MONITORING (RECORD)**

If you tick this box, the system generates a monitoring record after the line has changed status (ringing phase, call set up phase, conversation phase, and release phase).

The menu System>Setting>Tickets can be used to define whether the monitoring records will be included in the logbook.

#### **TRUNK GROUP**

This field is used to assign the external trunk line to a trunk group created in menus "Trunk Group names" and "Trunk Group characteristics".



**Note : If you want to change trunk group, the trunk line must be DISABLED.**

### 6.1.1.4 *Digital trunk characteristics*

Menu **NETWORK AND LINKS>Equipment>External trunk**

The numbers in the heading after the "Type of line" (example: DIGITAL TK 1-02-01) indicate the equipment number of the trunk line.

Access by 353 indicates that you can program direct access to this equipment on the digital set using the function SUP. TRUNK LINE (monitoring trunk line).

#### **STATUS: CURRENT STATE**

**IN SERVICE**      **DISABLED**      ●●●●●●●●

Line transition status (for example, the line can be DISABLED if you want to remove a card from the system or change trunk group.)

#### **TRANSITION MONITORING (RECORD)**

If you tick this box, the system generates a monitoring record after the line has changed status (ringing phase, call set up phase, conversation phase, and release phase).

The menu System>Setting>Tickets can be used to define whether the monitoring records will be included in the logbook.

#### **TRUNK GROUP**

This parameter is used to assign the external trunk line to a trunk group created in menus "Trunk Group names" and "Trunk Group characteristics".



**Note : If you want to change trunk group, the trunk line must be DISABLED.  
A trunk group with digital trunk lines cannot contain "TSs" from different PCMs.**

### 6.1.1.5 *Analogue trunk line characteristics*

Menu **NETWORK AND LINKS>Equipment>External trunk**

The numbers in the heading indicate the physical location (for example: Analogue TK 1-00-00).

Access by 0 indicates that you can program direct access to this equipment on the digital set using the function SUP. TRUNK LINE (monitoring trunk line).

#### **STATUS: CURRENT STATE**

**IN SERVICE**

**DISABLED**

••••••••

Line transition status (for example, the line can be DISABLED if you want to remove a card from the system or change trunk group.)

#### **TRANSITION MONITORING (RECORD)**

If you tick this box, the system generates a monitoring record after the line has changed status (ringing phase, call set up phase, conversation phase, and release phase).

The screen System>Setting>Tickets can be used to define whether the monitoring records will be included in the logbook.

#### **TRUNK GROUP**

This parameter is used to assign the external trunk line to a trunk group created in menus "Trunk Group names" and "Trunk Group characteristics".



**Note :** If you want to change trunk group, the trunk line must be **DISABLED**.

If the selected trunk line belongs to a trunk line which has incoming routing of the type **BY TRUNK**, the following fields are displayed:

##### **DIRECT INWARD ROUTING:**

- **COMPANY**
- **SERVICE**
- **DAY CALLS ON**
- **NIGHT CALLS ON**

In this case, external calls are assigned according to the line called and not according to the trunk group (implementation of DIR).

#### **NIGHT/ANSWER SUBSCRIBER NO.**

Declaration of the subscriber number to which the DIR is sent: case of the manager line.

## 6.1.2 DISPLAYING EXTERNAL LINES

Menu **NETWORK AND LINKS>Equipment>Display of the external trunks**

- This command is not available for MiVoice 5000 Server.

This screen is used to select the equipped line(s) to be displayed.

### PHYSICAL TYPE

..... **DIGITAL TRK** **ANALOGUE TRK** **TIE LINE**

**ISDN: T0 (BRI)** **ISDN: T2 (PRI)** **VOICE OVER IP**

Display of the external trunks with the physical type (signalling type) selected.

### BELONGS TO

..... **FT0-ETSI** **ANA.TG** **TLIE.TG** **FT2.ETSI** **PCM.TG** **SVL-IP TG.**

Display of the external trunks belonging to the trunk group selected.

### FIRST PHYSICAL EQUIPMENT

The external trunks are displayed starting with the first position indicated.

Enter the parameters, then click "Select item" to go to the next screen which displays the equipped external trunks in the system.

This table indicates :

- The location of the card and the equipment interface
- The access number. Imposed by the system, this is used to program line monitoring on digital sets



**Note :** The access number is extremely important, as it is used for programming the line on digital set keys for the network intercom function.  
An asterisk \* in the "sup" column indicates that the line transitions are supervised.

- The membership of a given trunk group
- The day answering service which indicates the routing of the line or trunk group on the service (see section: DAY CALLS ON)
- The night answering service which indicates the routing of the line or trunk group on the service (see section: NIGHT CALLS ON)



**Note :** The DAY SERV., NIGHT SERV. service does not apply to the ISDN:T0 and T2 trunk groups.

- The ISDN slots available.



**Note :** Remote power supply information is displayed for the S0 accesses integrated in the CPU cards (UCVS) as well as for the S0 accesses of LD4X cards available in the IPBX.

### 6.1.3 DECT MANAGEMENT

Menu **NETWORK AND LINKS>Equipement>DECT management**

Working principles:

The geographic area is divided into radio areas.

1 area is managed by 1 or more base stations (3 maximum) placed at the same point (distance of 30 cm).

Optimising the quality of calls in the radio areas optimises the base stations' transmission and reception according to various factors:

- The areas to cover
- The traffic load
- The features assigned to users
- Electromagnetic disturbances

Definitions:

**Coverage area:** area in which a wireless terminal (portable set) can make and receive calls

**Radio area:** area in which a base station can send and receive calls

**Cell:** a set of base stations, or a base station entity used to locate portable terminals.

The menus proposed for a DECT use the tree-structure logic: you have to first define the topology, resources and then the portable handsets concerned.

#### 6.1.3.1 *Names of cells*

Menu **NETWORK AND LINKS>Equipment>DECT management>Names of cells**

This screen is used to display the names of the cells associated with the DECT. It allows you to declare the cells that were defined during deployment. The maximum number of cells is fixed at 128 (for single-site configuration) and 254 (for multi-site configuration).

### 6.1.3.2 DECT parameters

Menu **NETWORK AND LINKS>Equipment>DECT management>DECT parameters**

This screen is used to define the parameters associated with the DECT.

#### **PARI VALUE 0**

9 digits maximum (the PARI number can be found on the iPBX approval label).

#### **MOBILES RECORDING**

##### **- RANDOM VALUE / RS VALUE**

maximum 9 digits. 2 random values (must not be the same) registered in the mobile by the iPBX when the mobile was registered on the DECT network.

From this point onwards, the iPBX regularly checks the values registered in the cordless handsets (the values are calculated from these two parameters) in order to authorise or refuse use of the DECT network.

Enter a value lower than 4294967295 (FFFF FFFFh). The value of the random number has no significance. However, in a multi-site configuration the number must be identical in all locations where the mobiles are to be registered.

##### **- PASSWORD**

Password used while registering a cordless handset.

##### **- RECORDING CODE**

Recording code length. The recording code consists of the last digits of the directory number, possibly completed with the first digits of the record password.

##### **DIR. BEGINNING ASSIGNED TO PLL**

4 digits maximum, 999 is the default. The base stations are connected to the iPBX via an S0 Basic Rate Interface. One PLL (D channel) is used for signalling and downloading to the base stations. PLL directory numbers are comprised of digits recorded in this parameter followed by the base station declaration order number.

Example: 999000, 999001, 999002, etc.

##### **SEARCH FOR MOBILE ON LOCAL SITE**

**NO** **YES**

Indicates whether the cordless handset must be searched for on the local site or on another site.

##### **OR IN ANOTHER SITE**

.....

Name of the site where the cordless handset must be searched for.

##### **OR IN THE LOCAL CENTER**

**NO** **YES**

Indicates whether the cordless handset must be searched for on the local centre or on another centre.

##### **OR IN ANOTHER CENTER**

.....

Name of the centre where the cordless handset must be searched for.

**OR IN THE LIST**

Select the (BROADCAST) list on which the cordless handset must be searched for.

**CLOCK SYNCHRON.**

This parameter is used to configure the synchronisation of DECT clocks.

3 possible selections: "Priority master", "Not priority master", "Slave".

- Case of single-site configuration: the default value for a site is "Priority master" (the is supposed to be standalone).
- Case of multi-site configuration: in simplex mode, a single iPBX is set to "Priority master" and provides the DECT synchronisation signal for the entire multi-site network. Other iPBXs are configured as "Slaves". In duplex mode, two iPBXs are masters (one "Priority master" and the other "Not priority master") and can provide the DECT synchronisation signal for the entire multi-site network, while other sites are configured as "Slaves".



**Note :** For a multisite network, additional parameters appear, making it possible to define the list of sites on which the mobile terminals will be registered.

**6.1.3.3 Trunk group names**

Menu **NETWORK AND LINKS>Equipment>DECT management>Trunk group name**

- This command is not available for MiVoice 5000 Server.

This screen is used to display the names of declared trunk groups and to create new trunk groups.

Cells are associated with trunk groups in two phases:

- The first involves naming the trunk groups; these names are chosen by the system installer.
- The second phase involves associating the previously defined trunk groups with the cells declared in the topology menu.

The above two operations allow you link a trunk group index to the cell.

**6.1.3.4 Trunk group definition**

Menu **NETWORK AND LINKS>Equipment>DECT management>Trunk group definition**

- This command is not available for MiVoice 5000 Server.

This screen is used to select the trunk group to be defined.

Select the trunk group then click **Select item** to change to the next screen, the trunk group definition screen, by associating it with a given cell.

**6.1.3.5 Base station allocation**

Menu **NETWORK AND LINKS>Equipment>DECT management>Base station allocation**

- This command is not available for MiVoice 5000 Server.

This screen is used to select a base station based on different criteria.

**BY EQUIPMENT NUMBER**

Selecting a DECT base station by equipment number: rack number, card number, circuit number

**OR BY ITS TRUNK GROUP**

Searching for a DECT base station by selecting the right trunk group

**OR BY ITS CELL**

Searching for a DECT base station by selecting the right trunk cell

After defining the parameters, click **Select item** to move to the next screen used to configure the characteristics of a DECT base station.

**STATUS**

This parameter indicates the current state of the base station.

**RAD.BASE TYPE**

This parameter indicates the type of base station (2- or 4-channel).

**BELONG TO TRUNK GROUP**

This parameter indicates the name of the iPBX trunk group linked to the base station.

**MOBILE RECORDING ALLOWED**

The box must be ticked during mobile registration if the base station is used for registration.

Conclude cordless handset registration by unticking the box in this field to avoid fraudulent registrations. If the mobile registration procedure fails, it is recommended to activate one or more neighbouring base stations during registration.

**TS ASSIGNMENT / FREQUENCY ALLOCATION**

These are default values and should not be changed.

**ANTENNA SELECTION**

It is possible to connect two external antennas to the upper connectors of the base station. In this case it may be necessary to force antenna selection. In the majority of cases enter "AUTOMATIC".

**SYNCHRONIZATION**

This parameter indicates the type of synchronisation

- Synchronisation via M bit of the S frame.
- External synchronisation using an additional pair (master base station).
- External synchronisation using an additional pair (slave base station).

**DISTANCE FROM MASTER BS**

- If synchronisation is via the M bit, the distance is that between the base station and the S0 interface master card.
- If synchronisation is external (slave base station), this option compensates for propagation time due to the distance between the master base station and the slave base station.
- For the master base station, it must be located as close as possible to the distribution frame.

- Specify the distance between the slave base stations and the master base station in 100-meter intervals.

**TYPE OF BUS: SHORT / LONG**

This option provides signal strength management according to the distance between the iPBX and the master base station. (Short bus < 130 m and long bus > 130 m).

**6.1.3.6 *Display the base stations***

Menu **NETWORK AND LINKS>Equipment>DECT management>Base station display**

- This command is not available for MiVoice 5000 Server.

This screen is used to display the declared DECT base stations.

**LOCATION**

Indicates the equipment number: rack number, card number, circuit number

**BASE NO**

DECT base station number.

**TYPE**

2 channels or 4 channels.

**STATE**

The base station status may be: FREE, OUT OF SERV., LOADING.

**TRUNK GROUP**

Associated trunk group.

**CELL**

Associated cell.

**6.1.3.7 *Base station moving***

Menu **NETWORK AND LINKS>Equipment>DECT management>Base stations moving**

- This command is not available for MiVoice 5000 Server.

**ORIGINAL POSITION**

Indicates the equipment number: rack number, card number, circuit number

**NEW POSITION**

Indicates the new equipment number.

**NUMBER OF MOVES REQUESTED**

Indicates the number of base station moves that must be made.

After entering the parameters, click "Confirmation" to confirm the operation.

### 6.1.3.8 Coverage display

Menu **NETWORK AND LINKS>Equipment>DECT management>Coverage display**

- This command is not available for MiVoice 5000 Server.

This screen is used to display the coverage of existing DECT network.

The table displays the following details:

#### **CELL**

Associated cell.

#### **TRUNK GROUP**

Associated trunk group.

#### **BASE NB**

Number of base stations declared.

## 6.1.4 SUBSCRIBER EQUIPM

Menu **NETWORK AND LINKS>Subscriber equipm**

- This command is not available for MiVoice 5000 Server.

This screen is used to select subscriber equipment based on two criteria :

#### **BY EQUIPMENT NUMBER**

Indicates the equipment number: rack number, card number, circuit number

#### **EQUIPMENT TYPE**



For selecting equipment by type.

Define the parameters then click **Select item** to go to the next screen used to display, equipment by equipment, the different types of terminals assigned to subscribers.

#### **SUBSCRIPTION ASSIGNED**

Displays the directory number for the equipment indicated in the title.

#### **STATE**

The equipment status may be: IN SERVICE or DISABLED.

The scroll bars on top and on the right side of the screen are used to navigate to see the status of the different equipment.

## 6.1.5 DISPLAY OF SUBSCRIBERS EQUIPMENT

Menu **NETWORK AND LINKS>Display of subscribers equipment**

- This command is not available for MiVoice 5000 Server.

This screen is used to display subscriber equipment using various criteria.

### FIRST PHYSICAL EQUIPMENT

Enter the equipment number of the first equipment to display: rack number, card number, circuit number

### EQUIPMENT TYPE



If necessary, indicate the type to make a more specific selection.

### ASSIGNED DIRECTORY



Select YES to view the directory numbers associated with the equipment types. Otherwise, all equipment types will be displayed on the table, including those that do not have any directory numbers.

Define the parameters then click **Select item** to go to the next screen used to display a given list of subscriber equipment from their equipment number.

The table displays the following details :

#### LOCATION

Indicates the equipment number of each equipment: rack number, card number, circuit number

#### TYPE

Indicates the declared subscriber equipment type.

#### DIRECTORY

Indicates each subscriber's directory number.

#### USER NAME

Indicates the name of each subscriber to whom a terminal is assigned.

## 6.1.6 MOVE OF SUBSCRIBER EQUIPMENT

- This command is not available for MiVoice 5000 Server.

### Menu **NETWORK AND LINKS>Move of subscribers equipment**

This screen is used to move one (or more) subscriber equipment from an outgoing physical address to an incoming physical address.

#### ORIGINAL POSITION

Indicates the equipment's location: rack number, card number, circuit number Can be the first location for collective move.

#### NEW POSITION

Indicates the new equipment number. Can be the first location for collective move.

#### NUMBER OF MOVES REQUESTED

Indicates the number of subscriber equipment moves to make during the operation.

## 6.2 NETWORK

Menu **NETWORK AND LINKS>Network**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 SERVER.

This menu includes 9 functions used to :

- Define trunk groups
- Configure then view routing operations
- Define off-net operators
- Manage signalling
- Take the AID into account
- Define translators
- Authorise transfers.



**Note :** In release R5.3, IP operators are managed from the menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics** by selecting an SIP type trunk group.

### 6.2.1 TRUNK GROUPS

Menu **NETWORK AND LINKS>Equipment>Trunk groups**



**Note :** Until in R5000.1, the VoIP trunk group was handled as other available trunk groups: digital, analogue, ISDN. As from this version, the VoIPs are seen as resources dynamically assigned by the system. In the part **NETWORK AND LINKS>Equipment**, the declaration of external lines for VoIP disappears.

#### 6.2.1.1 Names

Menu **NETWORK AND LINKS>Network>Trunk groups**

This screen is used to define the various trunk groups on the installation.

#### TRUNK GROUP N (1 TO 61)

The name assigned to trunk group n (maximum 8 characters): this definable trunk group number varies according to the system used (see the table below).

Additional fields are available to create further trunk groups.



**Note :** A trunk group with no name cannot be managed as it does not exist.

	MIVOICE 5000 RANGE
No. of trunk groups which can be managed by the system	61
Trunk group names defined by default	6
Trunk group names defined by default	FT0-ETSI
	ANA.TG
	TLIE.TG
	FT2-ETSI
	PCM.TG
	SVL-IP TG.
	SIP.TG

Example: Create two additional trunk groups:

On a free location, type "NET.TG" then Enter. This trunk group is for "manager lines" only (analogue trunk lines only).

On a free location, type "PAG.TG" then Enter. This trunk group is for "paging" only (analogue trunk lines only)



**Note :** When you create a trunk group, you must define its characteristics and the external trunks it will contain.

The trunk group created must contain a set of homogeneous lines

- the same nature
- the same signalling

### 6.2.1.2 Characteristics

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

#### BY NAME

Select the trunk group you want to work on: if you have created a trunk group by name, this is displayed when you make the selection.

By default, the following trunk group names are created :

**FT0-ETSI**

**ANA.TG**

**TLIE.TG**

**FT2-ETSI**

**PCM.TG**

**SVL-IP TG.**

**IP.TG**

After choosing the trunk group name, click **Select item** to obtain the menu "Characteristics of trunk groups".



**Note :** The screens used to configure the trunk groups vary according to the type of trunk group selected: digital, analogue, tie line, TO ISDN, T2 ISDN and VoIP.

### 6.2.1.2.1 Digital trunk group characteristics

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This screen is used to configure the characteristics of a digital trunk group.

#### **SIGNALLING CHARACTERISTICS**

##### **PHYSICAL TYPE**

**DIGITAL TRK**

**ANALOGUE TRK**

**TIE LINE**

**ISDN: T0 (BRI)**

**ISDN: T2 (PRI)**

**VOICE OVER IP**

By default, this trunk group is of the DIGITAL TRK type: it can be modified provided that its trunk lines are declared OUT OF SERVICE.

The physical type must be compatible with the cards' equipment interfaces which comprise the trunk group for signalling. Dialling type FV (DTMF) or DECADIC is defined at routing level.

##### **NATURE**

**COMBINED** **OUTGOING** **INCOMING**

By default, the LRX trunk group is declared as BOTHWAY. It can be modified provided that its trunk lines are declared OUT OF SERVICE.

##### **TYPE OF SIGNALLING**

**CODE AB**

**SOCOTEL DID**

**L0 TYPE**

**COLISEE  
MASTER**

**COLISEE SLAVE**

**SMDI**

**CODE AB**

Extension signalling (PD or DTMF) to set up a network call.

**SOCOTEL DID**

DID signalling (MF SOCOTEL code on status changes).

**L0 TYPE**

Pulse signalling between two PBXs.

**COLISEE MASTER**

Pulse signalling between two PBXs.

**COLISEE SLAVE**

Pulse signalling between two PBXs, or Colisée DID.

**SMDI**

Special signalling between an SMDI messaging system and the iPBX (USA configuration).



**Note :** This trunk group can manage other signalling types.

#### **ADVANCED CHARACTERISTICS**

After choosing the signalling characteristics, click "Advanced characteristics" to obtain the following fields :

##### **COMPANY**

**CMPNY.0**

.....

This column is displayed if multi-company configuration is used. On system start-up, the trunk group belongs to company CMPNY.0. If you have already created company names, these will appear on this line.

##### **SERVICE**

**DEPT.0**

.....

This column is displayed if multi-company configuration is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

**BEARER TYPE OUTGOING****CMBT + CMBNT****CCBT****CCBNT**

See also "Analogue trunk group characteristics".

For seamless transmission, CMBT is necessary and CMBNT is not necessary.

When the subscribers are declared, the subscriber service mode must be configured as follows:

Telephone Mode : The iPBX will only use CMBNT routing (or, if necessary, CMBT routings if no CMBNT routing is available and the terminal belongs to a class of facilities with the "Right to priority calls").

*Data without fallback* : the terminal will only use CMBT routing.

Data with fallback : the terminal will use CMBT type routing first, then CMBNT type routing if no CMBT routing is available.

**MAY BE RESERVED BY OPERATOR****NO****YES**

If you select YES, the whole trunk group can be reserved by the operator. The trunk line(s) must be of the same type, outgoing or bothway.

**NO. OF TRUNKS FOR PRIORITY SETS**

Enter the number of reserved lines (1 or 2 digits).



**Note :** The number of reserved lines must be less than or equal to the number of lines in the trunk group. If the number of reserved lines is equal to the number of lines in the trunk group, a line can only be assigned to another trunk group if the number of lines for priority sets in the trunk group from which the line has been taken is reduced. In the case of a bothway trunk group, a situation can arise whereby the incoming calls cause the number of lines available to be less than the number of reserved lines requested. It is preferable to select the trunk group for outgoing calls to ensure that reservation is always successful.

**TRUNK GROUP USED FOR "ROOM STATUS"****NO****YES**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful trunk seizure attempt is made on this trunk group (Hotel configuration).

**OUTGOING SEIZURE ITERATIONS**

Enter the number of outgoing seizure repetitions (1 or 2 digits).



**Note :** In the event of momentary congestion on the trunk group, the system can make a trunk seizure attempt every 2 seconds before signalling the congestion. This function is generally used on the dedicated PAGING trunk group.

**NETWORK TONE ADMINISTRATION****NO****YES**

If you enter YES, the subscriber can monitor the network tones in open dialling mode only.

**AUDIT BLOCKING ON SEIZURE**

**NO YES**

If you enter YES, an alarm message is activated if no seizure acknowledgement is sent from the remote server, and the monitoring of the return to normal status of the trunk resumes. During this phase, the trunk is considered as being in the alarm status.

**OPEN DIALLING: LAST DIGIT DELAYED****NO YES**

On the dedicated set with interactive keys, an end-of-dialling key is available on open dialling.

If the user does not press this key, dialling is transmitted normally at the end of the inter-digit time-out.

**AUDIT DURING SPEECH**

If you enter YES, the lines which remain busy incorrectly are automatically released.

This audit takes place at regular intervals according to the values in the **Long call record** field defined in the menu **SYSTEM>Expert>Timeout**.

**AUDIT BLOCKING ON RELEASE**

If you enter YES, an alarm message is activated if the trunk release is not effective or if no seizure acknowledgement is sent from the remote server. In this case, the trunk is monitored so as to be released after time-out.

**COMPELLED RELEASE OF TRUNKS**

**Box ticked:** the "anti-gossip" function is enabled for this type of trunk group.

A link is associated with this line, enabling the user to go directly to the automatic trunk release line of the menu **TELEPHONY SERVICE>System>Expert>Time-out** to finish configuring the anti-gossip function.

**Box not ticked :** anti-gossip function disabled.



**Note :** This line is not displayed for trunk groups with H323 or MOVACS signalling.



**WARNING :** The automatic trunk release is not applied to calls made from priority terminals (subscriber characteristic parameter).

**BEARER TYPE INCOMING****CMBT + CMBNT CCBT CCBNT**

The call is refused if the terminal requested is not of the same type as the calling party terminal (see the field: Bearer type outgoing).

**CALLS FROM**

This parameter is used to display on the digital set where the call comes from: name of the network or private direction (private direction names are defined in the menu **NUMBERING PLAN>Direction names**).

For a trunk in service, this parameter cannot be on the field **.....**

**PRIORITY CALLS IF TRANSIT****NO YES**

If you enter YES, priority line seizure is authorised in an outgoing trunk or on an inter-site link in the same way as a priority subscriber.

## SEARCH DID NUMBERS

### INCOMING DIGIT TRANSLATOR NUMBER

Enter in this field the incoming digit translator number. This can be used for DID to translate the number received from the network into an internal number. This avoids having to give a DID directory number for each user.

This function can also be used for a transfer to a remote PBX.

### PRE-ANSWERING MESSAGE, CALLER CHARGED

These headings concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see **VOICE MAIL AND TONES>Tones**).



**Note :** For correct operation of the analogue trunk pre-answer function, the trunk lines of the group must receive the PSTN polarity reversal signal.

**IF CALLED PARTY FREE OR BUSY 1**

Tick the box: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

**IF CALLED PARTY BUSY 2**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

**IF NUMBER NOT ASSIGNED**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if a call number is not assigned.

**TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT**

**NO** **YES**

If you select YES, a DID call which is not answered is always forwarded to the call distribution service corresponding to the requested company/department extension.



**WARNING :** If a loop back is made on the same call distribution service, and if the sets of this service are on standby or in busy state, there is a security forwarding to ACC.0 (see the call distribution document).

**TRANSFER TO**

- C.DIST
- OP GP1 to OP GP15
- IVR

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call :

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected "IVR", this call will be processed by the IVR.

**CALL DISTR NAME**

**C.DIST.0 0**

This column only appears if you selected C. DIST in the previous field (selection of the answering service defined for call handling).

**ON HOLD BROADCASTING**

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it on the digital sets monitoring this line.

**OVERFLOW BROADCASTING**

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it on the digital sets monitoring this line.

**TRUNK GROUP ID (TEL. RECORD)****0**

Used for telephone record handling to group together the various trunks which provide access to a single operator (maximum 3 digits).

**USA: SPECIAL PARAMETERS FOR SMDI SIGNALLING****DATA END : SITE / CLUSTER**

These two lines are only displayed for a digital trunk group with SMDI signalling (USA configuration) in multi-site operation.

From the list of sites defined, select the site where the data link used to exchange information with the messaging system is located.

Enter the cluster number (in "single-cluster" systems, the node is equal to 2).



**Note :** In single-site operation these two lines are masked. The site is the local site and the node is 2.

The scroll bars on top and on the right side of the screen << and >> are used to navigate to see the trunk group types declared.

6.2.1.2.2 **Analogue trunk group characteristics**

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This screen is used to configure the characteristics of an analogue trunk group.

**SIGNALLING CHARACTERISTICS****PHYSICAL TYPE****DIGITAL TRK****ANALOGUE TRK****TIE LINE****ISDN: T0 (BRI)****ISDN: T2 (PRI)**

By default, the LRX trunk group is of the ANALOG type: it can be modified provided that its trunk lines are declared OUT OF SERVICE.

The type must be compatible with the cards which comprise the trunk group for signalling. Dialling type FV (DTMF) or DECADIC is defined at routing level.

**NATURE****COMBINED** **OUTGOING** **INCOMING**

By default, the LRX trunk group is declared as BOTHWAY. It can be modified provided that its trunk lines are declared OUT OF SERVICE.

**TYPE OF SIGNALLING****STANDARD****LRA - CT2:**

This field defines the type of signalling to be used for the trunk group.

STANDARD the signalling used for analogue trunk groups

LRA - CT2 : the signalling used for CT2 mobile phone trunk groups.



**Note :** The list of signalling operations proposed can be configured in the signalling activation menu.

After signalling an additional line, indicating that the selected trunk group is declared as static link, can be displayed (for more information on static links, see the static link definition menu in the volume devoted to multi-site management).

### ADVANCED CHARACTERISTICS

After choosing the signalling characteristics, click "Advanced characteristics" to obtain the following fields:

#### COMPANY

**CMPNY.0**    **.....**

This field is only displayed if multi-company configuration is used. On system start-up, the trunk belongs to CMPNY.0.

To modify this field go to the DEPARTMENT field and select **.....**.

This value is not assigned to the trunk group. All trunk groups must belong to a new COMPANY/DEPARTMENT pair, or to the CMPNY.0/DEPT.0 pair. If you have created company names, these appear on this line.

Use the space bar of your terminal to select the company assigned to this trunk group.

#### SERVICE

**DEPT.0 0**    **.....**

This field is only displayed if multi-company configuration is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

The field **.....** which means "for all other departments" (default department) is only used for changing the company. If you have already created departments for the various companies, these will appear on this line.

Use the space bar of your terminal to select the departments assigned to this trunk group.



**CAUTION :** For an analogue trunk group, the lines **COMPANY / DEPARTMENT** are used to determine the global routing of the trunk group (day and/or night service) to the **CALL DISTRIBUTION** service, the associated **ACC.x** (Company/department parameters menu).

#### BEARER TYPE OUTGOING

**CMBT + CMBNT**    **CCBT**    **CCBNT**

The bearer type is not used for an analogue trunk, leave CMBT + CMBNT.

This field is only used to specialise the digital inter-site trunk groups (multi-site) in telephone mode (CMBNT) or data mode (CMBT).

Analogue trunk group:                    **CCBNT**

ISDN T0 or T2 trunk group:            **CCBT**    or    **CMBT + CMBNT**

TL analogue trunk group:                **CCBNT**

#### MAY BE RESERVED BY OPERATOR

**NO**    **YES**

If you select YES, the whole trunk group can be reserved by the operator: the trunk line(s) must be of the same type, outgoing or bothway.

### NO. OF TRUNKS FOR PRIORITY SETS

Enter the number of reserved lines (1 or 2 digits).



**Note :** The number of reserved lines must be less than or equal to the number of lines in the trunk group. If the number of reserved lines is equal to the number of lines in the trunk group, a line can only be assigned to another trunk group if the number of lines for priority sets in the trunk group from which the line has been taken is reduced. In the case of a bothway trunk group, a situation can arise whereby the incoming calls cause the number of lines available to be less than the number of reserved lines requested. It is preferable to select the trunk group for outgoing calls to ensure that reservation is always successful.

### TRUNK GROUP USED FOR "ROOM STATUS"

**NO** **YES**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful TRK seizure attempt is made on this trunk group (Hotel configuration).

### OUTGOING SEIZURE ITERATIONS

Enter the number of outgoing seizure repetitions (1 or 2 digits).



**Note :** In the event of momentary congestion on the trunk group, this option allows the system to make an analogue TRK seizure attempt every 2 seconds before signalling the congestion. This function is generally used on the dedicated PAGING trunk group.

### NETWORK TONE ADMINISTRATION

**NO** **YES**

If you enter YES, the user hears the tone transmitted by the PSTN (for example, after dialling the network prefix, 0). The tone heard after the network tone is generally one transmitted by the iPBX. This option is not recommended in countries with good telephone systems as it uses up a lot of resources.

### AUDIT BLOCKING ON SEIZURE

**NO** **YES**

If you enter YES, an alarm message is activated if no seizure acknowledgement is sent from the remote server, and the monitoring of the return to normal status of the trunk resumes. During this phase, the trunk is considered as being in the alarm status.

### OPEN DIALLING: LAST DIGIT DELAYED

**NO** **YES**

On the dedicated set with interactive keys, an end-of-dialling key is available on open dialling.

If the user does not press this key, dialling is transmitted normally at the end of the inter-digit time-out.

### AUDIT DURING SPEECH

**NO** **YES**

If you enter YES, the lines which remain busy incorrectly are automatically released.

This audit takes place at regular intervals according to the values in the **Long call record** field defined in the menu **SYSTEM>Expert>Timeout**.

### AUDIT BLOCKING ON RELEASE

**NO** **YES**

If you enter YES, an alarm message is activated if the trunk release is not effective or if no seizure acknowledgement is sent from the remote server. In this case, the trunk is monitored so as to be released after time-out.

**COMPELLED RELEASE OF TRUNKS**

**Box ticked:** the "anti-gossip" function is enabled for this type of trunk group.

A link is associated with this line, enabling the user to go directly to the automatic trunk release line of the menu **TELEPHONY SERVICE>System>Expert>Time-out** to finish configuring the anti-gossip function.

**Box not ticked:** anti-gossip function disabled.



**Note :** This line is not displayed for trunk groups with H323 or MOVACS signalling.



**WARNING :** The automatic trunk release is not applied to calls made from priority terminals (subscriber characteristic parameter).

**BEARER TYPE INCOMING**

The call is refused if the terminal requested is not of the same bearer type as the calling party terminal (see the field Bearer type outgoing).

**CALLS FROM**

This parameter is used to display on the digital set where the call comes from: name of the network or private direction (private direction names are defined in the menu NUMBERING PLAN>Direction names).

For a trunk in service, this parameter must not be set on field .....

**PRIORITY CALLS IF TRANSIT****NO** **YES**

If you select YES, priority line seizure is authorised in an outgoing trunk or on an inter-site link in the same way as a priority subscriber.

**INCOMING ROUTE****BY TRK. GROUP** **BY TRUNK**

Routing can be BY TRK. GROUP. In this case, all trunk group lines are handled by the Global incoming route function defined on the following lines.

Routing can also be BY TRUNK. In this case, handling is carried out on each trunk group line (Menu: Trunk characteristics).

**DAY CALLS ON****C.DIST****INTERNA  
L****OP GP1 to OP  
GP15**

Incoming day calls can be routed to the ACC.0 call distribution service, associated by default with the trunk group. The company/department (multi-company configuration), defined on the lines Company/Department, or on an operator group from OP GP1 to OP GP15, or on an INTERNAL number (directory number of an internal set, hunt group, or common bell) corresponds to the ACC.x call distribution service.

**DAY/ANSWER DIRECTORY NO.**

This field is only displayed if you selected INTERNAL above.

Enter the directory number of the set to be used as an answering set during the day: single set, common bell or hunt group.

#### NIGHT CALLS ON

<b>C.DIST</b>	<b>INTERNA L</b>	<b>OP GP1 to OP GP15</b>
---------------	----------------------	------------------------------

Handling identical to "DAY CALLS ON".

By default, the calendar CAL.1 is used to switch to night service. If another calendar has been defined and allocated to the COMP/DEPT pair, the transition to night service for this trunk group will occur according to this calendar.

#### NIGHT/ANSWER DIRECTORY NO.

This field is only displayed if you selected INTERNAL above.

Enter the directory number of the set which will be used as day answering on this line (PSRN.: single set, common bell or hunting group).

#### PRE-ANSWERING MESSAGE, CALLER CHARGED

These headings concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see VOICE MAIL AND TONES>Tones).

For correct operation of the analogue trunk pre-answer function, the trunk lines of the group must receive the PSTN polarity reversal signal.

#### IF CALLED PARTY FREE OR BUSY 1

Tick the box : the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

#### IF CALLED PARTY BUSY 2

<b>NO</b>	<b>YES</b>
-----------	------------

If you select YES : the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

#### TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT

<b>NO</b>	<b>YES</b>
-----------	------------

If you select YES, a DID call is always forwarded to the call distribution service corresponding to the requested COMPANY/DEPARTMENT extension.



**WARNING :** If a loop back is made on the same call distribution service, and if the sets of this service are on standby or in busy state, there is a security forwarding to ACC.0 (see the call distribution document).

**TRANSFER TO**

- **C.DIST**
- **OP GP1 to OP GP15**
- **IVR**

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call :

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected «SVI», this call will be processed by the IVR.



**Note :** The calendar used for the DAY/NIGHT switch-over is the one associated with the call distribution service handling the trunk group.

**CALL DISTR NAME**

**C.DIST.0**  
**0**



**Note :** This field only appears if you selected CALL DIST in the previous field. Selection of the answering service defined for call handling.

**ON HOLD BROADCASTING**

**NO** **YES**

Select YES to broadcast the on hold status of an external line ("intercom network" function) and to send it to all the sets monitoring this line.

**OVERFLOW BROADCASTING**

**NO** **YES**

This parameter, used for the "intercom network" function, allows you to broadcast the overflow status of an external line and to send it to all the sets monitoring this line.

**TRUNK GROUP ID (TEL. RECORD)**

All trunk groups which relate to the same operator will have the same identification number. This is used to group together all the charge records relating to each operator.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the trunk group types declared.

### 6.2.1.2.3 Tie line trunk group characteristics

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This screen is used to configure the characteristics of a tie line trunk group.

#### **SIGNALLING CHARACTERISTICS**

##### **PHYSICAL TYPE**

**DIGITAL TRK**

**ANALOGUE TRK**

**TIE LINE**

**ISDN: T0 (BRI)**

**ISDN: T2 (PRI)**

**VOICE OVER IP**

By default, the trunk group is TIE LINE type. It can be modified provided that the TLs belonging to this trunk group are declared OUT OF SERVICE.

The physical type must be compatible with the cards which comprise the trunk group for signalling.

##### **NATURE**

**COMBINE  
D**

**OUTGOING**

**INCOMING**

By default, the trunk group is declared as BOTHWAY. It can be modified provided that its tie line trunks are declared OUT OF SERVICE.

##### **TYPE OF SIGNALLING**

**L0 TYPE**

**COLISEE MASTER**

**COLISEE SLAVE**

**IMM START**

By default, the trunk group signalling is TYPE L0.

**TYPE L0**

Reserved for signalling between two PBXs.

**COLISEE MASTER**

Reserved for signalling between two PBXs.

**COLISEE SLAVE**

Used for a COLISEE TYPE DID connection, or for signalling between two PBXs.

**IMM START**

mainly used in multi-site configuration (TL + Signalling): DCSA equivalent, status change.



**Note :** This trunk group can manage other signalling types.

## ADVANCED CHARACTERISTICS

After choosing the signalling characteristics, click "Advanced characteristics" to obtain the following fields :

### COMPANY

**CMPNY.0**    **.....**

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk belongs to CMPNY.0.

### SERVICE

**DEPT.0**    **.....**

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

### BEARER TYPE OUTGOING

**CMBT + CMBNT**    **CCBT**    **CCBNT**

See also "Analogue trunk group characteristics".

For seamless transmission, CMBT is necessary and CMBNT is not necessary.

When the subscribers are declared, the subscriber service mode must be configured as follows:

Telephone Mode :        The terminal will only use CMBNT routing (or, if necessary, CMBT routings if no CMBNT routing is available and the terminal belongs to a class of facilities with the "Right to priority calls").

*Data without fallback* :    the terminal will only use CMBT routing.

Data with fallback :        the terminal will use CMBT type routing first, then CMBNT type routing if no CMBT routing is available.

### MAY BE RESERVED BY OPERATOR

**NO**    **YES**

If you select YES, the whole trunk group can be reserved by the operator. The tie line trunk(s) must be of the same type, outgoing, or bothway.

### NO. OF TRUNKS FOR PRIORITY SETS

Enter the number of reserved lines (1 or 2 digits).



**Note :** The number of reserved lines must be less than or equal to the number of lines in the trunk group. If the number of reserved lines is equal to the number of lines in the trunk group, a line can only be assigned to another trunk group if the number of lines for priority sets in the trunk group from which the line has been taken is reduced. In the case of a bothway trunk group, a situation can arise whereby the incoming calls cause the number of lines available to be less than the number of reserved lines requested. It is preferable to select the trunk group for outgoing calls to ensure that reservation is always successful.

### TRUNK GROUP USED FOR "ROOM STATUS"

**NO**    **YES**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful trunk seizure attempt is made on this trunk group (Hotel configuration).

### OUTGOING SEIZURE ITERATIONS

Enter the number of outgoing seizure repetitions (1 or 2 digits).



**Note :** In the event of momentary congestion on the trunk group, this option allows the system to make an analogue trunk seizure attempt every 2 seconds before signalling the congestion. This function is generally used on the dedicated PAGING trunk group.

#### NETWORK TONE ADMINISTRATION

**NO** **YES**

If you enter YES, the subscriber can monitor the network tones in open dialling mode only.

#### AUDIT BLOCKING ON SEIZURE

**NO** **YES**

If you enter YES, an alarm message is activated if no seizure acknowledgement is sent from the remote server, and the monitoring of the return to normal status of the trunk resumes. During this phase, the trunk is considered as being in the alarm status.

#### OPEN DIALLING: LAST DIGIT DELAYED

**NO** **YES**

On the dedicated set with interactive keys, an end-of-dialling key is available on open dialling.

If the user does not press this key, dialling is transmitted normally at the end of the inter-digit time-out.

#### AUDIT DURING SPEECH

**NO** **YES**

If you enter YES, the lines which remain busy incorrectly are automatically released.

This audit takes place at regular intervals according to the values in the **Long call record** field defined in the menu **SYSTEM>Expert>Timeout**.

#### AUDIT BLOCKING ON RELEASE

**NO** **YES**

If you enter YES, an alarm message is activated if the trunk release is not effective or if no seizure acknowledgement is sent from the remote server. In this case, the trunk is monitored so as to be released after time-out.

#### COMPELLED RELEASE OF TRUNKS

**Box ticked:** the "anti-gossip" function is enabled for this type of trunk group.

A link is associated with this line, enabling the user to go directly to the automatic trunk release line of the menu **TELEPHONY SERVICE>System>Expert>Time-out** to finish configuring the anti-gossip function.

**Box not ticked:** anti-gossip function disabled.



**Note :** This line is not displayed for trunk groups with H323 or MOVACS signalling.



**WARNING :** The automatic trunk release is not applied to calls made from priority terminals (subscriber characteristic parameter).

#### BEARER TYPE INCOMING

**CMBT + CMBNT** **CCBT** **CCBNT**

The call is refused if the terminal requested is not of the same bearer type as the calling party terminal (see the field Bearer type outgoing).

**CALLS FROM**

This parameter is used to display on the digital set where the call comes from: name of the network or private direction (private direction names are defined in the menu NUMBERING PLAN>Direction names).

For a trunk in service, this parameter cannot be on the field .....

**PRIORITY CALLS IF TRANSIT**

**NO** **YES**

If you select YES, priority line seizure is authorised in an outgoing trunk or on an inter-site link in the same way as a priority subscriber.

**INCOMING DIGIT TRANSLATOR NUMBER**

Enter in this field the incoming digit translator number. This can be used in the case of DID COLISEE to translate the number received from the network into an internal number. This avoids having to give a DID directory number for each user.

This function can also be used for a transfer to a remote PBX.

**PRE-ANSWERING MESSAGE, CALLER CHARGED**

These headings concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see VOICE MAIL AND TONES>Tones).

**IF CALLED PARTY FREE OR BUSY 1**

Tick the box: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

**IF CALLED PARTY BUSY 2**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

**IF NUMBER NOT ASSIGNED**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if a call number is not assigned.

**TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT**

**NO** **YES**

If you select YES, a DID call which is not answered is always forwarded to the call distribution service corresponding to the requested company/department extension.



**WARNING :** If a loop back is made on the same call distribution service, and if the sets of this service are in standby or busy, there is a security forwarding to ACC.0 (for further information, see the document which deals with call distribution).

## TRANSFER TO

- **C.DIST**
- **OP GP1 to OP GP15**
- **IVR**

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call :

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected «SVI», this call will be processed by the IVR.



**Note :** The calendar used for the DAY/NIGHT switch-over is the one associated with the call distribution service handling the trunk group.

## CALL DISTR NAME

### **C.DIST.0 0**

This field only appears if you selected CALL DIST previously. Selection of the answering service defined for call handling.

## ON HOLD BROADCASTING

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it on the digital sets monitoring this line.

## OVERFLOW BROADCASTING

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it on the digital sets monitoring this line.

## TRUNK GROUP ID (TEL. RECORD)

Used for telephone record handling to group together the various trunks which provide access to a single operator (maximum 3 digits).

The scroll bars on top and on the right side of the << and screen are used to navigate to see the trunk group types declared.

#### 6.2.1.2.4 Isdn T0 Trunk Group Characteristics

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This menu is used to configure the characteristics of an ISDN T0 trunk group.

##### **SIGNALLING CHARACTERISTICS**

###### **PHYSICAL TYPE**

**DIGITAL TRK**

**ANALOGUE TRK**

**TIE LINE**

**ISDN: T0 (BRI)**

**ISDN: T2 (PRI)**

**VOICE OVER IP**

By default, the trunk group is of the ISDN: T0 type. The type must be compatible with the cards which comprise the trunk group for signalling.

###### **NATURE**

**COMBINE  
D**

**OUTGOING**

**INCOMING**

By default, the trunk group is declared as BOTHWAY. It can be modified provided that its trunk lines are declared OUT OF SERVICE.

###### **TYPE OF SIGNALLING**

**ISDN: T0 (BRI)**

**QSIG ISDN**

**ETSI T0**

**ISDN: T0 (BRI)**

Numeris T0 signalling to PSTN ("Numeris" = French ISDN network).

**QSIG ISDN**

ISDN signalling between 2 PBXs with the same type of signalling (QSIG).

**ETSI T0**

ETSI European signalling of the T0 type.

**VN2+T0**

Reserved for ISDN signalling

##### **ADVANCED CHARACTERISTICS**

After choosing the signalling characteristics, click "Advanced characteristics" to obtain the following fields :

###### **COMPANY**

**CMPNY.0**

.....

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk belongs to CMPNY.0.

###### **SERVICE**

**DEPT.0**

.....

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

###### **BEARER TYPE OUTGOING**

**CMBT + CMBNT**

**CCBT**

**CCBNT**

See also "Analogue trunk group characteristics".

For seamless transmission, CMBT is necessary and CMBNT is not necessary.

When the subscribers are declared, the subscriber service mode must be configured as follows :

Telephone Mode : The terminal will only use CMBNT routing (or, if necessary, CMBT routings if no CMBNT routing is available and the terminal belongs to a class of facilities with the "Right to priority calls").

*Data without fallback* : the terminal will only use CMBT routing.

Data with fallback : the terminal will use CMBT type routing first, then CMBNT type routing if no CMBT routing is available.

#### MAY BE RESERVED BY OPERATOR

**NO** **YES**

If you select YES, the whole trunk group can be reserved by the operator. The trunk line(s) must be of the same type, outgoing or bothway.

#### NO. OF TRUNKS FOR PRIORITY SETS

Enter the number of reserved lines (1 or 2 digits).



**Note :** The number of reserved lines must be less than or equal to the number of lines in the trunk group. If the number of reserved lines is equal to the number of lines in the trunk group, a line can only be assigned to another trunk group if the number of lines for priority sets in the trunk group from which the line has been taken is reduced. In the case of a bothway trunk group, a situation can arise whereby the incoming calls cause the number of lines available to be less than the number of reserved lines requested. It is preferable to select the trunk group for outgoing calls to ensure that reservation is always successful.

#### TRUNK GROUP USED FOR "ROOM STATUS"

**NO** **YES**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful trunk seizure attempt is made on this trunk group (Hotel configuration).

#### OUTGOING SEIZURE ITERATIONS

Enter the number of outgoing seizure repetitions (1 or 2 digits).



**Note :** In the event of momentary congestion on the trunk group, the system can make a trunk seizure attempt every 2 seconds before signalling the congestion. This function is generally used on the dedicated PAGING trunk group.

#### NETWORK TONE ADMINISTRATION

Not used for an ISDN signalling trunk group.

#### AUDIT DURING SPEECH

**NO** **YES**

If you enter YES, the lines which remain busy incorrectly are automatically released.

This audit takes place at regular intervals according to the values in the **Long call record** field defined in the menu **SYSTEM>Expert>Timeout**.

**COMPELLED RELEASE OF TRUNKS**

**Box ticked:** the "anti-gossip" function is enabled for this type of trunk group.

A link is associated with this line, enabling the user to go directly to the automatic trunk release line of the menu **TELEPHONY SERVICE>System>Expert>Time-out** to finish configuring the anti-gossip function.

**Box not ticked:** anti-gossip function disabled.



**Note :** This line is not displayed for trunk groups with H323 or MOVACS signalling.



**WARNING :** The automatic trunk release is not applied to calls made from priority terminals (subscriber characteristic parameter).

**FORWARD ALLOWED**

**NO** **YES**

Select YES to authorise system forwarding on the forwarding set (menu: Miscellaneous parameters).



**Note :** This feature is only available on one trunk group of the system. If your system is connected to a group with more than 4 T0s, system forwarding is not possible. (There is an additional service which you can subscribe to from the public operator).

**ALARM BREAK LEVEL 2 PROCESSED**

**NO** **YES**

Depends on the PSTN. In multi-site configuration, using QSIG signalling, select YES (if the D channel fails, the system releases established B channels).

**REMOTE CHARGE REQUEST DELETED**

**NO** **YES**

If you select YES, no charge request is made for this trunk group when the parameter "ISDN REMOTE CHARGING" is set to YES (this parameter is defined in the menu "SUBSCRIBERS>Rights>General parameters") and/or when a subscription has been taken out from the public operator for either the "total cost" or "step-by-step charging" services for this type of trunk group.

**QSIG OR ETSI SPECIFIC PARAMETERS****OVERLAP DIALLING**

**NO** **YES**

If you enter YES, the numbering is transmitted on the trunk group digit by digit.

If you enter NO, the numbering is transmitted on the trunk group block by block.

**FORWARD ON BUSY**

**NO** **YES**

Service addition in ETSI signalling. The iPBX places an indicator at 1 in the frame.

**FORWARD ON NO ANSWER**

**NO** **YES**

Service addition in ETSI signalling. The iPBX places an indicator at 1 in the frame.

**AUTOMATIC CALLBACK**

**NO** **YES**

It is possible to call back automatically when a subscriber is absent or busy. Automatic callback is managed for ISDN QSIG and ISDN ETSI signalling.



**Note :** The following two columns are concerned by the automatic callback selection.

**OUTGOING: RETAIN ACTIVATION****NO** **YES**

Selecting YES is used to retain the ISDN signalling.

**INCOMING: RETAIN ACTIVATION****NO** **YES**

Selecting YES is used to retain the ISDN signalling.

**USED BY DYNAMIC LINKS****NO** **YES**

Select YES to authorise dynamic links to use this trunk group. This option is only available in multi-site configuration.

**BEARER TYPE INCOMING****CMBT + CMBNT****CCBT****CCBNT**

A call is refused if the terminal requested is not the same type as that of the caller terminal (see parameter: bearer type outgoing).

**CALLS FROM**

This parameter is used to display on the digital set the origin of the call: name of the NETWORK or private direction (private direction names are defined in the menu NUMBERING PLAN>Direction names).

For a trunk in service, this parameter cannot be on the field **.....**

**PRIORITY CALLS IF TRANSIT****NO** **YES**

Select YES to take priority lines in an outgoing trunk group in the same way as a priority user.

**INCOMING DIGIT TRANSLATOR NUMBER**

Enter in this field the incoming digit translator number. This can be used for DID to translate the number received from the network into an internal number. This avoids having to give a DID directory number for each user.

This function can also be used for a transfer to a remote PBX.

**PRE-ANSWERING MESSAGE, CALLER CHARGED**

These headings concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see VOICE MAIL AND TONES>Tones).

**IF CALLED PARTY FREE OR BUSY 1**

Tick the box: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

**IF CALLED PARTY BUSY 2****NO YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

**IF NUMBER NOT ASSIGNED****NO YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if a call number is not assigned.

**TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT****NO YES**

If you enter YES, a DID call which is not answered is always forwarded to the call distribution service corresponding to the requested COMPANY/DEPARTMENT extension.



**WARNING :** If a loop back is made on the same call distribution service, and if the sets of this service are in standby or busy, there is a security forwarding to ACC.0 (for further information, see the document which deals with call distribution).

**TRANSFER TO**

- C.DIST
- OP GP1 to OP GP15
- IVR

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call :

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected «SVI», this call will be processed by the IVR.



**Note :** The calendar used for the DAY/NIGHT switch-over is the one associated with the call distribution service handling the trunk group.

**CALL DISTR NAME****C.DIST.0 0**

This parameter only appears if you selected C. DIST in the previous field (selection of the answering service defined for call handling).

**ON HOLD BROADCASTING****NO YES**

This parameter, used for the "intercom network" function, is used to broadcast the on hold status of an external line and to send it to the digital sets monitoring this line.

**OVERFLOW BROADCASTING****NO YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it to the digital sets monitoring this line.

### TRUNK GROUP ID (TEL. RECORD)

Used for telephone record handling to group together the various trunks which provide access to a single operator (maximum 3 digits).

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the trunk group types declared.

#### 6.2.1.2.5 T2 ISDN trunk group characteristics

Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This screen is used to configure the characteristics of an ISDN T2 trunk group.

#### **SIGNALLING CHARACTERISTICS**

##### PHYSICAL TYPE

**DIGITAL TRK**

**ANALOGUE TRK**

**TIE LINE**

**ISDN: T0 (BRI)**

**ISDN: T2 (PRI)**

By default, the trunk group is of the ISDN : T2 type. The type must be compatible with the cards which comprise the trunk group for signalling.

##### NATURE

**COMBINE  
D**

**OUTGOING**

**INCOMING**

By default, the trunk group is declared as BOTHWAY. It can be modified provided that its trunk lines are declared OUT OF SERVICE.

##### TYPE OF SIGNALLING

**ISDN: T2 (PRI)**

**QSIG ISDN**

**ETSI PRI**

**ISDN: T2 (PRI)**

ISDN T2 signalling to PSTN.

**QSIG ISDN**

ISDN signalling between 2 PBXs with the same type of signalling (QSIG).

**ETSI PRI**

ETSI European signalling of the T2 type.

**VN2+T2**

Reserved for ISDN signalling

## ADVANCED CHARACTERISTICS

After choosing the signalling characteristics, click "Advanced characteristics" to obtain the following fields :

### COMPANY

**CMPNY.0**

.....

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk belongs to CMPNY.0.

### SERVICE

**DEPT.0**

.....

This parameter is displayed if multi-company configuration is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

### BEARER TYPE OUTGOING

**CMBT + CMBNT**

**CCBT**

**CCBNT**

See also "Analogue trunk group characteristics".

For seamless transmission, CMBT is necessary and CMBNT is not necessary.

When the subscribers are declared, the subscriber service mode must be configured as follows:

Telephone Mode : The terminal will only use CMBNT routing (or, if necessary, CMBT routings if no CMBNT routing is available and the terminal belongs to a class of facilities with the "Right to priority calls").

*Data without fallback* : the terminal will only use CMBT routing.

Data with fallback : the terminal will use CMBT type routing first, then CMBNT type routing if no CMBT routing is available.

### MAY BE RESERVED BY OPERATOR

**NO**

**YES**

If you select YES, the whole trunk group can be reserved by the operator. The trunk line(s) must be of the same type, outgoing or bothway.

### NO. OF TRUNKS FOR PRIORITY SETS

Enter the number of reserved lines (1 or 2 digits).



**Note :** The number of reserved lines must be less than or equal to the number of lines in the trunk group. A line can only be assigned to another trunk group if the number of priority set lines in the trunk group from which the line has been taken, is reduced. In the case of a bothway trunk group, a situation can arise whereby the incoming calls cause the number of lines available to be less than the number of reserved lines requested. It is preferable to select the trunk group for outgoing calls to ensure that reservation is always successful.

### TRUNK GROUP USED FOR "ROOM STATUS"

**NO**

**YES**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful trunk seizure attempt is made on this trunk group (Hotel configuration).

### OUTGOING SEIZURE ITERATIONS

Enter the number of outgoing seizure repetitions (1 or 2 digits).



**Note :** In the event of momentary congestion on the trunk group, the system can make a trunk seizure attempt every 2 seconds before signalling the congestion. This function is generally used on the dedicated PAGING trunk group.

#### NETWORK TONE ADMINISTRATION

**NO** **YES**

If you enter YES, the user hears the tone transmitted by the PSTN (example: after dialling the network prefix: 0). The tone heard after the network tone is generally one transmitted by the iPBX. This option is not recommended in countries with good telephone systems as it uses up a lot of resources.

#### AUDIT DURING SPEECH

**NO** **YES**

If you enter YES, the lines which remain busy incorrectly are automatically released.

This audit takes place at regular intervals according to the values in the **Long call record** field defined in the menu **SYSTEM>Expert>Timeout**.

#### FORWARD ALLOWED

**NO** **YES**

Select YES to authorise system forwarding on the forwarding set, in addition to menu: Miscellaneous parameters.



**Note :** This function is only available on one trunk group in the system: If your system is connected to an ISDN T2 carrier, system forwarding is not possible.

#### ALARM BREAK LEVEL 2 PROCESSED

**NO** **YES**

In multi-site configuration using QSIG signalling, select YES (if the D channel fails, the system releases the established B channels).

#### REMOTE CHARGE REQUEST DELETED

**NO** **YES**

If you select YES, no charge request is made for this trunk group when the parameter "ISDN REMOTE CHARGING" is set to YES (this parameter is defined in the menu "SUBSCRIBERS>Rights>General parameters") and/or when a subscription has been taken out from the public operator for either the "total cost" or "step-by-step charging" services for this type of trunk group.

**QSIG OR ETSI SPECIFIC PARAMETERS****OVERLAP DIALLING****NO** **YES**

If you enter YES, the numbering is transmitted on the trunk group digit by digit.

If you enter NO, the numbering is transmitted on the trunk group block by block.

**FORWARD ON BUSY****NO** **YES**

Service addition in ETSI signalling. The iPBX places an indicator at 1 in the frame.

**FORWARD ON NO ANSWER****NO** **YES**

Service addition in ETSI signalling. The iPBX places an indicator at 1 in the frame.

**AUTOMATIC CALLBACK****NO** **YES**

It is possible to call back automatically when a subscriber is absent or busy. Automatic callback is managed for ISDN QSIG and ISDN ETSI signalling.



**Note :** The following two columns are concerned by the automatic callback selection.

**OUTGOING: RETAIN ACTIVATION****NO** **YES**

Selecting YES is used to retain the ISDN signalling.

**INCOMING: RETAIN ACTIVATION****NO** **YES**

Selecting YES is used to retain the ISDN signalling.

**USED BY DYNAMIC LINKS****NO** **YES**

Select YES to authorise dynamic links to use this trunk group. This option is only available in multi-site configuration.

**BEARER TYPE INCOMING**

A call is refused if the terminal requested is not the same type as that of the caller terminal (see the parameter: bearer type outgoing).

**CALLS FROM**

This parameter is used to display on the digital set the origin of the call: name of the NETWORK or private direction (private direction names are defined in the menu NUMBERING PLAN>Direction names).

For a trunk in service, this parameter cannot be on the field .....

**PRIORITY CALLS IF TRANSIT****NO** **YES**

If you select YES, priority line seizure is authorised in an outgoing trunk or on an inter-site link in the same way as a priority subscriber.

**INCOMING DIGIT TRANSLATOR NUMBER**

Enter in this field the incoming digit translator number. This can be used for DID to translate the number received from the network into an internal number. This avoids having to give a DID directory number for each user.

This function can also be used for a transfer to a remote PBX.

**PRE-ANSWERING MESSAGE, CALLER CHARGED**

These fields concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see VOICE MAIL AND TONES>Tones).

**IF CALLED PARTY FREE OR BUSY 1**

Tick the box: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

**IF CALLED PARTY BUSY 2**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

**IF NUMBER NOT ASSIGNED**

**NO** **YES**

If you select YES: the call is connected to the pre-answering message and a charge record is printed in real time, if a call number is not assigned.

**TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT**

**NO** **YES**

If you select YES, a DID call which is not answered is always forwarded to the call distribution service corresponding to the requested company/department extension.



**WARNING :** If a loop back is made on the same call distribution service, and if the sets of this service are on standby or in busy state, there is a security forwarding to ACC.0 (see Call distribution management).

**TRANSFER TO**

- **C.DIST**
- **OP GP1 to OP GP15**
- **IVR**

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call :

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected «SVI», this call will be processed by the IVR.



**Note :** The calendar used for the DAY/NIGHT switch-over is the one associated with the call distribution service handling the trunk group.

### CALL DISTR NAME

#### **C.DIST.0 0**

This parameter only appears if you selected C. DIST in the previous field (selection of the answering service defined for call handling).

### ON HOLD BROADCASTING

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the on hold status of an external line and to send it to the digital sets monitoring this line.

### OVERFLOW BROADCASTING

**NO** **YES**

This parameter, used for the "intercom network" function, is used to broadcast the overflow status of an external line and to send it to the digital sets monitoring this line.

### TRUNK GROUP ID (TEL. RECORD)

Used for telephone record handling to group together the various trunks which provide access to a single operator (maximum 3 digits).

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the trunk group types declared.

## 6.2.1.2.6 Characteristics of a VoIP trunk group

### Menu **NETWORK AND LINKS>Network>Trunk groups>Characteristics**

This menu is used to define the characteristics of a Voice over IP trunk group as well as all the SIP trunk parameters.

An SIP trunk group corresponds to an SIP operator.

By default, only one SIP trunk group **SIP.TG** is defined by the system.



This menu has the  icon used to change, for the configuration of an SIP trunk, from basic (simplified) mode to advanced mode (for installers who want a more comprehensive configuration).

In basic mode, a simple frame is proposed with the minimum parameters required to quickly and simply configure the trunk.

In advanced mode, more fields are proposed and they allow a more extensive and comprehensive configuration.

This icon is displayed on the top left side of the screen:



Clicking this icon triggers the switchover. Advanced parameters are indicated in italics.

In this section the parameters are identified in italics on a grey background.

Basic or advanced configuration mode, for a given installer, can also be used from Menu **Device>Configuration>Users>Operators definition**.

In the **By name** option, select **SIP.TG**.

### PHYSICAL TYPE

In the **Physical type** option, select **Voice over IP**.

### NATURE

Trunk group type option:

**BOTHWAY** **OUTGOING** **INCOMING**

By default, the trunk group is declared as BOTHWAY.

### TYPE OF SIGNALLING

Signalling type option to be assigned to the trunk group:

- **MOVACS:** Proprietary IP signalling (reserved to the SVL-IP)
  - **H323:** Signalling allowing interconnection with H323 type IP networks
  - **SIP:** Signalling allowing interconnection with SIP type IP networks.

### AT TYPE

Signalling sub-type option to be assigned to the trunk group:

 **Note: The list of basic/advanced parameters differs according to this sub-type.**

- **STANDARD** (default value)
- **ROOM STATUS**

The dedicated ROOM STATUS trunk group does not contain any trunk lines. In this case, a charge record is printed out if an unsuccessful line seizure attempt is made on this trunk group (Hotel configuration).

- **INTERNET LINK:** SIP trunk used for SIP URI calls.
- **VOICE MAIL:** trunk connected to external voicemail via an SIP trunk.
- **INATTEND :** trunk connected to INATTEND via an SIP trunk.
- **MICC :** trunk connected to MICC via an SIP trunk.

### ADVANCED CHARACTERISTICS

After choosing the signalling characteristics, click **Characteristics** to obtain the following fields:

#### COMPANY

**CMPNY.0** **.....**

Option displayed if multi-company configuration is used. On system start-up, the trunk belongs to CMPNY. 0.

To modify this field, go to the DEPARTMENT field and select **.....**.

This value is not assigned to the trunk group. All trunk groups must belong to a new COMPANY/DEPARTMENT pair, or to the CMPNY.0/DEPT.0 pair. If you have created company names, they will appear on this line.

Select the company assigned to this trunk group.

#### DEPARTMENT

DEPT.0 0 . . . . .

Options

If the multi-company operation is used. On system start-up, the trunk group belongs to department DEPT.0 of company CMPNY.0.

The ██████ field which means "for all other departments" (default department) is only used to change the company. If you have already created departments for the various companies, they will appear on this line.

Use the space bar of your terminal to select the departments assigned to this trunk group.

#### SIGNALLING TYPE

This information field indicates the configuration made on the previous trunk group configuration screen.

#### LINK STATUS

Information field showing the current link status.

#### TRUNK GROUP USED FOR "ROOM STATUS"

Box to be ticked if the trunk group is used for this feature.

#### PROTOCOL

This field can be used to assign a safe or unsafe protocol to a SIP trunk, depending on the configuration (safe or unsafe).

Moreover, an additional field *with the TLS profile* on the bottom line allows the selection of profiles for secure connections (TLS) for SIP trunks.

This field, an options list, only appears when profiles have been declared, fully configured with an affected certificate. See details below.

 **TLS connections are not available for Mitel 5000 Gateways.**

#### **In basic and non-secure mode (no TLS):**

Connection to the SIP Trunk is via UDP or TCP.

TLS connections are not available.

However, no matter the configuration on the trunks, the TLS protocol remains available for Internet links. This configuration is used for anonymous WebRTC calls.

#### **In basic and secure mode (with TLS):**

 **This field is not displayed for Mitel 5000 Gateways.**

The field is greyed out and not modifiable.

## FX.SIP VOICE IP BOTHWAY

Telephony service&gt;Network and links&gt;Network&gt;Trunk groups&gt;Characteristics (4.2.1.2)

Signalling type	SIP
Link state	NOT CONFIGURED
Protocol	TLS ▼
with TLS profile	..... ▼
Proxy n° 1	P7CS
Proxy n° 2	
Domain / realm	
Local proxy	NO ▼
Proxy checking	..... ▼
identifier	
Registering	<input type="checkbox"/>
Authentication	SIP CLIENT ▼
Client account:	
- login	
- password	

**In advanced and non-secure mode (no TLS):**

Connection to the SIP Trunk is via UDP or TCP.

TLS connections are not available.

However, no matter the configuration on the trunks, the TLS protocol remains available for Internet links. This configuration is used for anonymous WebRTC calls.

**In advanced and secure mode (with TLS):**

 This field is not displayed for Mitel 5000 Gateways.

Options list in advanced mode only: TLS, UDP or TCP

Protocol	TLS ▼
with TLS profile	..... ▼
Proxy n° 1	

TLS protocol is defined by default.

Non-secure options (UDP, TCP) are still available if security is not required for configuration or if the trunk operator does not have any TLS protocol.

**With TLS profile:** this link is used to define the TLS profile to be used for this trunk.

This interactive link points to Menu **Telephony service>System>Security>Additional TLS Profiles** used to access the TLS profile configuration.

It can be used in particular if the administrator started by creating a trunk in this menu and then wishes to associate it with a TLS profile (configured or not) to complete and finalise the security of access to this trunk.

This line appears in both basic and advanced modes, when profiles are defined, fully configured with an assigned certificate.

See Section Menu SYSTEM>Security>Additional TLS profiles

Then select the profile to use from the proposed list.

**FX.SIP VOICE IP BOTHWAY**

Telephony service>Network and links>Network>Trunk groups>Characteristics (4.2.1.2)

Signalling type	SIP
Link state	NOT CONFIGURED
Protocol	TLS ▾
with TLS profile	..... ▾
Proxy n° 1	.....
Proxy n° 2	P7CS
Domain / realm	
Local proxy	NO ▾
Proxy checking	..... ▾
identifier	
Registering	<input type="checkbox"/>
Authentication	SIP CLIENT ▾
Client account:	
- login	
- password	

When a specific profile is selected, the system signals the restart of the SIP service for this trunk with the profile in question:



**CAUTION:** It is necessary to restart the SIP service (SIP network/SIP router) when it will cause the least disruption to communications.

**SIPS COMPATIBILITY**

In the case of TLS protocol (**only**), this check box allows more secure exchanges between MiVoice 5000 and SIP trunks using the SIPS protocol.

Box ticked: Integration takes place during SIP trunk configuration.

SIPS (SIP Secure), is an extended SIP protocol associated with TLS (Transport Layer Security).

SIPS guarantees end-to-end security for signalling.

This configuration is native on MiVoice 5000 for all TLS/SIP connections, but some SIP trunk operators impose the use of SIP protocol only (SIPS not taken into account).

This parameter, therefore, allows the protocol to be adapted (activated/deactivated) according to the SIP trunk configuration. By default, SIPS is active.

By default, SIPS support is checked.

**PROXY NO. 1**

IP address or name of the remote SIP proxy (carrier) to which the frames will be sent.

**- Port**

The SIP port used by remote proxy No.1.

**PROXY NO 2**

IP address or name of the remote SIP proxy (carrier) to which the frames will be sent if Proxy No. 1 fails to answer after 3 attempts.



**Note:** The attempt is made systematically on Proxy No. 1 for each call.

**- Port**

The SIP port used by remote proxy No.2.

**DOMAIN / REALM (OPTIONAL)**

IP address or name of the domain to which the remote point you wish to reach belongs. The SIP message headers will use the domain/real and not Proxy No. 1 or No. 2.

This parameter may be used for authentication at certain carriers'.

Example of domain: operator.com

**- Port**

SIP port used for **domain/realm**.

**LOCAL PROXY****NO****NAT SBC PROXY****YES**

This field is used to indicate the proxy type in order to process requests:

**YES:** shows that the NAT proxy is local and not Mitel proprietary solution.

In this case, enter the IP address and the corresponding port allowing the identification. Only initial requests from the IP address will be accepted.

**NAT SBC PROXY:** shows that the NAT proxy is local and not a Mitel proprietary solution.

In this case, enter the IP address and the corresponding port allowing the identification. Only initial requests from the IP address will be accepted.



**Note:** For the port used if the proxy is internal: The default value is 5064 if the local proxy is NAT SBC PROXY; otherwise, it is 5060. This line only appears if an IP address is defined.

**CHECK PROXY**

**NO:** in this case, the proxy is not local (no NAT proxy) and the following ID check option can be chosen:

- ..... : No checking (of physical address)
- **IP ADDRESS:** checks that the SIP message comes from a configured IP address
- **IP ADDRESS + PORT:** checks the registration IP address

**ASSOCIATED DIRECTION**

This option is proposed, no matter the type of trunk group (outgoing, incoming, bothway).

The default value is ".....", indicating that no internet direction is associated.

The drop-down list only proposes directions which belong to the plan for internet links and which are not already used for other trunks.

The access direction to all the domains can only be selected if the parameter **Local proxy is not NO** (the value recommended in this case is **NAT SBC PROXY**), or else an error message is displayed.

Local Proxy /INTERNET incompatibility.

The value "...." (deleting the Trunk/Direction association) can only be restored if there are no longer any defined routes.

Otherwise, the following error diagnosis is displayed:

Value: .....
INTERNET direction in routing

The parameter **Audit during speech** is activated with management through **MSG INVITE** and a frequency of 3600 seconds.

For the management of identity transmission, the parameters **call ID (From/PAI/PPI/RPID)** proposes two options:

- SIP URI (default value, which corresponds to the IID/AID value for standard SIP trunks) or
- IDENTIFIER

No matter the selected value, the parameter **number (From/PAI/PPI/RPID) in E.164 format** is not significant and is, therefore, hidden for this trunk group sub-type.

#### IDENTIFIER

Field indicating the iPBX username.

#### REGISTERING

Checkbox used to declare the authorisation account of the SIP trunk set up on the remote carrier.

The identifier account is active throughout the timeout period mentioned in the **Expiration timeout (sec)** field. The recording is reset to half of the timeout interval.

The different statuses detected by the iPBX are:

- Unknown
- Registered
- Carrier refusal
- Not configured
- No answer from carrier
- In progress.
- **Register on proxy:**
  - **Box ticked**, the registration is made on Proxies 1 and 2 or on the previously declared domain name.
  - **Box not ticked**, registration is made on the server declared in the **Registration server** field.

#### AUTHENTICATION

##### (CLIENT ACCOUNT /LOGIN AND PASSWORD)

Field used to authenticate to the carrier. This authentication is not related to recording, but it may be required any time by the carrier.

- **SIP client**
- **SIP server client**

#### **PUBLIC NAME OF SIP ACCESS POINT**

*Field used to send the domain name instead of IP address in the FROM and CONTACT fields of SIP requests for outgoing calls.*

**SPECIAL PARAMETERS FOR SIP SIGNALLING****AUDIT DURING SPEECH**

Checkbox

**MSG INVITE****MSG INFO****MSG OPTIONS****MSG UPDATE**

*This field is used to choose the type of SIP request sent during communication, depending on the next field (**Audit frequency**), to ensure the availability of the remote device.*

*The minimum audit frequency with the INVITE request is 3600 seconds. It is 10 seconds for other requests.*

## AUDIT OUT OF SPEECH (OPTIONS)

### PRINCIPLE

A special **OPTIONS** message is transmitted by the iPBX and is used to audit the operator's proxy out of speech.

This way, the PBX is dynamically informed whether or not the operator's proxy is available. This allows immediate overflow to another trunk if the operator's proxy is unavailable.

If this service is activated (**AUDIT OUT OF SPEECH (OPTIONS)** checkbox ticked), the iPBX sends regularly (30s by default) an **OPTIONS** message to the operator's proxy.

Proxy 1 alone is configured:

If Proxy 1 is available and returns a message called **200 OK**, calls will be channelled to it.

Otherwise, after 5 attempts to reach Proxy 1 (Proxy 1 Out of Service) calls will no longer be sent to the SIP trunk but will overflow directly via another trunk (if configured).

After 30 seconds (default value), the iPBX checks again whether Proxy 1 is available, via the **OPTIONS** message.

Proxy 1 and Proxy 2 are configured:

If Proxy 1 is available and returns a message called **200 OK**, calls will be channelled to it.

Otherwise, after 3 attempts to reach Proxy 1 (Proxy 1 Out of Service), the **OPTIONS** message is sent to Proxy 2.

If Proxy 2 is available and returns a message called **200 OK**, calls will be directly channelled to it.

Otherwise, after 3 attempts to reach Proxy 2 (Proxy 2 also Out of Service) calls will no longer be sent to the SIP trunk but will overflow directly via another trunk (if configured).

After 30 seconds (default value), the PBX checks again whether Proxy 1 and Proxy 2 are available, via the **OPTIONS** message.

---

**FORCED TRUNK RELEASE**

**Box ticked:** the "anti-gossip" function is enabled for this type of trunk group.

A link is associated with this line, enabling the user to go directly to the automatic trunk release line of the menu **TELEPHONY SERVICE>System>Expert>Time-out** to finish configuring the anti-gossip function.

**Box not ticked:** anti-gossip function disabled.



**Note:** This line is not displayed for trunk groups with H323 or MOVACS signalling.



**CAUTION:** Automatic release does not apply to calls made from priority terminals (subscription characteristics).

**TRANSMISSION OF ROUTED NUMBERS**

Choice of transmission of the corresponding SIP field to the rerouted number:

- DIVERSION
- HISTORY INFO

Both of them are supported for reception.

**IDENTITY SENDING MANAGEMENT**

Checkbox used to choose whether or not to send the ID.

**CALL IDENTIFIER (FROM)**

- RECORDING ID: ID corresponds to the IDENTIFIER field
- IID/AID: configured in AID processing. An associated box is used to indicate whether the From number is in E.164 format.

**PRESENTATION/RESTRICTION**

- No
- P AssertedID: sending the corresponding header
- P-PreferredID: sending the corresponding header
- PAI and PPI: sending the corresponding header
- Remote-Party-ID: sending the corresponding header

**CALL IDENTIFIER (PAI/PPI/PAI,PPI/RPID)**

- IID/AID: an associated box is used to indicate whether the PAI number is in E.164 format.
- IDENTIFIER

**SENDING ANONYMOUS INTO FROM**

Box to be ticked if anonymous is sent into From if IID/AID is the call identifier (From).

**UPDATE OF NAME/NUMBER (UPDATE)**

Box to be ticked to transmit the request to update the corresponding header (during the call or ringing phase).

An associated box is used to indicate whether the PAI number is in E.164 format.

## IDENTITY RECEPTION MANAGEMENT

Field used to choose whether or not to send the ID.

### CALLING ID. IN:

- FROM
- PAI or PPI or RPID

## NAME MANAGEMENT

Box ticked: When a call comes in via an SIP trunk, the name of the external directory record corresponding to the number is displayed on the terminal.

## FORWARDING MANAGEMENT:

Fields allowing the configuration of two forwarding types for the trunk groups with SIP signalling:

- **Immediate forward / forward on busy**
- **Forward on no answer**

Tick the box, respectively for each forwarding type, to activate it.

By default, these forwarding operations are not managed (box not ticked).

### VOICEMAIL

This field is used to indicate whether or not the trunk will be connected to an SIP messaging system.

The Subscription line is displayed if the box is ticked.

### Subscription

This field is used to indicate whether to manage a subscription to the MWI service. Possible options are:

- **NO:** no subscription to the MWI service
- **WITH IDENTIFIER:** a subscription to the MWI service is made using the identifier defined on the "Identifier" line of this menu.

The option **WITH IDENTIFIER** is only accepted if an identifier had been previously entered on the "Identifier" line; otherwise an error message "INVALID IDENTIFIER" is displayed.

- - **Run out (sec).** This field is used to configure the duration of expiration of a MWI service subscription request. It is used to enter a duration ranging from 20 seconds to 65534 seconds (~ 18 hours).
- - **State.** This field shows the status of MWI service subscription requests.
  - UNDEFINED
  - RECORDED
  - CARRIER REFUSAL
  - NOT CONFIGURED
  - NO ANSWER FROM CARRIER
  - CARRIER REFUSAL

- o DURING
- o SUBSCRIBED

This line is hidden if the "Voicemail" line is not ticked and if the value for the "- subscription" line is NO.

**next MWI subscribe at ??????????**. This line presents the transmission time for the next MWI service subscription request.

**MESSAGE LEAVE EXPIRED (SEC)**

Validity period entered in the EXPIRES field of the MWI (Message Waiting Indicator) service subscription message.

**LOCAL GENERATION OF TONES**

If the box is not ticked, the line below is proposed.

**ON HOLD MANAGEMENT / FORCE IP ADDRESS TO 0**

Choice of the values entered in the attributes of the SDP layer of on-hold INVITE requests.

If the box is ticked, the announcements/tones are managed by MIVOICE 5000:

**SUPPORT PRACK (100REL)**

To be ticked if the operator supports the PRACK message in SIP.

Checkbox ticked by default.

**MANAGEMENT OF TONES BEFORE ANSWER**

- - **support P-Early-Media:** shows for an outgoing call that the iPBX supports the P-Early-Media SIP field. This field is used to manage the announcement/tones generated by the network before starting to communicate.
- - **on transit**



**RE-INVITE WITHOUT ALLOWED SDP**

Choice to be made for an incoming call, with transit for the call, if you wish to transmit (play back) the tone/announcement from the requested network.

**T38 reject**

**REFER transmission:** indicates that the operator or the device behind the SIP trunk is able to manage the transfer using the REFER method.

**Support video:** box to be ticked if video is to be supported.

**Support T.38:** box to be ticked if T.38 is to be supported.

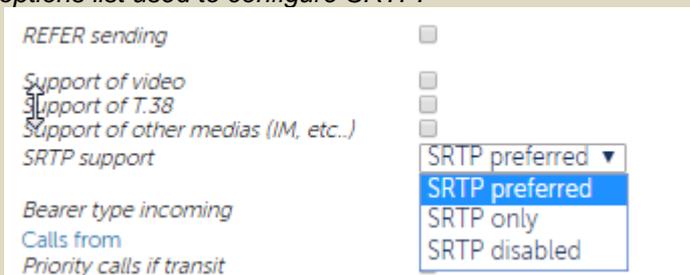
**Support other media (IM, etc.):** box to be ticked if other media are to be supported.

**Support SRTP:**

This line appears in advanced mode only and only if the voice encryption parameter is ticked (active) in **Menu Telephony service>Network and links>Quality of service>Encryption and IP parameters**. Refer to Section Quality of service for the record:



When a trunk group (for an access provider or a link for a specific application) is configured in TLS, and only in TLS, SRTP will be supported in the SDP (Session Description Protocol for media flows). A trunk group configured in UDP or TCP with SRTP media will not lead to encrypted communication. This line contains an options list used to configure SRTP:



- **Preferred SRTP:** default value to keep for some terminals or applications that do not support SRTP in a MiVoice 5000 environment.
- **SRTP only**
- **SRTP disabled**

**BEARER TYPE INCOMING****.CCBT + CCBNT****CCBT****CCBNT**

*The call is refused if the terminal requested is not of the same type as the calling party terminal (see the field Bearer type outgoing).*

**CALLS FROM**

This parameter is used to display the call origin on the digital terminal: name of the NETWORK or private direction (private direction names are defined in Menu NUMBERING PLAN>Direction names).

For a trunk in service, this parameter should not be on **.....**

**PRIORITY CALLS IF TRANSIT**

*Box to be ticked to authorise priority line seizure in an outgoing trunk or on an inter-site link in the same way as a priority subscriber.*

**SEARCH DID NUMBERS****INCOMING DIGIT TRANSLATOR NUMBER**

Enter in this field the incoming digit translator number. This can be used for DID to translate the number received from the network into an internal number. This way, a DID directory number must not be given to each user.

This function can also be used for a transfer to a remote PBX.

**Reject of numbers not assigned:**

*Field used to define the processing operation for a network call, if the subscriber does not exist:*

- **Box ticked:** *The communication is terminated.*
- **Box not ticked:** *the call is forwarded to an attendant console.*

*Search via directory This box must be ticked in case of specific DID number management (see the document AMT/PTD/PBX/0099).*

**PRE-ANSWERING MESSAGE, CALLER CHARGED**

These headings concern incoming and bothway trunk groups only.

Recorded announcement connection is only effective if network tones are declared accordingly (see **VOICE MAIL AND TONES>Tones**).

**IF CALLED PARTY FREE OR BUSY 1**

Checkbox: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is free or busy 1.

**IF CALLED PARTY BUSY 2**

Checkbox: the call is connected to the pre-answering message and a charge record is printed in real time, if the user status is busy 2.

**IF NUMBER NOT ASSIGNED**

Checkbox: the call is connected to the pre-answering message and a charge record is printed in real time, if a call number is not assigned.

**TRANSFER ACC. TO CALLED PTY COMP-DEPT CALLED PTY COMP-DEPT**

Checkbox: a DID call which is not answered is always forwarded to the call distribution service corresponding to the requested company/department extension.



**CAUTION:** If a loop back is made on the same call distribution service, and if the terminals of this service are on standby or in busy state, there is a security forwarding to ACC.0 (see the call distribution document).

**TRANSFER TO**

- C.DIST
- OP GP1 to OP GP15
- IVR

Depending on your selection, the call can be handled in two different ways after the no answer time-out for a DID call:

- If you have selected "C.DIST" this call will be handled by the call distribution service according to the applicable calendar (for more information on call distribution, see the chapter on call distribution management).
- If you have selected "SVOPx" this call will be handled by the operator service in which the ATDC has priority (for more information on operator services, see the chapter on call distribution management).
- If you have selected "IVR", this call will be processed by the IVR.

**CALL DISTR NAME****C.DIST.0 0**

This column only appears if you selected C. DIST in the previous field (selection of the answering service defined for call handling).

**TRUNK GROUP ID (TEL. RECORD)**

Value to be entered, used for telephone record handling to group together the various trunks which provide access to a single operator (maximum 3 digits).

**TRUNK GROUP SUPERVISION**

*Checkbox used to validate or invalidate the generation of alarms for the trunk group in question.*

*The box is ticked by default (supervision active upon creating the trunk group or during an upgrade from an earlier release).*

**MAX. NUMBER OF SIMULTANEOUS CALLS**

Field used to define the maximum number of simultaneous calls on the trunk group. Value between 0 and 65534.

**CAC IP ADDRESS / CENTER – CAC CLASS**

Information fields.

The address (configured manually or automatically after a call) enables the CAC server to identify trunk calls.

*G711 forced to FAX/Modem mode*

*Box used to activate any reserved EIP/PT2 in FAX/Modem G711 mode if the codec chosen is G711.*

### 6.2.1.3 *Display users*

Menu **NETWORK AND LINKS>Network>Trunk groups>Display users**

This screen is accessible via NETWORK AND LINKS>Network>Trunk groups>Display users.

This screen is used to display the users declared for a given trunk group.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see other users.

## 6.2.2 ROUTES

Menu **NETWORK AND LINKS>Network>Routes**

A route is defined by 4 parameters :

- FOR ROUTING CODE (only available in multi-company management)
- TO DIRECTION
- VIA ROUTE TYPE (routing)
- ON TRUNK GROUP

The **To direction** field proposes all the directions with a name.

- If a non-internet direction is selected, the On trunk group field does not propose any Internet link trunk group sub-type.
- If an internet direction is selected, the **On trunk group** field proposes :
  - The unique trunk group (if it exists) which is associated with this same direction in the **Associated direction field**
  - The value "....." if no trunk group corresponds to the above criteria.

### 6.2.2.1 *Route selection*

Menu **NETWORK AND LINKS>Network>Routes**

This screen is accessible via NETWORK AND LINKS>Network>Routes.

This screen is used to select the type of route whose characteristics need to be defined.

- In single-company management, the routing code is not requested; it is automatically set at 0.
- In multi-company management, this code is a definition parameter for a company/department pair.

If we take the case of 2 totally independent companies, each having several departments, and with each department having its own trunk resources (trunk line groups), the simplest solution is to assign a routing code to each company. The company name can then be assigned to this routing code.

Similarly, it is possible to privilege a department of a company by giving only this department access to a particular trunk group. This department will then have its own routing code to reach the trunk group reserved for it.



**Note :** Two routing codes are assigned to this company/department pair: one to access the public network, the other to access the private network.

## SETTING UP AN OUTGOING CALL

On system start-up, the system has three routing directions: REGIONAL, NATIONAL and INTERNATIONAL via the DIRECT 0 route on the FT0-ETSI trunk group.

### FOR ROUTING CODE

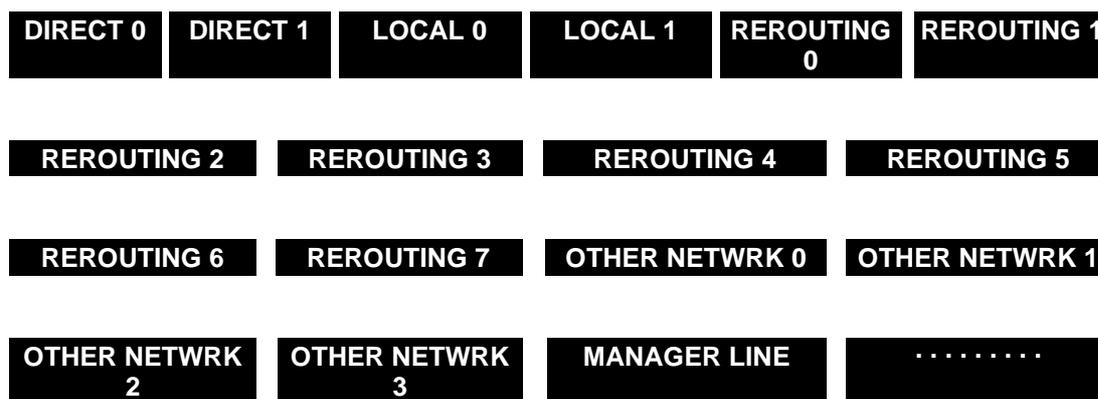
#### CODE 0

This parameter is only displayed if multi-company configuration is used. Code 0 is automatically assigned to the three routes of the trunk group.

#### TO DIRECTION

Select a direction for the direct routing.

#### VIA ROUTE TYPE



The route defines the possible variants according to trunk group saturation :

#### DIRECT

The direct route is the one which is normally used to route the call. Each direction must always have a direct route.

There are 2 possible direct routes.

If the direct routes do not have a line available, and depending on the calling user's rights, it may be possible to overflow onto other trunk groups :

#### REROUTING

This concerns selecting a line in another trunk group which belongs to the same network. For example : TL-->TL, PSN-->PSN, (traffic +).

There are 8 possible types of overflow routing.

#### OTHER NETWRK

This concerns selecting a line in another trunk group which belongs to another network, typically TL-->PSTN.

There are 4 possible types of "other network" routing.

#### MANAGER LINE

This type of routing is used to isolate "manager lines" in a particular trunk group (only available to those subscribers with specific authorisation).

#### PROXIMITY

Type of routing to use for setting links on inter-site trunk groups in service.

There are 2 options.

The above points are explained in the following examples :

**TL direction**

Direct routing is on the TL.

In the event that the trunk group is saturated, there is an alternative route on the public network (network change) subject to the user right "NETWORK SHIFT ALLOWED".

**Public direction (long distance)**

Direct routing is on the traffic + trunk group.

In the event that the trunk group is saturated, there is an alternative route on a normal public network line (rerouting), subject to the user right "NETWORK REROUTING ALLOWED".

**Successive TL rerouting on TRAFFIC+ and PSN**

This case may be processed by being less rigorous with regard to the terms and by firstly defining rerouting on traffic + and then changing networks to the public network.

In this case, "NETWORK SHIFT ALLOWED" and "NETWORK REROUTING ALLOWED" are applied successively.

A digit translation can be applied to each change in routing (see OUTGOING DIGIT TRANSLATOR).



**WARNING :** In the case of connecting to several public operators, one external application can use the external application server (EAS command LCR (Least Cost Routing)) to dynamically redefine the order of priority of seizure of the 16 routes according to the direction required (the LCR code associated with the country) and the tariffs charged by the various public operators.

Example :

Direct\_1 is associated with a France Télécom trunk group and direct\_2 is associated with a British Telecom trunk group. If no command is given, the France Télécom trunk group will be used as priority. However, an external command can request that this seizure order be reversed for reaching the United States or any other country, according to a calendar known to the external application (see the LCR documentation).

**ON TRUNK GROUP**

The trunk group field is automatically updated each time one of the first 3 parameters is modified as long as a route has already been defined. A route is erased by deleting the automatically updated trunk group route.

A complete list of trunk groups is only displayed if no route has been defined. The only other option is the ..... trunk group. . To change the trunk group, the route must be deleted by selecting the ..... trunk group and then selecting the required trunk group.

This function helps prevent the user making mistakes, particularly the mistake of inadvertently modifying the trunk group field when reading the characteristics of the route.

**6.2.2.2** *Route definition*

Menu **NETWORK AND LINKS>Network>Routes**

After entering the parameters, click "Advanced characteristics" to move to the next screen.

The heading of this screen indicates the route selected: (the code if in multi-company configuration, the direction, the route, and the trunk group).

The following characteristics must then be defined :

**FOR ROUTING CODE****CODE 0**

This field indicates the routing code assigned to the "COMPANY/DEPARTMENT" pair.

**STONE TYPE****DTMF****DP****DTMF/DP****DP THEN DTMF****BY IMP THEN IMP**

This field is used to define the network tones detection mode.

- DTMF : PSTN on TRK
- DP : TL or PCM in signalling code L0
- DTMF AND/OR DP : both types of tone are accepted
- DP THEN DTMF : type of tone reserved for export
- BY IMP THEN IMP : two consecutive impulses.

**TRANSMIT TYPE****DTMF****DECADIC****SOCOTEL 1**

This field defines the dialling signal transmission mode on the network line, in accordance with the Central Office exchange characteristics (DTMF or PD).

**SEND CALLING PARTY NO. (EMERGENCY)****NO****YES**

Field available for the EMERGENCY direction only.

Selecting YES sends the caller number to the path concerned for EMERGENCY direction.

**DIAL TONE****NO****YES**

If you enter YES, the system waits for the dial tone to be received before transmitting the dialling signal: analogue or digital (PCM) PSTN and TL with L0 signalling.

**1ST SERIES OF DIGITS TO INSERT**

This field is used to transmit the first prefix (if used) associated with the direction to the PSTN, (national or international prefix).

In the case of a TL or PCM link between 2 PBXs, the seize prefix for these directions can also be sent, taking account of the programming selection made in Access to directions.

Pause codes A and B can be inserted for certain export requirements.

**SECOND TONE****NO****YES**

If you enter YES, this indicates that the system waits for the dialling tone to be received after the first prefix has been transmitted before transmitting the rest of the dialling signal.

**2ND SERIES OF DIGITS TO INSERT**

This field defines a second possible prefix associated with a direction.



**Note :** This field is used for export and behind the IPBX.

**THIRD TONE****NO** **YES**

Presence of a third tone (this option is for a future use or possibly for export).

**OUTGOING DIGIT TRANSLATOR NUMBER**

An outgoing digit translator is used for special routing. Enter the outgoing digit translator number (digit translators are defined in "NETWORK AND LINKS>Network>Translators").

This option can be used particularly in the case of a change of network, when the dialling carried out by the user must be modified.

**CHARGE INDICATION****NO** **YES**

If you select YES, a series of Beep signals will be sent to the user prompting him to hang up at the end of the charge indication timeout (this parameter is defined in "SYSTEM>Expert>Timeout").

**LIMIT NO. OF C CODE REROUTINGS****NO** **YES**

In the case of multiple transit routing, enter YES, to avoid loop backs in rerouting.



**Note :** This field is displayed if a "Paging" direction has been defined.

**STATUS DETECTION****NO** **YES**

This selection is only available in the case of routing to a "Paging" direction: in this case, the field is initialised by default at YES.

This choice authorises the detection of the ringing tone and/or the busy tone: to be configured according to the type of paging device connected.

This field is always set at NO for directions which do not have this option.

**OFF NET CARRIERS**

Enter the name of the off-net carrier used for routing.

Definition :

An off net carrier is a carrier which can be accessed via a local operator.



**CAUTION :** To assign a carrier in a route, the route must have a number.

## 6.2.3 ROUTE DISPLAY



**Note :** Route display can be used to supervise outgoing routes. It cannot be used to modify their characteristics.

Menu **NETWORK AND LINKS>Network>Route display**

This screen is used to display the different routes declared and their respective parameters.

Definitions :

Call routing is based on the definition of a direction, a route and a trunk group.

- The route determines the priority of outgoing calls
- The trunk group corresponds to all the lines or time slots allowing calls to be routed to a network or external access according to a given signal.

TRSF means the translator number.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see other paths.

### OUTPUT FORMAT IN MULTI-COMPANY MANAGEMENT

In multi-company management, the display screen is preceded by a field which allows you to select the routes for a routing code or for a given company.

Menu **NETWORK AND LINKS>Network>Routes>Route display**

#### FOR A ROUTE CODE

##### CODE 0

Code 0 is displayed by default. Following this, if you have created other code names, these appear on this line.



**Note :** For the routing code to work correctly, the field "For a company" must be set at x x x x x.

#### OR FOR A COMPANY

##### XXXXXXXX

This field indicates "used by other companies" (default company): it is used to display the routes for code 0 or codes xx.

If you have created company names, these appear on this line.

Click **Select item** to validate the choice.

The heading on the next screen indicates that the routing is displayed for code 0.

- The first part of the menu repeats the various uses of a routing code (only the significant lines are displayed)
- The second part describes the routing for the code selected.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the trunk group types declared.

## 6.2.4 OFF NET CARRIERS

Menu **NETWORK AND LINKS>Network>Off net carriers**

Off-net carrier management consists of five different operations: assigning a name, defining characteristics, configuring subscriptions, displaying subscriptions and displaying routes.

### 6.2.4.1 Names of off net carriers

Menu **NETWORK AND LINKS>Network>Off net carriers>Names**

This screen is used to enter the names of off-net carriers according to the following rules.

#### CARRIER N (1 TO 16)

Enter a name using up to 8 characters for each carrier n (maximum 16 names).



**Note :** A carrier with no name cannot be managed as it does not exist for the system.

A carrier can only be deleted if the following conditions are met:

- It no longer has any route.
- It no longer appears on a route.
- It no longer has any subscription or secret code.

### 6.2.4.2 Off net carrier definition

Menu **NETWORK AND LINKS>Network>Off net carriers>Definition**

This screen is used to select an off-net carrier in order to define its characteristics.

#### BY NAME

Select the name of the off-net carrier you wish to define.

Then click **Select item** to confirm your choice and move to the next screen.

This screen presents the characteristics of an off-net carriers:

#### SCENARIO NUMBER

Enter the number by which the scenario is identified (description of the sequence of operations requesting that information be sent with DTMF signalling).

#### OFF NET NUMBER

Enter the remote off net carrier number (maximum 20 digits).

#### MODE OF CALLED NUMBER

**Q23**

**IID**

**AID**

Select a forwarding type.



**Note :** DTMF signalling is used on analogue trunk groups.  
IID and AID signalling are used on ISDN trunk groups.

#### TYPE OF SUBSCRIPTION NO.

**INDIVIDUAL**

**IID**

**SOC-DEPT**

Select a subscription number type.

- INDIVIDUAL transmits the subscription number on the line.
- IID transmits a company's general number.
- SOC-DEPT is used to transmit a different number for each company-department.

#### MODE OF SUBSCRIPTION NUMBER

**Q23**

**IID**

**AID**

Select a forwarding type (see the definitions in the field above).

#### TYPE OF CONFIDENTIAL CODE

**INDIVIDUAL**

**IID**

**SOC-DEPT**

Select a code type (see the definitions in the field above).

IID transmits the company number (single-company configuration).

#### TX MODE OF CONFIDENTIAL CODE

**Q23**

**IID**

**AID**

Select a forwarding type (see the definitions in the field above).

#### ANSWER SIGNAL MANDATORY

**YES**

**NO**

Specify the carrier answer on an ISDN trunk line.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the operators declared.

### 6.2.4.3 *Subscription parameters*

Menu **NETWORK AND LINKS>Network>Off net carriers>Subscription parameters**

This screen is used to select an off-net carrier so as to act on the subscription parameters.

The parameters to complete for off-net carrier subscriptions depend on whether the configuration is multi-company or single-company.

#### 6.2.4.3.1 Multi-company configuration

Menu **NETWORK AND LINKS>Network>Off net carriers>Subscription parameters**



**Note :** In multi-company configuration, you can assign a different subscription number and confidential code for each company-department.

#### FOR COMPANY

Enter the company name.



**Note :** Use \*\*\*\*\* to validate all the companies.

#### AND DEPARTMENT

Enter the department name.



**Note :** Use \*\*\*\*\* to validate all the company departments.

#### SUBSCRIPTION NUMBER

Enter the carrier subscription number (maximum 10 alphanumeric characters).

**CONFIDENTIAL CODE**

Enter the carrier confidential code number (maximum 10 alphanumeric characters).

### 6.2.4.3.2 Single-company configuration

Menu **NETWORK AND LINKS>Network>Off net carriers>Subscription parameters**

#### **SUBSCRIPTION NUMBER**

Enter the carrier subscription number (maximum 10 alphanumeric characters).

#### **CONFIDENTIAL CODE**

Enter the carrier confidential code number (maximum 10 alphanumeric characters).

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the operators declared.

### 6.2.4.4 *Display off net carrier subscriptions*

Menu **NETWORK AND LINKS>Network>Off net carriers>Display subscription**

This screen is accessible via NETWORK AND LINKS>Network>OFF NET operators.

#### **Displaying subscriptions (multi-company configuration)**

This screen is used to display the list of subscriptions for a given off-net carrier.



**Note :** A carrier name can only be deleted if this list is empty: in this case, there is no longer any subscription belonging to the selected carrier.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the subscribers by operator.

### 6.2.4.5 *Route display*

Menu **NETWORK AND LINKS>Network>Off net carriers>Display routing**

This screen is used to select the routes to be displayed. Two selection criteria are available. Apply either of the criteria :

#### **FOR ROUTE CODE**

Select the corresponding code.

#### **OR FOR A COMPANY**

If applicable, select the company in multi-company configuration.

Then click Select item to confirm the choice and move to the next screen used to display the routes declared by the off net carrier.



**Note :** A carrier name can only be deleted if this list is empty: in this case, there is no longer any subscription belonging to the selected carrier.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to see the operators declared.

## 6.2.5 SIGNALLING

Menu **NETWORK AND LINKS>Network>Signalling**

This menu contains all the functions associated with network signalling.

## 6.2.6 ACTIVATION

Menu **NETWORK AND LINKS>Network>Signalling>Activation**

The following screens are used to activate only the signalling used for each type of network card present in the system.



**Note : Only VoIP signals are presented on an MiVoice 5000 Server.**

This screen is used to select the line's physical type.

### FOR THE PHYSICAL TYPE



Select a trunk type.



**Note : All the physical types are presented in the pages that follow.**

Then click **Select item** to confirm your choice and move to the next screen.

Set each signalling type **In service** or **Out of service**.

## 6.2.7 NON-ISDN SIGNALLING

All the signals for the PBXs' connection to the public switched network are specified by standards.

However, since carriers may differ from country to country even in the smallest amount, and even if the signalling set-up remains the same, the signalling values require modification (for example, Export).



**WARNING : Only modify the default values if you are entitled to do so.**

Menu **NETWORK AND LINKS>Network>Signalling>Non-ISDN signalling**

### FOR THE PHYSICAL TYPE



Select a trunk type.

### FOR SIGNALLING

Select the signalling code.



**Note : The digital trunk is available on an XD/XL/XS IPBX via the LT2 card.**

Then click **Select item** to confirm your choice and move to the next screen to define the different fields :

- SEIZURE collision MS Enter a duration (in ms).
- IF EXTERNAL TONE EXPECTED
  - WAIT DELAY SEC Enter a duration (in seconds).
  - CONFIRM. presence DURATION MS Enter a duration (in ms).
  - TRANSMIT 1<sup>ST</sup> DIGIT AFTER MS Enter a duration (in ms).

- else – transmit 1<sup>st</sup> DIGIT AFTER SEC Enter a duration (in seconds).
- intermediate TONE DELAY SEC Enter a duration (in seconds).
- IN DTMF : TRANSMIT DIGIT DURATION MS Enter a duration (in ms).
- IN DTMF : TRANSMIT SILENCE DURATION MS ENTER A DURATION (IN MS).
- In dec.: TRANSMIT NEXT DIGIT MS ENTER A DURATION (IN MS).
- In auto. DIALLING: SHORT PAUSE SEC ENTER A DURATION (IN SECONDS).
- In auto. DIALLING: LONG PAUSE SEC ENTER A DURATION (IN SECONDS).
- in open dialling: digit delay MS ENTER A DURATION (IN MS).
- IN OPEN DIAL.: SET UP TIME-OUT ms ENTER A DURATION (IN MS).
- in closed dialling: digit delay SEC ENTER A DURATION (IN SECONDS).
- end of selection delay sec ENTER A DURATION (IN SECONDS).
- ANSWER DELAY MIN ENTER A DURATION (IN MIN).
- remote answer simulation after SEC ENTER A DURATION (IN SECONDS).

The screen below is a continuation of non-ISDN signalling parameters.

- incoming
  - tone sending delay time-OUT ms ENTER A DURATION (IN MS).
  - digit delay SEC ENTER A DURATION (IN SECONDS).
  - answer sending delay time-out ENTER A DURATION (IN MS).
- ack of release delay MS ENTER A DURATION (IN MS).
- repeat relea. request outg. trk SEC ENTER A DURATION (IN SECONDS).
- repeat relea. request bothway trk SEC ENTER A DURATION (IN SECONDS).
- wait charge unit after release RM ENTER A DURATION (IN MS).
- wait release after hang-up SEC ENTER A DURATION (IN SECONDS).
- bothway TRK incoming priority MS ENTER A DURATION (IN MS).
- outgoing trk incoming priority MS ENTER A DURATION (IN MS).
- response during ringing off **NO** **YES.**
- cancel tx of freq. dial tone sign. **NO** **YES.**
- cancel tx of pulse dial tone sign. **NO** **YES.**
- In R2: no rec. reject not assigned **NO** **YES.**

In summary, these screens are used to define most timeouts linked to non ISDN signalling. For each timeout, you are reminded of the unit of measurement: seconds (sec), milliseconds (ms), or minutes (min).

## 6.2.8 ISDN SIGNALLING

Menu **NETWORK AND LINKS>Network>Signalling>ISDN signalling**

All the signals for the iPBXs' connection to the public switched network are specified by standards.

However, private ISDN signalling requires modification of the signalling characteristics for some special applications.



**WARNING : Only modify the default values if you are entitled to do so.**

This screen is used to select the ISDN signalling parameters on which to act on in the screen below.

### FOR THE PHYSICAL TYPE

**ISDN:T0** **ISDN:T2**

Select a trunk type.

### FOR SIGNALLING

**ISDN: T0 (BRI)** **VN2+\_T0** **VN2+\_T2**

Select the line signalling.

Then click **Select item** to confirm the choice and move to the next screen used to define the ISDN signalling parameters.

### LEVEL 2 BREAK

- WITH HOLD CALL **NO** **YES.**
- ALARM REPORTED AFTER (SEC) Enter a duration (in seconds).
- PBX RECOVERY **NO** **YES.**
- AFTER ALARM MONITORING Enter a duration (in seconds).

NUMBER OF SUCCESSIVE TRANSITS **2 digits**

CHARGING DISPLAY MODE **NO** **YES.**

- INFORMATION TYPE **4 CHARACTERS**
- IDENTIFIER LENGTH **2 digits**
- START IDENTIFIER **2 CHARACTERS**
- LOCATED **4 CHARACTERS**

USER TO USER INFORMATION (SUU) **NO** **YES.**

TRT MESSAGE STATUS **NO** **YES.**

DISPLAY OF THE ANSWERING NUMBER **NO** **YES.**

This function is available as of R5.2 and only applies to the following physical types:

ISDN T0 and ETSI T0 signalling

ISDN T2 and ETSI T2 signalling

This line does not appear for other types.

TIME-OUT T301 (TO T322)

Enter a duration (in seconds).



**Note :** The default values vary depending on the signalling, and are recorded in a table (they cannot be accessed).

	T301	T302	T303	T304	T305	T308	T309	T310	T313	T316	T322
ISDN	100	20	10	60	4	4	60	60	4	120	5
QSIG	180	15	5	20	4	4	90	90	4	120	5
ETSI	100	15	4	30	30	4	60	40	4	120	5
1TR6	100	20	4	60	30	4	60	80	4	120	5

REMOTE TONE MONITORING

- FLAG PROGRESSION (1 TO 8)      **NO**    **YES.**

## 6.2.9 SUPERVISORY STEPS

Menu **NETWORK AND LINKS>Network>Signalling>Supervisory steps**

This menu is used to display the supervisory steps characteristics for a physical type (digital, analogue, tie line) and for a given signalling type.

## 6.2.10 TRANSMISSION STEPS

Menu **NETWORK AND LINKS>Network>Signalling>Transmission steps**

This menu is used to display the transmission steps characteristics for a physical type (digital, analogue, tie line) and for a given signalling type.

## 6.2.11 INITIALISE A SIGNALLING TYPE

Menu **NETWORK AND LINKS>Network>Signalling>Initialise a signalling type**

To define new signalling derived from an existing signalling without modifying it, you can copy the existing signalling and make any modifications required on the copy.

This screen is used to make a copy of the existing signalling and give a name to this new signalling.

When you have made the necessary modifications, you can initialise the new signalling and allocate it to the trunk group concerned.



**Note :** Only modify this screen if you are entitled to do so.

### FOR THE PHYSICAL TYPE

**DIGITAL TRK**

**ANALOG.TRK**

**TIE LINE**

**ISDN:T0  
ISDN:T2**

Select a trunk type.

### COPY SIGNALLING

Select the outgoing signalling.

### IN SIGNALLING

Select the incoming signalling.

### WHICH WILL BE CALLED

Give a name to the new signalling.

Click "Confirm" to validate the selected parameters.

## 6.2.12 RECORDERS

Menu **NETWORK AND LINKS>Network>Signalling>Recorders**

This menu is used to display the supervisory steps characteristics for a physical type (digital, analogue, tie line) and for a given signalling type.

This menu is also used to configure the parameters of a recorder.



**Note :** The only type of recorder that can currently be configured is the R2 type.

### ***INCOMING, CODE TRANS. BY PBX BX***

#### **FREE EXT.**

Select a number : from 0 to 9

#### **BUSY EXT.**

Select a number : from 0 to 9

#### **NUMBER NOT ASSIGNED**

Select a number : from 0 to 9

#### **CONGESTION**

Select a number : from 0 to 9

#### **REMOTE IDENTIFICATION**

**NO**

**AT END**

**DURING**

Select an identification.

#### **RECEIVED DIGITS NUMBER**

Select a number: from 1 to 20



**Note :** This field is only displayed if the previous field is set as **DURING**: this specifies when the identification request will be made. The recorder knows that this request is not made after the number dialled is received.

### ***INCOMING, CODE REC. BY PBX BX***

#### **N (0 TO F) INTERPRETED AS**

**IGNORE**

**SUBSCRIB  
ER**

**BUSY EXT.**

**NO NOT ASSIGNED**

**CONGESTION**

Select how you want the n codes to be interpreted.



**Note :** These fields indicate to the iPBX how to interpret the codes received during an outgoing call.

## 6.2.13 Aid Handling

Menu **NETWORK AND LINKS>Network>AID handling**

When a call is made through the ISDN network, two items of information, called "originating numbers" may be transmitted to identify the origin of the call.

The first one, an optional item called **AID** (Additional Installation ID), contains the Caller identity supplied by the calling PBX.

The calling PBX provides this information item :

- Either the DID number at which the calling set may be called back directly. This DID number is called "AID".
- Or the general number of the system (the number of the operator switchboard) if the calling set is not a DID or does not wish to give its DID number. This general operator number is called "IID" in MiVoice 5000 server jargon.

A second information item, called **IID** (Installation ID), contains the general number of the T0 or T2 line connected to the calling PBX and defined when the subscription for ISDN access is made. This item is only transmitted by PSTN: the calling PBX cannot modify it.

The following screens are used to handle all caller identification numbers, all cases of callback, and identification of calls from other networks.

### 6.2.13.1 *Definition of the internal plans*

Menu **NETWORK AND LINKS>Network>AID handling>Definition of the internal plans**

This screen is used to select the internal plans to be defined. For each plan selected, you also have to choose the type of plan: PSTN or TL.

### 6.2.13.2 *Composition of internal plans*

Menu **NETWORK AND LINKS>Network>AID handling>Composition of internal plans**

This screen is used to assign directions to the plans declared in the system. On system reset, the carrier directions are configured for plan 1.



**Note :** Unless a direction is allocated to a plan, it will not appear in the list of available directions for all MMCs.  
If you want to change a specific direction which belongs to a plan, that direction must not be in use.

### 6.2.13.3 Convert internal plan

Menu **NETWORK AND LINKS>Network>AID handling>Convert internal plan - network plan**

This screen is used to select an internal plan and possibly to specify a trunk group.



**Note :** You cannot enter two exceptions for one direction.  
If you change the direction, this deletes the former exception and creates a new exception with the same parameters (there is no change of the network plan or network address nature).

If you select the direction **.....**, this deletes the exception.

### 6.2.13.4 Convert Internal Plan - Network Plan

Menu **NETWORK AND LINKS>Network>AID handling>Convert network plan - internal plan**

This screen is used to select a network plan and possibly to specify a trunk group.

Click **Select item** to confirm your selection and move to the next screen.

### 6.2.13.5 IID

Menu **NETWORK AND LINKS>Network>AID handling>IID**

This menu is currently not proposed if DID numbering by SDN is enabled (Menu **Subscribers>Rights>General parameters**).

DID number management must be carried out from MiVoice 5000 Manager. See the document DID number management- AMT/PTD/PBX/0099.

The purpose of these screens is to enter the IIDs which can, for incoming calls:

- Be associated by default with the plan or internal address nature and, possibly, with the trunk group delivering the call
- Be associated with each outgoing call according to the called party, the caller, and, possibly, the outgoing trunk group.



**Note :** The IID is the corporate number of the attendant consoles, and it can differ from the IID (Installation Identification) defined when the subscription to the ISDN public network access was taken out.

The entry menu is composed of an area with three lines repeated 16 times.

#### **IID X: INTERNAL PLAN**

Select the internal plan with which the IID is associated.

Example : Plan 1, then validate.

#### **OR DIRECTION**

Select the direction with which the IID is associated.

#### **NUMBER**

Enter on this line the IID (maximum 28 digits): do not enter 0.

#### **RESTRICTED PRESENTATION**

**YES**

**NO**

Select YES to restrict the presentation of IID numbers.

### 6.2.13.6 *AID prefix definition*

#### Definition:

The AID (Additional IDentification) contains the caller identity supplied by the calling PBX.

The AID is the DID number which may be displayed on the set of the called party and which will allow future callback. To do this, define the outgoing prefix on the public network.

Example : 0, line seizure prefix, followed by 00 for the "International" direction.

By default, you must select an internal plan by name.

Menu **NETWORK AND LINKS>Network>AID handling>AID prefix definition**

This screen is used to select the internal plan concerned by the definition of prefixes.

Click **Select item** to confirm your selection and move to the next screen.

When you have selected an internal plan, the following prefix entry screen is displayed.

No checks are made on the use of the screens for defining handling during the deletion of an exception or of the default setting.

However, you can only delete the default setting when all the exceptions have been deleted.

If you delete the direction or the prefix, this also deletes the exception.



**Note :** You cannot enter two exceptions for one direction.

### 6.2.13.7 *Outgoing handling*

Menu **NETWORK AND LINKS>Network>AID handling>Outgoing handling**

Handling AID/IID outgoing calls consists in indicating in the "Caller Identity" information the DID number of the calling set (known as the AID), or the corporate number of the attendant consoles, (known as the IID).

The type of handling carried out depends on three parameters:

- The internal plan or direction of the calling entity
- The internal plan or direction of the called entity
- In some cases, the outgoing trunk group (infrequent)

As a result, this function is composed of three screens in cascade.

This first screen is used to enter the plan or direction of the caller.

Given the possible dependency of the various types of handling, there are several fallback levels available:

- Specified calling party plan and non-specified calling party direction
- Specified calling party direction with all possible cases for specifying the called party and, in some cases, the trunk call

Click **Select item** to confirm your selection and move to the next screen.



**Note :** Set the index from 0 to 15, defined in the section “IID”, on the line IID NUMBER.

Click "Advanced characteristics" to move to the next screen.

### 6.2.13.8 *Incoming handling*

Menu **NETWORK AND LINKS>Network>AID handling>Incoming handling**

If the "Caller identity" information is filled in, the handling of the AID/IID incoming calls will concern this number.

The "Called party identity" can only be filled in by the remote PBX. In this case, the iPBX only receives the IID forced by the carrier. The handling of the AID/IID iPBX incoming calls will concern this number.

This function starts with a selection screen which is used to choose the internal plan for which the handling will be defined.

A second criterion used for very specific cases is the selection of the incoming trunk group (by default the screen takes the OFEH "joker" value specified by the table) (infrequent).

Select an internal plan.

Click **Select item** to confirm your selection and move to the next screen.

The screen area containing the last five columns to be filled in is repeated according to the number of directions belonging to the plan selected.

You cannot enter two exceptions for one direction.

The last four lines of the area appear once a direction is correctly entered. Furthermore, the last line is only displayed if the associated IID field is empty (handling is only applied to a received IID and not to a simulated IID).

If there is no IID, this indicates that the IID which is possibly received from the network is retained. On operator request, it can be handled in the same way as the received AID.

### 6.2.13.9 *Displays*

Menu **NETWORK AND LINKS>Network>AID handling>Displaying**

This menu shows the available display actions.

### 6.2.13.10 *Outgoing handling*

Menu **NETWORK AND LINKS>Network>AID handling>Displaying>Outgoing handling**

The purpose of this screen is to display the existing keys in the table which defines the outgoing handling. This means ordering and displaying the existing keys taking into account the default rule.

Sorting is carried out according to the criteria in the following order:

- The calling party plan and its directions
- The called party plan and its directions
- The trunk group.

Each of the lines summarises the handling associated with each of the keys defined, taking account of the priority rule, which is respected by telephony processing.

IID: indicates the index number of the IID.

TRL AID: indicates the digit translator number.

### 6.2.13.11 *Incoming handling*

Menu **NETWORK AND LINKS>Network>AID handling>Displaying>Incoming handling**

The purpose of this screen is to display the list of existing keys, taking account of the fallback rule.

Sorting is carried out according to two criteria in the following order:

- The plan and its directions
- The trunk group.

IID: indicates the index number of the IID which may be used.

PREF\_AID: indicates if there is a prefix added, YES or NO.

TRL AID: indicates the number of the digit translator which may be used.



**Note :** The prefix added for a given direction will normally be the prefix defined for the direction, and if the prefix is not defined, the prefix defined will normally be for the plan the direction belongs to. Handling is carried out even if the direction is not defined explicitly as an exception at the level of the previously described screens.

### 6.2.13.12 *Convert internal plan - network plan*

Menu **NETWORK AND LINKS>Network>AID handling>Displaying>Internal plan - network plan**

### 6.2.13.13 *Convert internal plan - internal plan*

Menu **NETWORK AND LINKS>Network>AID handling>Displaying>Network plan – internal plan**

## 6.2.14 TRANSLATORS

Menu **NETWORK AND LINKS>Network>Translators**

Digit translator management concerns :

- Translations to be carried out of the called numbers for a given routing (direction, route, trunk group)
- Translations of the calling number (AID) to be sent to the network
- Translations to be carried out of the called numbers on an incoming trunk group
- Translations of the calling number (AID) received from the network
- Translation of operations carried out behind the PBX into telephone events (Flash, dialling)

### 6.2.14.1 *Outgoing: called number*

Menu **NETWORK AND LINKS>Network>Translators>Outgoing: called party number**

The outgoing digit translators are used in the case of TL transit or a network change.

The called party number is assigned to the trunk group in the routing definition on this trunk group. Access is by the digit translator number: from 0 to 47.

Select a translator number, in our example No. 1.

Click **Select item** to confirm your selection then move to the next screen and define the following parameters:

**DIGIT TO TRANSLATE**

The digit to translate (10 characters) indicates the start of the numbering which must be deleted. AND DIGITS indicates the new numbering which must be inserted in place of the deleted numbering.

Letters can also be used. Each letter indicates a random digit of rank i (example: 1A3 includes numbers 103, 113, 123, ..., 193).

The letters contained in the digit to be translated must start with the letter A and then continue in alphabetical order.

The letters which figure in the translated item must also exist in the item to be translated.

**TO DIRECTION**

List of directions.

**AND DIGITS**

This indicates the characters which end in the number of digits transmitted, noted between brackets.

*Example 1:*

- deletion of the first 3 digits and transmission of the last 2
- digit to translate            ABC
- translated number            (2).

*Example 2:*

- addition of 2 digits at the start of the numbering, independent of the numbering itself
- digit to translate            A
- translated number            12A(8).

The line FOR ROUTE CODE is only available in multi-company configuration. The trunk group seizure prefixes are not part of the numbering. On system start up, the translation is zero.

- Digit to translate            1234
- to direction                 LOCAL
- and digits                    1234(18)

An empty translation is allowed but the brackets are always mandatory.

### 6.2.14.2 *Outgoing: calling number*

Menu **NETWORK AND LINKS>Network>Translators>Outgoing: calling party number**

Select a translator number, in our example No. 1.

Click **Select item** to confirm your selection then move to the next screen and define the following parameters :

- Digit to translate (8 characters)
- to plan (list of plans)
- or to direction (list of directions)
- and digits (16 digits)



**Note :** See explanations "Outgoing: called party number".

### 6.2.14.3 *Incoming: called number*

Menu **NETWORK AND LINKS>Network>Translators>Incoming: called party number**

Incoming digit translators are used particularly for DID, when the MCDU (last four digits of the telephone number) received from the public network must be modified or truncated.

The incoming digit translator is associated with a trunk group and identified by its number in the trunk group characteristics.

Access is by the digit translator number: from 1 to 48.

Select a translator number, in our example No. 1.

Click **Select item** to confirm your selection then move to the next screen and define the following parameters :

Letters are used following the same rules as for outgoing translations.

#### **DIGIT TO TRANSLATE**

Enter the MCDU number (digits or letters) to be translated.

#### **RESULTING DIGITS**

This line appears when a value has been entered on the previous LINE.

Enter the digit to replace the digit to be translated.

*Example :*

- "internal" user directory number 5300 to 5499
- DID call number 01 30 14 13 00 to 01 30 14 14 99: (digits received 1300 to 1499)
- digit to translate: 13AB resulting digits: 53AB or 1A -> 5A

or :

- digit to translate: 14AB resulting digits: 54AB or 1A -> 5A

1A and 5A contain the 2 hundred units, and the last 2-digit group (DU) is transparent.

The DU of the internal directory number must be the same as the DU of the DID directory number.



**Note :** An incoming digit translator is used for DID or TL if the digit received does not correspond to the internal or DID directory number.  
A Numeris DID number must never be translated (except for a transit operation), to ensure that the caller number (AID) is sent correctly by the PBX.

#### 6.2.14.4 Incoming: calling number

Menu **NETWORK AND LINKS>Network>Translators>Incoming: calling party number**

These translators are used to translate the IID/AID received from the network (to be added in the incoming processing).

#### DIGIT TRANSLATOR NUMBER

Indicate the translator number you wish to work with (the translator number you indicated previously).

There are 48 digit translators, each featuring 16 digits to translate

Letters are used following the same rules as for outgoing translations

Click **Select item** to confirm your selection then move to the next screen and define the following parameters:

#### DIGIT TO TRANSLATE

Enter the digit to be translated.

#### TO PLAN

##### PLAN 1

Enter the relevant numbering plan.

#### OR TO DIRECTION

.....

NETWORK

LOCAL

REGIONAL

INTERNATIONAL

Select the direction which will receive the digits to be translated.



**Note :** ..... means all directions.

#### AND DIGITS

Enter the digit to replace the digit to be translated (16 digits).



**Note :** The first part of the received number (excluding the prefix) is translated first of all. Then the last digits, which are not specified, are sent at the end of the operation without being translated.

## 6.2.15 TRANSFER/TRANSIT AUTHORISATIONS

Menu **NETWORK AND LINKS>Network>Transfer/transit authorisation**

Definition :

The transfer defines the trunk group pairs which can be connected end-to-end: TL-TL, or TK-TL, or T2-TL, or PCM-TL transfers are the only types of transfer authorised by current regulations.

This authorisation, associated with the system parameter, TK-TK transfers, or TK-IA transfers (General parameters screen) can be used to:

- Forward an “incoming” call to an external extension
- Carry out a transfer between 2 external calls
- Carry out a transit between 2 PBXs
- Carry out external forwarding of your terminal

Two tabs :

- Creation
- Display/Delete

### 6.2.15.1 *Creation tab*

Menu **NETWORK AND LINKS>Network>Transfer/transit authorisation**

When the trunk group pairs are being configured, two lines in read-only mode are used to give the operating mode for transfers and transits :

#### **TRUNK GROUP CONFIGURATION**

The following lines have a direct link to the menu **Subscribers>Rights>General parameters** to allow the modification of the trunk group list operating mode:

- For transfer (Right tab)
- For transit (Network tab)

The fields are greyed out and inaccessible.

See Menu **SUBSCRIBERS>Rights>General parameters** for how to define the transfer (or transit) authorisation according to trunk group pair:

- AUTHORISATION LIST
- PROHIBITION LIST
- LIST NOT USED

The trunk groups to declare do not necessarily belong to the internal site: each trunk group must be definable.

#### **PRIMARY : SITE**

Enter the name of the primary site on the list.

**NODE**

Enter the node number (2 digits).

In a multi-site configuration, the current value of the node is 02.

**TK GROUP NUMBER**

Enter the trunk group number (2 digits).

To know the trunk group number, go to Menu **Telephony service>Network and links >Network>Trunk group>Names**.

**SECONDARY : SITE**

Enter the name of the secondary site on the list.

**NODE**

Enter the node number (2 digits).

In a multi-site configuration, the current value of the node is 02.

**TK GROUP NUMBER**

Enter the trunk group number (2 digits).

To know the trunk group number, go to Menu **Telephony service>Network and links >Network>Trunk group>Names**.

**6.2.15.2**     *Display/delete tab*

This menu gives a list of the trunk group-sites-node pairs identified by a declaration number on the list.

These pairs define the authorised or forbidden transfers and transits according to the choice of use of this list made in Menu **SUBSCRIBERS>Rights>General parameters**, **Right** tab for transfers and **Network** tab for transits.

**DELETE TRANSFER OF TRANSIT NO X**

The menu proposes, for each list input, a checkbox for deleting the list input.

The transfer/transit number to delete is identified by its order number.

Click CONFIRM to confirm the deletion.

## 6.3 MULTI-SITE



**Note :** All the parameters associated with the creation and activation of a multi-site configuration are handled in a separate volume entitled: "MiVoice 5000 - Multi-site management" Ref. AMT/PTD/PBX/0081/EN.

## 6.4 QUALITY OF SERVICE

**Quality of de Service** (QoS) is the ability to route in good conditions a given type of traffic, in terms of availability, flow rate, transit delay, rate of packet loss...

Menu **NETWORK AND LINKS>Quality of service**

### 6.4.1 SPECIFIC ENCODING LAWS

Menu **NETWORK AND LINKS>Quality of service>Specific encoding laws**

This menu is used to define at most 4 specific encoding laws, and to configure the video and Fax T38 throughputs.

**Specific law name x :** The name of a law is defined by an ascii string comprising a maximum of 20 characters.



**Note :** To define a name, take for instance in a SIP INVITE frame, field "Media Attribute (a): rtpmap:" and copy the ASCII character string after the Payload.

No check is made on the characters entered.

**Throughput (kb/s) :** **Throughput value** for the 4 specific laws. This field is only displayed if the name of the corresponding law has been entered.

The values authorised are between 0 and 65279 (Kbits/s).

No check is made on the values entered.

### 6.4.2 VOICE OVER IP ENCODING LAW

Menu **NETWORK AND LINKS>Quality of service>Voice over IP coding law**

Choice of different call types

**CALL TYPE**

<b>INTERNAL</b>	<b>NETWORK</b>	<b>PRIVATE DIRECTION</b>	<b>MULTISITE SVL-IP</b>
<b>OTHER SERVERS</b>	<b>ISDN S0 S2</b>	<b>CONFERENCE CIRCUITS</b>	<b>ANNOUNCEMENTS VOICE MAIL</b>

For an **INTERNAL** call, the column SET TYPE is displayed.

**TERMINAL TYPE: Options proposed**

<b>NON-IP SET</b>	Default terminal. TDM terminal using a VOIP (analogue, digital)
<b>H.323 TERM</b>	Terminal or PC with integrated telephone using the H323 protocol
<b>IP_OWNER</b>	Mitel proprietary IP phone (IP i7xx and A53xxip range)
<b>DS_ON_PC</b>	Dedicated terminal on PC (VoIP mode i2052 SoftPhone)
<b>VTI/XML IP</b>	Servers using multiplexed VTI/XML sessions over IP.
<b>SIP-DECT IP</b>	SIP IP phone (Mitel 6000 SIP Phone and terminals or standard SIP and DECT/IP SoftPhone)



**WARNING :** Terminal encoding law configuration is available by default: during normal operation, the preferred laws are those defined on the PBX and supported by the terminal (see the table below which gives the default values).

For a **NETWORK** call, the **Direction** column is displayed.

**Direction :** options proposed

<b>.....</b>	Encoding laws defined by default for all the network directions (LOCAL, REGIONAL, INTER, etc.).
<b>LOCAL</b>	Encoding laws defined for the LOCAL direction only
<b>REGIONAL</b>	Encoding laws defined for the REGIONAL direction only
<b>INTERNAT</b>	Encoding laws defined for the INTERNATIONAL direction only



**WARNING :** If the default “.....” is changed, all “NETWORK” directions with no explicitly defined encoding laws are affected.

For a **PRIVATE NETWORK** call, the **Direction** column is displayed.

**Direction:** Options proposed

<b>.....</b>	Encoding law defined by default for all the private directions (TLXX), including for the TL0 direction.
<b>TL X</b>	Encoding laws defined for the TL X direction only



**WARNING :** If the default “.....” is changed, all private directions with no explicitly defined encoding laws are affected, including for the TL0 direction.

For a **MULTISITE SVL-IP** call, the **Site** column is displayed.

**SITE :** Options proposed

<b>.....</b>	Encoding laws defined by default for the IP link server (applies to SVL links defined between the local site and all the remote sites). Law G729 20 ms is used by default.
<b>SITE X</b>	Encoding laws defined only for the SVL IP link between the local site and the remote site X.

For a **TONES** call, the **TYPE OF MESSAGES** column is displayed.

**TYPE OF MESSAGES : proposed option****NETWORK**

This profile applies to the VoIPs or media server resources used to broadcast an announcement or a message for an external call (especially for pre-off-hook, network on-hold). G711, G723, G729 and P729/PRIV. G729 are proposed.

**SUBSCRIBER**

This profile applies to VOIPs or to the media server resources used to broadcast an announcement or a message to an internal call. G711, G723, G729 and P729/PRIV. G729 are proposed.

After making the selection correctly, click **Select item** to go to the encoding law definition screen.

You can define up to 7 different encoding laws. They include :

<b>CODING LAW</b>	<b>COMMENTS</b>
G711/AUDIO G711	
P711/PRIVEE G711	Reserved for the MULTISITE SVL-IP profile
G723/AUDIO G723	
P723/PRIVEE G723	Reserved for the MULTISITE SVL-IP profile
G729/AUDIO G729	
P729/PRIVEE G729	Reserved for the MULTISITE SVL-IP and LOCAL/NON IP profiles
G722/AUDIO G722	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP, LOCAL/PROPRIETARY IP profiles  In R5.3 SP1 and later: also applies to the CONFERENCE CIRCUITS profile. As of R5.4: applies to the NETWORK and SUBSCRIBER profiles.
G719	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G7221 16 24	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G7221 16 32	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G7221 32 24	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G7221 32 32	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G7221 32 48	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G726 16	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G726 24	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G726 32	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G726 40	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G728	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
G729E	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
BV16	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
BV32	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
GSM	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
GSM EFR	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
ILBC 20	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles
ILBC 30	Reserved for the NETWORK, PRIVATE DIRECTION, LOCAL/SIP-DECT IP profiles

Each encoding law can contain up to 2 sub-laws and can have up to 4 different rates.

CODING LAW	NUMBER OF SUB-LAWS	FROM THE SUB-LAWS BELOW	NUMBER OF POSSIBLE PACKET SIZES	INCLUDING THE FOLLOWING PACKET SIZES
G711/AUDIO G711, P711/PRIVATE G711	2	A law, MU law	2	10, 20, 30ms
G723/AUDIO G723, P723/PRIVATE G723	1	G723.1	2	30, 60 ms
G729/AUDIO G729, P729/PRIVATE G729 <b>(1)</b>	2	A law, G729	4	10, 20, 30, 40 ms
G722/AUDIO G722 G719 G7221 16 24 G7221 16 32 G7221 32 24 G7221 32 32 G7221 32 48 G726 16 G726 24 G726 32 G726 40 G728 G729E BV16 BV32 GSM GSM EFR ILBC 20 ILBC 30	0	/	4	10, 20, 30, 40, 50, 60 ms

**(1)** : For the encoding law Audio G729, it is mandatory to:

- SYSTEMATICALLY mention the two sub-laws G729 and G729A
- Put them in the same order in all the profiles containing this law.

#### CONCERNING THE "MULTI-SITE" PROFILE

The options P723, P729/P729A, P711A/P711U are proposed in addition to the traditional laws.

These laws are proprietary laws supported by the PT2 type VOIPs and PVI's.

They allow a switchover to G711 passthrough upon detecting 2100 Hz.

They can only be used between PT2/PVI, which are the only devices that support them.

By default, "Multi-site" is configured with law P729 to allow the use of the link for "audio" and "data" communications (in this latter case, the PT2/PVI initially activated in P729 will change upon detecting 2100 Hz to G711).

#### CONCERNING THE "LOCAL/NON IP TERMINAL" PROFILE

The option P729/P729A is proposed in addition to the traditional laws.

Contrary to the "Multi-site" profile, this law is not proposed by default.

It must be used in a specific configuration in which :

- Data (fax/modem) subscriptions are not of "DATA" but "SPEECH" or "DATA WITHDRAWAL SPEECH" type
- No data subscription is associated with an IP device (for instance FAX over IP)
- There are only PT2 / PVI type VOIPs (no EIP type).

In this specific case, it is possible to add this proprietary law which allows a PT2/PVI law initially set to P729 to change to G711 passthrough, regardless of subscription type.



**Note :** It is not possible to define the same law for two different priorities.

## OTHER INFORMATION ABOUT PROFILES

### "ISDN S0/S2" profile

This profile applies to the VoIPs taken for a number dialled from an S0/S2 terminal.

### "CONFERENCE CIRCUITS" profile

This profile applies to the VoIPs taken by a 3-way conference bridge.

In R5.3 SP1 and later: This profile also applies to the media server taken to make a 3-way conference.

### "VOICEMAIL" profile

This profile applies to the IVB (only on Mitel 5000 Gateways).

### "OTHER SERVERS" profile

This profile applies to the VoIPs taken for all the servers, except :

- The link server (which has its own "MULTI-SITE" profile)
- The voicemail server (which has its own "VOICEMAIL" profile)

In practice, this profile is rarely used.

## RECOMMENDATIONS

- Except for the "NETWORK" and "PRIVATE DIRECTION" profiles, it is very advisable to configure the encoding laws in the same way for all the sites.

**DEFAULT VALUE (AFTER A FIRST INSTALLATION)**

CALL TYPE	L.1	L.2	L.3	L.4	L.5	L.6	L.7
<b>CONFERENCE CIRCUIT</b>	G711 A & U 20 / 30 ms	G729 & 729A 20 / 30 / 40 ms	....	....	....	....	....
<b>LOCAL NON-IP TERMINAL</b>	G711 A & U 20 / 30ms	G729 & 729A 20 / 30 / 40ms	....	....	....	....	....
<b>LOCAL DS ON PC</b>	G711 A & U 20 / 30ms	G729 & 729A 20 / 30 / 40ms	....	....	....	....	....
<b>LOCAL VTI/XML IP</b>	G711 A & U 20 / 30ms	G729 & 729A 20 / 30 / 40ms	....	....	....	....	....
<b>LOCAL SIP-DECT IP</b>	G722 20 / 30 ms	G711 A & U 20 / 30 ms	G729 & 729A 20 / 30 / 40 ms	....	....	....	....
<b>LOCAL PROPRIETARY IP</b>	G722 20 / 30 ms	G711 A & U 20 / 30 ms	G729 & 729A 20 / 30 / 40 ms	....	....	....	....
<b>NETWORK</b>	G722 20 / 30 ms	G711 A & U 20 / 30 ms	G729 & 729A 20 / 30 / 40 ms	....	....	....	....
<b>PRIVATE DIRECTION</b>	G722 20 / 30 ms	G711 A & U 20 / 30 ms	G729 & 729A 20 / 30 / 40 ms	....	....	....	....

After an upgrade to R5.3 from an earlier release (R5.2 or R5.1), the configuration of the encoding laws are kept.

**6.4.3 DISPLAY ENCODING LAWS**

Menu **NETWORK AND LINKS>Quality of service>Display of the coding laws**

G711, G723 and G729 correspond to AUDIO laws G711, G723 and G729.

P711, P723 and P729 correspond to PRIV. laws G711, G723 and G729.

Clicking a call type gives direct access to the law definition menu for this call type.

**6.4.4 NEGOCIATE ENCODING LAWS**

Calls are set up in 5 phases :

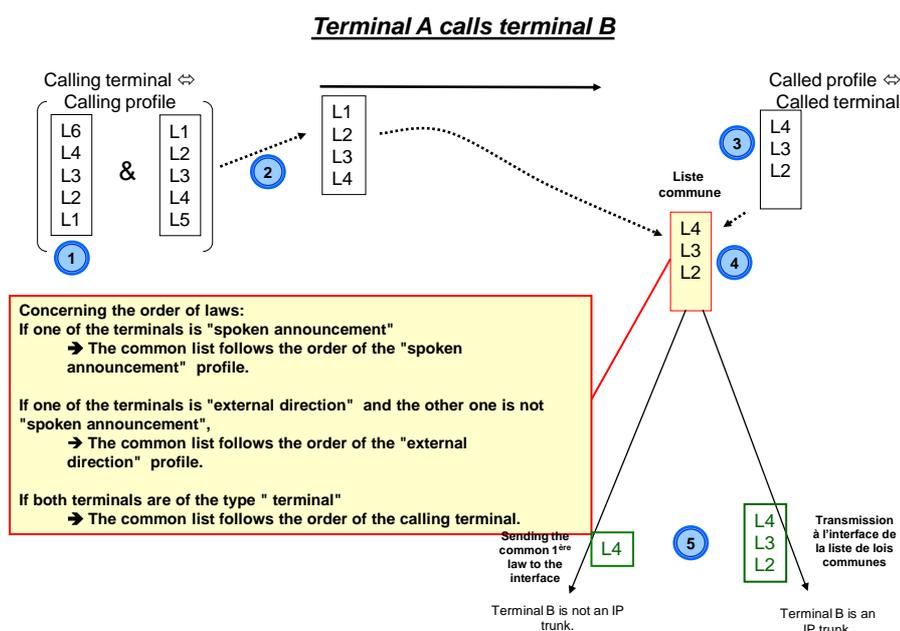
1. The calling end IP terminal interface presents its list of encoding laws (*for TDM terminals, the IP interface is the associated VOIP*).
2. This list is filtered by the law profile associated with the caller type: only the common laws are kept then arranged according to profile configuration. The duration of packets is replaced.
3. The encoding laws associated with the called terminal is recovered.
4. A list of common laws between these two sites is determined, and the laws not authorised by the CAC withdrawn.

Concerning the order of laws :

- If one of the terminals is "spoken announcement": the common list follows the "spoken announcement" profile order.

- If one of the terminals is "external direction" and the other one is not "spoken announcement": the common list follows the "external direction" profile order.
  - If both terminals are of "terminal" type and the called party is not associated: the common list follows the "calling terminal" profile order.
  - If both terminals are of "terminal" type and the called party is associated: the common list follows the "called terminal" profile order.
5. The following are transmitted to the called terminal:
- a. The common list when the call is presented to an IP TRUNK (SIP or H323)
  - b. The first law of the common list in the other cases.

The diagram below summarises the negotiation made by the PBX and specifies the order of laws used to create the common list:



## 6.4.5 CAC AND LOCALISATION

The services proposed by the CAC server are as follows :

- **Call Admission Control**  
The CAC server provides a mechanism for controlling the bandwidth and flows to avoid system overload (which happens when the available bandwidth is insufficient to deal with the required flow).



**Note :** For a detailed description of this service and the configuration of the CAC server, see the **CAC programming guide [3]**.

- **Geographic location**  
This service is used to route emergency calls (ambulance service, police, etc.) and external calls according to the geographic location of the set making the call.
- **Location of emergency callback IP terminals**  
This function is used to manage urgent calls.

The CAC and Localisation menu is used to configure these services as well as the items they use, such as breakdown into IP subnets, the definition of the CAC classes and geographic locations.

Menu **NETWORK AND LINKS>Quality of service>CAC and Localisation**

Definitions :

### CAC Centre

A CAC centre is a set of sites grouped together into one or more centres with no IP throughput restriction between them. By convention, the number of the CAC centre is that of the centre where the main CAC server is located.

### CAC Class

A CAC class represents one or more IP subnets belonging to the same centre.

### IP subnet

The IP network is divided into IP subnets so that flow restrictions between the various subnets can be defined and so that IP sets can be located geographically when making emergency calls.



**Note :** These definitions apply to multi-site configuration. However, it is possible to define a CAC server in single-site configuration by dividing the network into IP sub-networks to control calls inside the site.

### 6.4.5.1 CAC server parameters

Menu **NETWORK AND LINKS>Quality of service>CAC and Localisation>CAC server parameters**

This command is used to :

- Declare the CAC server (primary or secondary)
- Define the services available (location, call control)
- Define the parameters for call control
- Define the centres managed by this server.

**ACTIVE: XXXXXXXX, BACKUP : YYYYYYYY**

This line is read only. It shows the names of the sites where the CAC server and backup server are located.

### SERVER CONFIGURATION

**MAIN**      **SECONDARY**      .....

Select the CAC server configuration.

**MAIN**      The CAC server is the main server.

**SECONDARY**      The CAC server is the backup server.

.....      The CAC server is considered to be inexistent.



**WARNING :** This parameter shows the static status of the CAC server (Main or Secondary) whereas the first line displayed on the screen shows the dynamic status of the CAC server (Active or Backup).

### SERVICES OFFERED

#### - GEOGRAPHIC LOCATION

This checkbox is used to manage the emergency calls according to the geographic location of the calling set (number translation and routing as close as possible to the calling set).

#### - CALL CONTROL

Checkbox. This checkbox is used to activate call admission control.

#### CONTROL BASED ON CLASS

Tick this box if class-based control must be activated.



**Note :** This parameter is only available if the "call control" service is activated.

### AUDIO/VIDEO SÉPARATION

Checkbox used to activate or deactivate audio/video flow separation.

In separation mode, the text indicates that the saturation concerns audio only.

#### AUDIO SATURATION BEFORE ALARM (IN %)

In global mode, the field is as follows:

#### SATURATION BEFORE ALARM (IN %)

Values between 0 and 100.

This parameter defines the critical rate which triggers message sending in the logbook as soon as there is a given occupation rate of the bandwidth.

### MAX DATA RATE INTER-CENTERS

This line concerns multi-site configurations only. If the value is not entered, there is no data rate restriction on the inter-centre link.

**INTER-CENTRE RESTRICTION (KB/S)**

This line concerns multi-site configurations only (inter-community link).

The next field is used to define a restriction threshold for high-rate encoding laws with regard to voice on the CAC server.

This line is only displayed if the **Call control** box is ticked.

**HIGH RATE AUDIO CODECS**

Value between 0 and 65279:

- If this is not entered : no high-rate audio codec.
- If value = 0 : high-rate audio codec authorised
- If value > 0 : the high-rate audio codec is allowed if the remaining current rate is above the value entered.

**SATURATION BEFORE ALARM (IN %)**

Values between 0 and 100.

This parameter defines the critical rate which triggers message sending in the logbook as soon as there is a given occupation rate of the bandwidth.



**Note :** This parameter is only available if the "call control" service is activated.



**Note :** The following columns only appear if the iPBX is used in multi-site mode.

**FORCE REALIGNMENT OF MANAGED SITES**

**YES**

**NO**

This line allows the operator to generate the sending of an update message to all sites and centres in order to reset all location information (CAC classes, CAC centre, location number) in case of malfunctions.

**CENTRES MANAGED BY THE SERVER**

**CENTRE XXXXXXXX :**

**YES**

**NO**

These columns are used to define a list of the centres managed by the CAC server of the local site.

Select YES for the centres managed by the CAC server.



**Note :** Only the available centres which have no limited throughput for contacting the local centre are proposed (that is, all the centres forming a CAC centre. This means that for a particular centre to be displayed, at least one access must be declared to access that centre (it is not sufficient merely to declare its name or a gateway leading to the centre) and the throughput to this centre must be infinite. The local centre is always proposed in this list.

## 6.4.5.2 CAC classes



**Note :** CAC classes are defined only in the sites where the main and secondary servers are located.

### 6.4.5.2.1 Classes names

Menu **NETWORK AND LINKS>Quality of service>CAC and Localisation >CAC classes>Names**

The CAC class definition menu is used to define a maximum throughput authorised per CAC class and to specify whether this CAC class manages VoIP header compression. It can be used to define up to:

- 255 CAC classes, for Mitel Gateway systems,
- 3000 CAC classes, for MiVoice 5000 systems,

The CAC classes are declared on the site hosting the CAC server but are used on all the sites.

MiVoice 5000 Server, the CAC server, will be declared on the MiVoice 5000 server and will allow 3000 CAC classes to be declared; the subscribers declared on Mitel 5000 Gateways may have more than 255 CAC classes (via the IP subnets).

#### Interoperation:

Creating more than 254 classes is not prohibited on a MiVoice 5000 R6.3, but a warning message will be displayed when an operator defines the name of a CAC class  $\geq 255$  on a MiVoice 5000 Server set to interoperation mode.

A link gives direct access to the management of these characteristics, when the class in question is clicked.

### 6.4.5.2.2 Feature class names

Menu **NETWORK AND LINKS>Quality of service>CAC and Localisation >CAC classes>Characteristics**

#### BY ITS NAME

Enter the name of the first CAC class to be defined (CAC class number between 0 and 254).

Click **Select item** to change to the following screen used to define the selected class, as well as the next 4.



**Note :** The class is changed using the > or < button. The CAC class number is displayed in the title of the current page.

**ACTIVE: XXXXX, BACKUP: YYYYY**

This line shows the names of the sites where the CAC server and backup server are located.

**VPN OR SBC ATTACHED TO THE CLASS**

This header line is used to save the VPN or SBC configuration.

This parameter is added to each CAC class and consists in indicating that the class in question is dedicated to the VPN function.

A list of options offers the configuration of the CAC class to which it is attached (where the VPN server is located).

The classes presented on the list as transit (attachment) classes must meet the following conditions :

- They must have a defined global data rate.
- They should not have a specific transit class of their own (no cascade transit), the class will not appear on the list.

For the classes defined as transit class, the line will not appear on the menu.

### MAXIMUM THROUGHPUT (KB/S)

This first line only appears in audio/video flow non-separation mode and indicates the maximum data rate authorised for video and audio (in Kbits/s) for the corresponding CAC class. This throughput may be between 0 and 65279 kbit/s. As a CAC class is used to set a limited throughput for a set of IP terminals managed by a CAC server, the throughput **MUST** be defined. A CAC class with no throughput is considered to be inexistent.

### VOIP HEADER COMPRESSION

Checkbox indicating whether the transport protocol on the WAN link compresses IP headers.



**Note :** Flow rate calculation takes into account the size of IP packets: payload + VOIP (RTP/UDP/IP) header, but it does not take account of the transport overhead on the WAN managed by the routers and protocols used (PPP, ATM, Frame Relay, etc.).

## HIGH-SPEED AND VIDEO CODECS

Checkbox :

Unticked box indicating that the restriction threshold is reset to the maximum value (65279 Kbits/s).

When the box is ticked, the restriction threshold is set to 0 (codec authorised until the link is saturated). In this, case the high-speed codec will not be used.

### Restriction threshold :

The thresholds are provided in Kbits/s. To authorise a high-rate audio codec, the available throughput on the link must be above this threshold. The value must be between 0 and 65279 Kbits/s. Failing to fill in the area (value in white) is the same as rejecting the high-rate audio codec.

The VIDEO part

Checkbox : failing to tick the box means that the video codec is not accepted, neither in intra class nor in inter class.

### MAXIMUM THROUGHPUT (KB/S)

This line appears in audio/video flow separation mode and indicates the maximum data rate authorised for video (in Kbits/s) for the corresponding CAC class. This throughput may be between 0 and 65279 kbit/s. As a CAC class is used to set a limited throughput for a set of IP terminals managed by a CAC server, the throughput **MUST** be defined. A CAC class with no throughput is considered to be inexistent.

CAC intra class

- Data rate by comm. (kb/s) :
  - Field empty by default when the function is activated: no video flow rate restriction
  - Value 0: intra-class video not allowed
  - Value: maximum value used per communication (max. 65279)

CAC inter class

- Data rate by comm. (kb/s) :

By default: reminder (read only) about the default video data rate assigned in the "Specific coding laws" menu.

Other value :

- Field empty by default when the function is activated: no video flow rate restriction
- Value 0 : inter-class video not allowed
- Value (increments of 32) : maximum value used per communication (max. 65279)
- Restriction threshold :

The threshold is given in Kbits/s. To allow inter-class video, the available data rate on the link must be above this threshold.

- Value 0 : default value when the function is activated; no restriction until the link is saturated

- Value entered: threshold in Kbits/s (max.value is 65279). To allow inter-class video, the available data rate on the link must be above this threshold.

### **6.4.5.3** *High-speed laws*

Menu **NETWORK AND LINKS>Services CAC>High-speed laws**

This menu is used to configure the laws considered as high-speed laws by the CAC which will be filtered when the throughput reaches a certain threshold. The list may be displayed in ascending or descending order, by clicking the column header.

By default, the laws whose throughput is more than or equal to 24 Kbits/s are considered as high speed (box ticked).

#### 6.4.5.4 *Locations*

Menu **NETWORK AND LINKS>CAC services>Locations**

This menu is used to declare the geographic locations and assign them a code that will be used for special number translation. The codes must first be defined via the menu **NUMBERING PLAN>Special numbers>Names of special numbers code**. Each location will then be associated with an IP subnet, enabling the calling set to be located during a call using its IP address.

##### 6.4.5.4.1 **Names**

Menu **NETWORK AND LINKS>CAC services>Locations>Names**

To declare the geographic location names, click “Names” from the menu **NETWORK AND LINKS>CAC services>Locations>Names** :

#### **LOCATION 0 TO 249**

Name of each location.

Up to 250 geographic locations can be defined.

##### 6.4.5.4.2 **Characteristics**

Menu **NETWORK AND LINKS>CAC services>Locations>Characteristics**

To associate a special numbers code with a location, click "Characteristics" from the "Locations" menu :

#### **BY ITS NAME**

Select the name of the location. The drop-down list contains the names of the locations declared.

Click **Select item** :

**ACTIVE: XXXXXXXX, BACKUP : YYYYYYYY**

This line is read only. It shows the names of the sites where the CAC server and backup server are located.

#### **SPECIAL NUMBERS CODE**

Select the name of the code to associate with the location. The drop-down list contains the names of the locations declared.

### 6.4.5.5 *Definition of the IP subnets*

Menu **NETWORK AND LINKS>CAC services>IP subnet**

The IP network is divided into IP subnets so that throughput restrictions between the various subnets can be defined and to enable the sets can be located geographically when handling emergency calls.

The IP subnet definition menu is used to create, display or delete an IP subnet.

For each IP subnet, the following location information items are set :

- The subnet centre determined by the IP address used by the IP set to connect. This information is used for bandwidth control only. It identifies the CAC server to contact when a call is set up and is used to manage inter-centre flows.



**Note : A subnet can only belong to one centre.**

- The CAC class.  
A CAC class represents one or more subnets. 255 classes can be declared per CAC server. The CAC class to which the subnet belongs is set when the subnet is declared.



**Note : A subnet can only belong to one CAC class. Several subnets can belong to the same CAC class.**

- The geographic location associated with the subnet.  
This is used to determine the number translations to apply to the special numbers dialled by a set located in the subnet.
- The site/node pair to which the subnet is attached.  
It is used to determine the site and routing node (routing tables read) of the special and external numbers dialled by a set located in the subnet.
- The subnet location number in EMERGENCY configuration only (location terminal).  
This identifies the geographical area of the subnet for an emergency callback IP terminal connection. It is used to manage the emergency number. It may be the same for two closely located networks.

#### IP ADDRESS

Enter the IP address of the router or of an IP set.

Click **Advanced characteristics...** to move to the next screen and define the following parameters :

#### MASK

Select the subnet mask.

#### ACTION

..... **CREATE** **MODIFY** **DELETE**

Select an action for the mask selected.

- |               |   |
|---------------|---|
| <b>CREATE</b> | Creates the subnet defined by the selected IP address/mask pair (the only action possible if the mask entered is not the mask of a subnet already displayed). |
| <b>MODIFY</b> | Modifies the selected IP address/mask pair (action possible if the mask entered is the mask of a subnet displayed).   |
| <b>DELETE</b> | Deletes the selected IP address/mask pair (action possible if the mask entered is the mask of a subnet displayed).  |

When the action has been selected press Enter to confirm.

Click "Advanced characteristics..." to move to the next screen and define the following parameters :

**ACTIVE: XXXXX, BACKUP : YYYYY**

This read only line shows the current status of the CAC server.

#### **IP ADDRESS**

Information field indicating the IP address of the selected IP subnet.

#### **MASK**

Information field indicating the mask of the selected IP subnet.

#### **CONTAINS IP ADDR OF UP TO**

Information field indicating all the IP addresses contained in this subnet presented by its base stations.

#### **CAC CLASS**

Enter a CAC class for this subnet (CAC class number between 0 and 254). Two read-only lines are displayed indicating the maximum throughput assigned to this class, according to the mode:

In audio/video flow separation mode

- Maximum audio throughput (kb/s)
- Maximum video throughput (kb/s)

In audio/video flow non-separation mode

- Maximum throughput (kb/s)

The "restriction threshold" lines only appear if a threshold value is entered. These lines are read-only lines (high-rate audio and video).

The class-related data is accessible when zoomed in by placing the cursor over the class.

#### **LOCATION**

Name of the geographic location associated with the IP subnet. The drop-down list contains the names of the locations declared.

#### **- NAME OF THE SITE/NODE / TERMINAL NUMBER**

These lines are used to select a location terminal by IP subnet and indicate the site/node on which is located the associated subscription, and to show whether this subscription is a "callback terminal for emergency calls".

If the SITE NAME field is empty, the routing site is the local site.



**Note :** In this menu the lines associated with call control (CAC class) or location (location, site name and terminal) are always shown, regardless of the offered services configured in the CAC server parameters.

### 6.4.5.6 *Data rates to the centers*

Menu **NETWORK AND LINKS>CAC services>Flow to the centres**

This command is used to define the maximum throughput to centres not managed by the CAC server.

In the drop-down menu, select the name of the centre to be modified. The next screen displays the parameters of this centre. It is possible to change from one centre to the other using the  and  command buttons.

**ACTIVE: XXXXX, BACKUP : YYYYY**

This information line shows the names of the sites where the server and backup server are located.

**TO CENTER NAME, MAX THROUGHPUT**

Maximum throughput authorised for this centre (between 0 and 65279 Kbits/s).

The default flow is infinite (field empty).



**Note :** Only the available centres not managed by the CAC server are proposed. For a particular centre to be displayed at least one access must be declared to access that centre. It is not sufficient merely to declare its name or a gateway leading to the centre.

**OR ATTACHED TO**

Shows the attachment centre if the link is not direct (transit centre). The throughput applicable is that of the attachment centre.

Example: If the link between centre A and centre C transits via centre B, then the attachment centre is centre B and the flow applicable is that of centre B. The flow for centre B must be defined on the previous line.



**Note :** Only one transit centre is authorised.

MAXIMUM THROUGHPUT (KB/S)

This first line only appears in audio/video flow non-separation mode and indicates the maximum data rate authorised for video and audio (in Kbits/s) for the corresponding CAC class. This throughput may be between 0 and 65279 kbit/s. As a CAC class is used to set a limited throughput for a set of IP terminals managed by a CAC server, the throughput **MUST** be defined. A CAC class with no throughput is considered to be inexistent.

The AUDIO part

MAXIMUM THROUGHPUT (KB/S)

This line appears in audio/video flow separation mode and indicates the maximum data rate authorised for audio (in Kbits/s) for the corresponding CAC class. This throughput may be between 0 and 65279 kbit/s. As a CAC class is used to set a limited throughput for a set of IP terminals managed by a CAC server, the throughput **MUST** be defined. A CAC class with no throughput is considered to be inexistent.

**VOIP HEADER COMPRESSION**

**YES**

**NO**

Indicate for each of the 30 centres proposed whether the transport protocol on the WAN link compresses VoIP headers.

**VIDEO**

When the video line box is not ticked, the following two lines do not appear.

**Video rate by comm. (kb/s) :**

Empty field : (default value), there is a fallback to the default data rate defined in the specific encoding laws.

Value = 0 : video rejected

Value > 0 : maximum data rate used for a communication

**Restriction threshold (kb/s) :**

Empty field : video rejected

Value = 0 : no video flow rate restriction

Value > 0 : video used if the available data rate is above this value.



**Note :** When the centre is attached to another centre, the information is read on the centre to which it is attached (the lines from VOIP header compression do not appear).

**6.4.5.7** *Displaying*

This menu contains the different CAC services display screens.

**6.4.5.8** *Displaying the IP subnets*

Menu **NETWORK AND LINKS>CAC services>Display of the IP address**

**ADDR. IP ADDR. BEGINNING WITH**

All subnets with an IP address beginning with the digits entered will be displayed. Leave blank to display all IP subnets.

Click **Select item** to go to IP subnet display.

The IP subnet addresses are displayed in ascending order. The following information is displayed for each subnet:

- IP subnet address
- CAC class to which the subnet belongs
- Name of the geographic location associated with the subnet,
- Name of the routing site for the special numbers dialled from a set on the subnet
- The location number for the urgent callback terminals

**6.4.5.9** *Display by location set*

Menu **NETWORK AND LINKS>Quality of service>CAC services>Display of the IP subnet>Display by location set:**

**DIRECTORY BEGINNING WITH**

Directory numbers are displayed in ascending order. For each directory number, information about IP subnets, site node and emergency call terminal is displayed.

**6.4.5.10** *Display By Location*

Menu **NETWORK AND LINKS>Quality of service>CAC services>Display of the IP subnet>Display by location:**

**FOR LOCATION**

All the subnets associated with the location selected will be displayed.

Click **Select item** to go to IP subnet display.

The IP subnet addresses are displayed in ascending order. The following information is displayed for each subnet:

- IP subnet address
- Name of the site and routing node for the special numbers dialled from a set on the subnet.

**6.4.5.11 Classes Display**

Menu **NETWORK AND LINKS > CAC Services > Displaying > Classes display**

This screen is used to display the parameters of all the CAC classes. It contains the different data rate parameters of the CAC class definition menu.

Clicking a class number displays then gives you access to the menus from which the information came.

The maximum data rate equals the maximum audio data rate + the maximum video data rate.

A zoom (activated by clicking) is available on a class to display the associated parameters.

**6.4.5.12 Classes Users Display**

Menu **NETWORK AND LINKS>CAC services>Classes users display**

This screen is used to define the selected class.

**FROM THE CLASS**

Select the class from which the display is to start (CAC class number between 0 and 254).

**SEARCH****IN ORDER****DEFINED NUMBER****AVAILABLE NUMBER****IN ORDER**

Displays all CAC classes in order.

**DEFINED NUMBER**

Displays the CAC classes used by IP subnets. The associated IP subnets are displayed below the corresponding class.

**FREE NUMBER**

Displays the CAC classes not used by IP subnets.

Click **Select item** to change to the next screen which gives the following items on the table displayed:

- The list of classes
- The IP subnets using these classes (the IP subnets are shown as follows: IP address / mask length)
- The maximum audio and video data rate associated with the classes indicated in case of non-separation of audio/video flows

- The maximum audio data rate associated with the classes indicated in case of separation of audio/video flows
- The maximum video data rate associated with the classes indicated in case of separation of audio/video flows
- The max. data rate associated with the classes
- The high-rate audio threshold defined by class
- The video threshold defined for the class indicated in case of non-separation of flows

A zoom (activated by clicking) is available on a class whose IP network is declared, to display the associated parameters.

#### **6.4.5.13** *Data Rates To Centers Display*

Menu **NETWORK AND LINKS > CAC Services > Displaying > Data rates to centers display**

This menu displays all the centres with a declared inter-centre gateway.

In the configuration with audio/video flow separation, the data rates are displayed in 2 columns (1 for audio and the other for video). In this mode, the video threshold column does not exist.

A zoom (activated by clicking) is available on one of the centres to display the associated parameters.

## 6.4.6 ENCRYPTION AND IP PARAMETERS

This menu is accessible via **NETWORK AND LINKS>Quality of service**, and contains the following tabs:

- Encryption,
- QoS
- Qos Expert (accessible in advanced mode by selecting the icon )
- Miscellaneous parameters (only in MiVoice 5000 Gateway).

### 6.4.6.1 Encryption tab

This tab is used to manage the following parameters based on equipment type:

- Signal and voice encryption (TLS\*) between 2 iPBXs,
- Signal and voice encryption (TLS\*) between MiVoice 5300 IP Phone/MiVoice 6000 SIP Phone and an iPBX.
- The **Voice Encryption** checkbox used to enable or disable the SRTP for:
  - TLS and TDM terminals behind a VOIP card (Voice encryption licence required),
  - Allow the built-in SBC, when enabled, to use SRTP for non-SRTP terminals or equipment during an external call. In this case, the SRTP/RTP gateway established by the SBC requires activating encryption and voice encryption licences. Also refer to the document *SBC Service integrated on MiVoice 5000 Server and Mitel 5000 Compact* on the documentation site on Mitel.com.
- In this case, some options are proposed:
  - AES 256
  - AES 128 (default value)
  - AES 256 only

For an upgrade from  $< R7.2$  to  $\geq R7.2$ , if encryption had been enabled, AES 128 remains the default value proposed.

For a first installation ( $\geq R7.2$ ), the value AES 256 is proposed by default.

- SRTP AES256 is compatible with the following terminals or items:
  - 6867i,
  - 6869i,
  - 6873i,
  - 6900 Series,
  - MiCollab without MBG,
  - MiVoice 5000 server,
  - Mitel 5000 gateway including Mitel 500,
  - PT2 card is not compatible with AES 128.

- Voice encryption for terminals i7xx, by making it possible to automatically generate CMEK and CMSK keys (not automatic before R5.2).
- \* **TLS**: Transport Layer Security, secure exchange protocol on the internet.
- The **Encryption** function is subject to a licence and must be unlocked in Menu **SYSTEM>Info>Licences**.
- The corresponding subscription must equally be authorised for encryption: checkbox in Menu **SUBSCRIBERS>Subscriptions>Characteristics**.



**IMPORTANT NOTE:** See the document **AMT/PTD/PBX/0103\*** for how to implement the call encryption function in R5.2 SP1 and later.

Each site has its own certificate.

This set may be:

- Either generated automatically by the iPBX (self-signed certificate), or
- Imported via Menu **NETWORK AND LINKS>Quality of service** by the operator, in form of a file in **PKCS12** format (example: pbx.p12) from an external authority.

## DESCRIPTION OF PARAMETERS AND FIELDS

### ----- Signal and voice encryption -----



**Note:** This area only concerns MiVoice 5300 IP Phone/6xxxi for the sites in question.

The checkbox for **voice and terminal encryption** is displayed if a certificate has been assigned for using SIP terminals from the **Certificate Assignment** tab of Menu **SYSTEMS>Security>Certificate Management**. See Section **Erreur ! Source du renvoi introuvable..**

### ----- Voice encryption (i7xx) -----



**Note:** This area concerns terminals i7xx only.

For terminals i7xx, VOICE ENCRYPTION is a resource that can be shared in a multi-site configuration. To use the resource of another site, the service must be located on the site hosting this resource (menu **NETWORK AND LINKS>Multi-sites>Localisation of the services>Other services**).

Encryption is performed using the 128 bits AES protocol.

The following conditions must be fulfilled to allow voice encryption on the IP network.

The encryption function must be unlocked on the master and slave iPBXs.

The PTx cards used for encryption must be compatible.

The encryption keys (CMEK and CMSK) must be generated on the iPBX declared as master; then these keys must be sent to all (slave) iPBXs on the multi-site network.

In a single-site configuration, the iPBX must be declared in master mode.

In a multi-site configuration, each iPBX must be declared in master or slave mode (slave mode is configured canonically).

The operator **MUST** enter the secret encryption keys. Otherwise, no call will be encrypted.

The codes are only entered on the iPBX declared as master in the multi-site configuration, then sent (in encrypted form) from the master iPBX to all the (slave) iPBXs in the multi-site configuration.

This transmission is recorded in the logbook.

After the codes have been entered, it is no longer possible to reread them. However, the date and edition of the last modification are displayed.

It is possible to declare another master iPBX after cancelling the previous one; the screens do not control these modifications.

From the master site, the operator can suspend the encryption on the entire multi-site network or on a site-by-site basis.

Basically, all sites can encrypt calls but it is possible on each site to forbid encryption locally.

## **FUNCTI. STATUS**

**UPDATED ON:** ..... **Ed:** ...

This line is read only.

If the (CMEK and CMSK) keys have been automatically generated by the iPBX, the date of update and edition are displayed.

The generation is effective and the functional status indicates "In service".

Date on which the encryption keys were last updated by the operator (dd/mm/yy – hh: mn).

Upon each update, the edition is incremented by 1. By default, the edition is on: '....'

## **WORKING MODE /ENCRYPTION**

### **Single-site configuration**

In a single-site configuration, the iPBX is by default declared in master mode.

**Encryption** parameters:

**ALLOWED:** encryption is allowed on the single-site network.

**FORBIDDEN:** encryption is not allowed on the single-site network.

## **MULTI-SITE CONFIGURATION**

In a multi-site configuration, only one master must be declared, information uniqueness is not controlled.

By default, the operating mode is set to Slave.

**MASTER SITE:** ..... **NODE:** ...

Number and name of the site declared as master

Master node number

This is a read only line and only appears in multi-site mode.

#### **MASTER “ENCRYPTION” PARAMETER**

##### **Encryption=LOCAL AUTHORISATION**

The master site allows local encryption and disallows it on other sites.

##### **Encryption=GENERAL PROHIBITION**

The master site forbids encryption in the entire multi-site configuration

##### **Encryption=GENERAL AUTHORISATION**

The master site distributes the code to and allows encryption in the entire multi-site configuration.

#### **SLAVE “ENCRYPTION” PARAMETER**

##### **Encryption=PROHIBITION**

The slave site disallows encryption locally.

##### **Encryption=AUTHORISATION**

The slave site allows encryption locally.

#### **Hash generation (remote Worker):**

This menu is intended for the management of 68xxi terminals with the Remote Worker function.

See the document Remote Worker via MBG - AMT/PTD/PBX/0161.

**Erreur !  
Des objets  
ne  
peuvent  
pas être  
créés à  
partir des  
codes de  
champs de  
mise en  
forme.** 

**NOTE: Regenerating the hash will impact all the terminals deployed.**

### 6.4.6.2 QoS

This tab allows:

- VLAN configuration,
- The configuration of the DSCP field, in decimal value, service-based for signalling, voice and video.



**Note: DSCP field configuration for video is not available for MiVoice 5000 Gateways.**

The configuration data in this menu can be exported or imported in.csv format.

#### Description of parameters and fields

##### VLAN VOICE PRIORITY / VLAN SIGNALING PRIORITY

This information is meant for updating terminals 6xxx. This must also be used to update the information for terminals i7xx and MiVoice 5300 IP Phone via integrated DHCP. These parameters are transmitted to IP terminals via the iPBX (from the file **aastra.cfg**).

The VLANS priority is conveyed in the 802.1q tag priority field.

The default value recommended by MITEL for voice and signalling priority fields is: 6

#### CONFIGURING THE DSCP SERVICE

**DSCP:** Differentiated Services Code Point

From R7.0, this field replaces the ToS field in IPv4 and uses the Traffic Class field in IPv6.

This value is intrinsic data within the IP message used to determine the priority of the IP packet containing this value, compared to other IP messages passing through the IP network.

The iPBX generates different types of IP messages (a marking message for voice, a signalling message and a video message (Mivoice 5000 Server and Media server only).

The iPBX assigns a value for the DSCP that is specific to the transmitted IP message.

The DSCP field can be configured for a maximum of 100 ports.

The values below allow you to modify the parameter of the DSCP field used for the different media. The equivalent value of the TOS bit in hexadecimal is indicated with reference to the old TOS-based mode:

##### **DSCP TELEPHONE SIGNALLING (DECIMAL) / TOS (HEXA)**

Default value, in decimal used for RTP and RTCP packets. This value may be between 0 and 63.

##### **VOICE DSCP (DECIMAL) / TOS (HEXA)**

Default value in decimal of the Traffic Class field of an IP packet, conveying a signalling TCP segment. This value may be between 0 and 63.

### 6.4.6.3 Qos Expert (advanced mode)

This tab, available in **Advanced** mode (by selecting the icon ), allows current port based configuration of DSCP.



**Note:** Port-based configuration overrides service-based configuration.

The different fields are used to set the rules for port-based DSCP configurations (maximum 100).

Configuration rules are classified by ascending port number.

- **MIN port:** port number [1, 65534],
- **MAX port:** port number [Min Port, 65534] or empty,
- **Protocol:** UDP or TCP,
- **Decimal DSCP:** [0, 63],
- **Binary DSCP:** binary conversion corresponding to the decimal value. This is not modifiable.
- **Comment:** 20 characters chain max.

The data can also be sorted by column header.

The configuration data in this menu can be exported or imported in **csv** format.

#### Constraints and consistency on port values

In this advanced port-based DSCP configuration mode, ports may take any value between 1 and 65534 and therefore may clash with the DSCP service-based configuration (QoS tab).

On MV5000 Server, this applies to SIP signalling ports and audio ports.

On MV 5000 Gateways, port based configuration does not replace service-based configuration because, for voice DSCP, the firewall does not manage the traffic flow from EIP cards.

It is, therefore, impossible to use port-based configuration to define the voice DSCP from EIP cards.

Special attention should therefore be paid to the operator if both modes are used, as there is no control to avoid collisions between the ports concerned.

Here is the list, by service.

#### For DSCP signalling:

- 5060 (UDP and TCP) for SIP signalling,
- 5061 (TCP) for SIP signalling,
- 5062 and 5064 on the MiVoice 5000 server only for SBC.

#### For DSCP voice on MiVoice 5000 server only

- The range [40000, 40999] used by the multimedia server,
- The range [20000, 27999] (default values, but modifiable in Menu Network and links>Internet gateway), used by SBC.

#### For DSCP video on MiVoice 5000 server only

- The range [40000, 40999] used by the multimedia server (same range as for voice)

#### Adding a port-based configuration

- Fill in the different fields.
- Click **Create**.
- A line is then created and displayed.

Once created, the configuration rule is applied to the firewall.

The rules thus created are then successively classified by port number Min.



**Note:** No tests are performed regarding the recovery of port ranges. It is therefore important not to set a different DSCP value for the same given port range; Example 1:

Min port = 1; Max port = 100; DSCP value = 46

Min port = 2; Max port = 200; DSCP value = 47 → OK

Min port = 1; Max port = 200; DSCP value = 46

Min port = 2; Max port = 100; DSCP value = 47

And therefore Ports 101 to 200; DSCP value = 46 → OK

**Example 2:**

Min port = 1; Max port = 100; DSCP value = 46

Min port = 1; Max port = 100; DSCP value = 47 → NOK

Erreur !  
Des objets  
ne peuvent  
pas être  
créés à  
partir des  
codes de  
champs de  
mise en

**WARNIG:** In the Comment field, do not use the character ! because it is not recognised by the system.

forme. 

### **Modifying a port-based configuration**

- Select the line concerned.
- Fill in the new values.
- Click **Modify**.

The new line is displayed by its port number.

### **Deleting a port-based configuration**

- Select the line concerned.
- Click **Delete**.

The line is deleted from the list.

**6.4.6.4** *Miscellaneous parameters (Only on MiVoice 5000 Gateway).***Time to live of the ip datagram**

- This parameter is not available for MiVoice 5000 Server.

Maximum number of hops an IP packet can make (number of routers it can cross). This value may be between 1 and 255 and is set to 16.

**-----MISCELLANEOUS PARAMETERS-----****ARP INPUTS NUMBER**

This parameter is not available for MiVoice 5000 Server.

Default value of the size of the ARP cache. This value may be between 1 and 500 and is set to 50.

**TIME TO LIVE OF THE ARP INPUT SEC**

This parameter is not available for MiVoice 5000 Server.

Default value in seconds of the service life of an ARP cache input. This value can be between 1 and 65534 seconds and is initialised at 600 (10 minutes).

**DELETE ARP INPUTS**

This parameter is not available for MiVoice 5000 Server.

If you select YES, the ARP inputs for all IP cards on the iPBX are deleted.

**TIME-OUT NETWORK ALARM START SEC**

This parameter is not available for MiVoice 5000 Server.

Timeout value used before an Ethernet link is deemed to be disconnected (no LINK), which will put the data links and VOIP trunks out of service. This value can be between 1 and 65534 seconds and is initialised at 120 (2 minutes).

**TIME-OUT NETWORK ALARM END SEC**

This parameter is not available for MiVoice 5000 Server.

Timeout value used before an Ethernet link is deemed to be reconnected (LINK re-enabled), which will put the data links and VOIP trunks back in service. This value can be between 1 and 65534 seconds and is initialised at 30.

**6.4.7 SIP SECURITY**

The SAR (SIP Mitel Router), an integral part of MiVoice 5000, offers the following services:

- Routing messages to/from a terminal/trunk (no matter the protocol: TLS, TCP or UDP) from/to the GSI
- Processing instant messages
- Defending against DoS (Denial of Service attack), Malicious Call and DDoS (Distributed Denial of Service attack)
- Defending against Brute Force.

### 6.4.7.1 *Security parameters tab*

#### **SECURITY LEVEL**

This first parameter is used to configure the deployed level of safety. Options list, three possible values :

- **None:** if the security level (Level "None") is not activated, the white and black lists are not taken into account for IP address filtering. Moreover, the following lines on this screen are hidden.
- **Self-protection:** for the "self-protection" level the Black list and White list serve as a filter.

#### **DoS parameters**

- **Threshold :** variation range of 10 to 5000
- **Window (seconds) :** range of 2 to 10
- **Period :** options list
  - 30 seconds
  - 5 minutes
  - 30 minutes
  - 1 hour
  - 1 day
  - 1 week
  - indefinite

#### **DDoS parameter**

- **Threshold:** variation range of 10 to 5000
- **Window (seconds):** range of 2 to 10

#### **DELETING THE DoS BLACKLIST**

The DELETE option empties the DoS blacklist.

### 6.4.7.2 *Whitelist tab*

For entering the 100 IP addresses used on the white list.

### 6.4.7.3 *Backlist DoS tab*

This tab is used to display, at a given time T, the IP addresses that are not trustworthy, preceded by the registration date and time.

The action possible on the list is the deletion of the entire list in the "Security parameters" tab.

The deletion of only one address from the black list is accessible via the hypertext link of the first column.

The deletion of several addresses from the black list is accessible via the Repetition command.

#### **6.4.7.4** *Brute Force Blacklist*

This tab is used to display the IP addresses which have attempted to log on or to authenticate and which are considered as suspicious.

Three list columns: date and time, target IP address, and origin of attack.

Deletion by the operator is not possible. The address in question can only be deleted after 5 minutes.

## 6.5 DATA LINKS

### Introduction :

The purpose of this chapter is to describe the user interfaces used to define and manage these links between the various terminals or servers of a single-site or multi-site MiVoice 5000 system.

To set up a “data” call between a source terminal and a destination terminal it is therefore necessary to define :

The identity and characteristics of each link element (local or remote)

The characteristics of the transmission modes between the different interfaces (network types, protocol, direction, acknowledgement)

The data link main menu is accessible via **NETWORK AND LINKS>Data links**.

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 SERVER.

The following functions are available from this menu :

- Link management
- Access lists
- Symbols
- Routes
- Remote identifiers
- Servers
- EAS (External application server) users
- TCP/IP-X25 gateways
- parameters

### 6.5.1 LINK MANAGEMENT

Menu **NETWORK AND LINKS>Data links>Link management**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 SERVER.

Any subscriber wishing to transfer packets via the packet switch must be the subject of a declaration which assigns a directory number of the iPBX packet numbering plan.

This may involve :

- Equipment connected to a CA1 or CS1 card link
- An internal server (AFISER, SERVTL, KITAXE, EAS, MUFACT, SERGIC, SRVRHM, TELBOR, BUFTIC)
- A link to a CP1 card

- A terminal connected to an S0 access of an LD4 card
- A T0 of an LD4 (Permanent Logical Link - PLL) card

A directory number comprises up to 8 digits. The first character can be either the letter A or B: in this case, the other characters must be digits.

Links with a directory number beginning with either the letter A or B cannot be called by a user, (often used when a CP1 link is created or for the constituent links of a hunt group).

When a subscriber has several links which provide identical services, these links can be grouped together and compose a hunt group (known as a "partial" hunt group).

The hunt group then also receives a directory number distinct from the numbers associated with the links of which the hunt group is composed.

Due to the type of bus of the connecting interface on the LD4 card, the "S interface" subscribers are a special type and require a specific form of management: therefore, they cannot be part of a hunt group.

Subscribers associated with single links are the subject of a declaration which specifies the characteristics of the equipment connected to the iPBX: either to real accesses (CA1, CS1, CP1 cards), or to a dummy access (in the case of the AFISER server).

These characteristics can be divided into two sets:

1. A set including all characteristics common to all subscribers, i.e.: link identity and link type.
2. A set grouping the characteristics which define the link type.

### 6.5.1.1 *Link characteristics*

Menu **NETWORK AND LINKS>Data links>Link management>Link characteristics**

The main types of link enabling communication between the various elements of a data network (DTE, DCE) are :

- Asynchronous links
- Synchronous links
- Links via an ISDN access
- Links via the IP network

This screen is used to select a link in order to define its characteristics.

#### **BY EQUIPMENT NUMBER**

Here, selection is by equipment. Enter the cabinet (0 or 1), the slot number (0 to 5) and the equipment on the card (from 00 to 03).

- for a CA1 card – equipment numbers 00 to 03
- for a CS1 card - equipment numbers 00 and 01
- for a CP1 card - equipment numbers 00 and 01

#### **BY DIRECTORY NUMBER**

Link selection is by its directory number (1 to 8 characters): the first character is either a digit or A or B; the remaining characters must be digits.

By default, the links do not have a directory number. The data directory plan is open and completely independent from the telephony directory: the same number can be assigned to both sides.

### BY GROUP

Selecting by the hunt group name defined in the "Hunt group name" menu. This selection enables modifications to be made to links in the same hunt group.



**Note :** If no selection criterion is specified, the first link on the first card is selected automatically.

For an ISDN link, the subscriber must be created on both sides:

1. Telephony with a CIRCUIT directory number, using the screen "Add/Delete extensions" if there are several directories on the bus,
2. Packet with a PACKET directory number, using the screen "Assign directory Nos. to ISDN accesses": several ISDN data subscribers can be assigned to the same access.

The parameters corresponding to the ISDN subscriber can then be modified using the LINK CHARACTERISTICS screen.

#### 6.5.1.1.1 Asynchronous links

Menu **NETWORK AND LINKS>Data links>Link management>Link characteristics**

This screen is only displayed if an asynchronous link has been selected. It is not shown for ISDN equipment (T0 or S0), nor for a CP1 link (equipment number 00 and 01). 00 and 01).

When a PAD or VIDEOPAD link has been selected, the type of terminal must also be selected.

#### LINK TYPE



**PAD** A PAD type link has 1 logical channel, a configurable profile and the standard data class of service.

**VIDEOPAD** A VIDEOPAD type link has 3 logical channels (2 outgoing, 1 incoming), a fixed profile and the standard videotext class of service.

**EBVO** An EBVO (low speed input) link has 1 logical channel (incoming only) and a configurable profile.  
a configurable profile.

#### TYPE OF TERMINAL



TERMINALS	ASYNCHRONOUS LINK		
	PAD	VIDEOPAD	MODE
			VIDEOTEK emulated mode
<b>TVI955</b>	YES	YES	ASCII Terminal VIDEOTEK emulated mode
<b>WYSE 65</b>	YES	YES	ASCII/VIDEOTEK mixed terminal VIDEOTEK emulated or native mode
<b>PC</b>	YES	YES	ASCII/VIDEOTEK mixed terminal VIDEOTEK emulated or native mode
<b>SPTL</b>	YES	YES	ASCII/VIDEOTEK mixed terminal VIDEOTEK emulated or native mode
<b>M1B-CONNECTED</b>	YES	YES	ASCII/VIDEOTEK mixed terminal VIDEOTEK emulated or native mode
<b>M1B LOCAL</b>	YES	YES	ASCII/VIDEOTEK mixed terminal VIDEOTEK emulated or native mode
<b>MINITEL CONNEC</b>	NO	YES	VIDEOTEK Terminal use of telephone connector
<b>MINITEL LOCAL</b>	NO	YES	VIDEOTEK Terminal use of DIN connector
<b>TTY</b>	YES	NO	Unlisted Terminal connected to a PAD type asynchronous link. No emulation

Select the link then click **Select item** to move to the next screen.

## STATUS

**DISABLED**

**IN SERVICE**

The current status of the link is shown in the <name> section.

This field allows the link to be in service (enabled) and disabled. When data cards (CA1/CS1/CP1) are activated, the links are declared DISABLED. To delete a link, it must be DISABLED.

Modifying a link allows its attributes to be changed, with the exception of its equipment number. However, modification is not authorised if the link is in service or part of a hunt group.



**Note :** The link must have a directory number in order to be activated.

**NAME**

Up to 8 alphanumeric characters (optional field).

**DIRECTORY NUMBER**

Up to 8 characters. The first character is either a digit or the letter A or B; the remaining characters must be digits.

This directory number, which belongs to the iPBX PACKET NUMBERING PLAN, is completely independent of the TELEPHONY NUMBERING PLAN.

The directory numbers can be of differing lengths depending on the terminal. There is no numbering range to be adhered to because a local routing prefix is used.

**CATEGORY**

This is the name of the category that is to be assigned to the link; it is defined in the “Category names” menu.

This category defines the outgoing/incoming restrictions which are to be applied to the link, characteristics given in the “Category definition” menu.

When a link is created, the category CATEG-1 is assigned to the link.

**COMPANY  
DEPARTMENT**

**Note :** If the iPBX is declared on a MULTI-COMPANY network, these two columns are displayed. These are used to define the company and the department to which this particular link is assigned.

**REVERSE CHARGING ACCEPTED****NO****YES**

If YES, this indicates that the subscriber associated with the link systematically accepts a call requesting reverse charging (also referred to as “collect call”).

**ACCESS LIST**

Name of the access list defined in the “Access list names” menu which is to be assigned to the link.

This list gives the number of a list of external callers (from PSDN) authorised to communicate with this particular subscriber (barring of “incoming” calls).

X25 calls are filtered according to either caller number, or a password, or a combination of both of these.



**Note :** This item is optional. The iPBX performs no check when this is not specified.

**OUTGOING CUG (0 - - - - 15)**

This information field shows the list of Closed User Groups (CUGs) to which the link belongs.

The link’s membership of each of the 16 CUGs (CUG 0 to CUG 15) is indicated by the presence of “1” in the corresponding position.

*Example* : the value 1011101000000000 means that the link belongs to CUG 0, 2, 3, 4 and 6.

CUG No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Value	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0

### MODIFY GROUP NUMBER

Give the position of the binary element to be modified in the CUG number.

The system reacts like a flip-flop: the component alternately goes from 0 to 1 each time its number is typed. This operation must be individually performed for each element to be modified.



**Note :** A call can only be made between two users if they belong to the same outgoing CUG for one and incoming CUG for the other (according to the direction in which the call is set up). If there is no common element set to 1, it will not be possible to make the connection, and the call will be refused by the first equipment not complying with this.

It is not necessary to place all items on a link to 1 as the network itself will refuse the call if there is no match with the called subscriber.

### INCOMING CUG (0 - - - - 15)

Same principle as for OUTGOING CUG

### MODIFY GROUP NUMBER

Same principle as in the previous column.

### BITS PER CHARACTER

**8**

**7**

This determines the size of the data character. The number of bits per character is to be selected according to the characteristics of the terminal connected to the link.

The character can be transmitted either :

- With 8 bits (no parity)
- With 7 bits (even parity)
- With 7 bits (odd parity)

### PARITY

**NO PARITY**

**EVEN**

**ODD**

This is used to manage the parity bit. Set this parameter according to the characteristics of the terminal connected to the link.

### THROUGHPUT

**300**

**600**

**1200**

**2400**

**4800**

**9600**

**19200**

**AUTO**

**75/1200**

Set this parameter according to the characteristics of the terminal connected to the link. Selecting "AUTO" means that the iPBX ensures automatic speed recognition for a PAD link only.

### PROTOCOL

**CCITT X28****HAYES****V25 BIS**

Defines the dialogue protocol, essentially for numbering, used between the terminal and iPBX.

**IMPLICIT CALL**

Hot line calls are made either by a symbol or by direct numbering.

**BY SYMBOL**

Name of the symbol defined in the "Symbol characteristics" menu. The hot line call is thus validated and the line: BY DIRECT NUMBERING disappears.

When a symbol is specified, this means that the terminal can only call one party - defined by the symbol MMC.

**BY DIRECT NUMBERING**

Remote user direct numbering. Validating this number validates the implicit call and the column BY SYMBOL is disappears.

**CALL TYPE****SLOW SLOW****SLOW REPET.****MANUAL**

This information is displayed only if a symbol which the iPBX recognises has been defined in the previous line.

Selecting MANUAL means that the call will be initiated when the user chooses, by pressing the "return" key (ENTER).

Selecting SLOW REPETITION means that the call will be initiated automatically when the terminal is powered up and, if this fails, the iPBX will automatically attempt to make the call every 30 seconds.

Selecting FAST REPETITION means that the call will be initiated automatically when the terminal is powered up and, if this fails, the iPBX will automatically attempt to make the call every second.

For a VIDEOPAD link, only MANUAL is offered as there is no terminal detection (no management of the DTR circuit).



**Note :** The use of slow or fast repetition could engender serious billing disputes with France Telecom if not used correctly. When connecting two remote iPBXs in packet mode in B, the called iPBX accepts the call in circuit mode, and it is only after this connection (and thus at the beginning of billing) that the caller then sends the called terminal number in X25 mode. If the called terminal is not available, the system will refuse the call in X25 mode, and the called iPBX will then release the communication circuit (after 5 seconds). As the caller did not contact the called terminal, he/she will try to call again at the rate set in programming (Slow or Fast) until a connection is made. In this type of situation the terminal can continually try to make a call, and if it tries every second (Fast Repetition), one can imagine the cost involved for the caller if he/she forgets to switch off the terminal for the weekend.

**DATA CLASS OF SERVICE****YES****NO**

- If YES: non-modifiable for a PAD link.
- If YES or NO: modifiable for a VIDEOPAD link (default NO).

**SUPERVISION TIMER****NO****SHORT****MEDIUM****LONG**

This setting defines the duration beyond which the iPBX will break off the call-in-progress if there has been no transfer of information (no matter what the direction of transmission is).

Possible values are :

<b>NO</b>	No break performed by the iPBX – default value.
<b>SHORT</b>	Break after 1 minute of inactivity.
<b>MEDIUM</b>	Break after 10 minutes of inactivity.
<b>LONG</b>	Break after 1 hour of inactivity.

For a VIDEOPAD link, the break cannot be configured – it takes place after 6 minutes of inactivity.

A message is sent to the console after 5 minutes to warn the operator that the link is about to be broken.

#### -DEFAULT PROFILE

<b>TERMINAL</b>	<b>PROCESSING</b>	<b>WITH ECHO</b>	<b>EBV</b>
-----------------	-------------------	------------------	------------

Profile name as defined in the “Profile names” menu and which is to be assigned to the link (list of 15 profiles).

The profile parameters are defined in the “Profile characteristics” menu.

By default, the iPBX proposes 4 predefined profiles:

- Profile 0--->WITH ECHO
- Profile 2--->EBV (for EBVO)
- Profile 6--->TERMINAL
- Profile 12--->TRANSPARENT

The profile characteristics can be modified from the terminal using PAD commands (x28) once the link has been enabled (PAR and SET commands).

#### FLOW CONTROL

<b>NO PARITY</b>	<b>RTS</b>	<b>CTS</b>	<b>RTS/CTS</b>
------------------	------------	------------	----------------

Flow control selection, performed either by the iPBX or by the terminal.

<b>NO PARITY</b>	No flow control.
<b>RTS</b>	The terminal can stop the iPBX by raising the RTS signal.
<b>CTS</b>	The iPBX can stop the terminal by raising the CTS signal.
<b>RTS/CTS</b>	Combination of both the previous mechanisms.

#### VIDEOTEX CLASS OF SERVICE

<b>NO</b>	<b>YES</b>
-----------	------------

Select YES for a VIDEOPAD link (fixed if the terminal is NATIVE; if the terminal is MIXED the parameter is modifiable).

Select YES if calls are to be made in VIDEOTEX mode with ASCII or MIXED terminals connected to a PAD link.



**Note :** The following three columns result from the selection **VIDEOTEX CLASS OF SERVICE**.

#### VIDEOTEX MODE

**EMULATED**   **NATIVE**

Select a VIDEOTEX mode.

Possible values are:

**EMULATED** Videotex emulation integrated in the iPBX.

**NATIVE** Terminal videotex mode.

For ASCII terminals, only EMULATED mode is offered.

For MIXED terminals, there is a choice of NATIVE or EMULATED.

For VIDEOTEX terminals, NATIVE mode is mandatory.

TTY terminals have no emulation.

VIDEOTEX emulation is not advisable when a profile of the greatest transparency possible is desired (for example, file transfers).

#### TELEPHONE EQT (SLOT/CARD/EQT)

...

It is essential to enter the telephone equipment of the first subscriber of the hunt group used for voice mail. For an Attendant Console on PC, enter the equipment number of the PC if Attendant Help Service (AHS) is being used.

#### LINK SUPERVISION

**YES**   **NO**

If you select YES, the link is supervised.

### 6.5.1.1.2 Synchronous links

Menu **NETWORK AND LINKS>Data links>Link management>Link characteristics**

This screen is only displayed if an synchronous link has been selected. It is not shown for ISDN equipment (T0 or S0), nor for a CP1 link (equipment number 00 and 01). 00 and 01).

#### TYPE OF OBJECT



**HDLC LOCAL** An HDLC LOCAL link is a link connected to an internal subscriber exchanging X25 packets.

**PSDN** A PSDN type link is a leased line for accessing the PSDN network via a modem and exchanging X25 packets.

**INTER NETWORK**  
**K** A signalling link reserved for multi-site configurations.



**Note :** The main difference between an HDLC link and a TRANSPAC link is the processing of the outgoing/incoming call numbering (the translation of numbers in a call packet).

Select the link then click **Select item** to move to the next screen.

#### STATUS

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### NAME

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### DIRECTORY NUMBER

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### CATEGORY

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### COMPANY DEPARTMENT

The description of these parameters is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### REVERSE CHARGING ACCEPTED

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### ACCESS LIST

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### **OUTGOING CUG (0 - - - - 15)**

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### **MODIFY GROUP NUMBER**

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### **INCOMING CUG (0 - - - - 15)**

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### **MODIFY GROUP NUMBER**

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

#### **FRAME WINDOW (1/7)**

Value of the K frame window used at level 2, i.e.: the number of frames sent but not acknowledged at a given time.

For both transmission directions the standard frame window is  $K = 3$ .

For a PSDN link, this parameter is defined upon subscription; for an HDLC link, it depends on the terminal's X25 characteristics.

Value between 1 and 7. Default value: 4.

#### **PACKET WINDOW (1/7)**

The value of the parameter which gives the size of the W window at packet level 3, i.e.: the number of unacknowledged packets sent or received at a given time.

For both transmission directions, the size of the standard window is  $W = 2$ .

For a PSDN link, this parameter is defined upon subscription; for an HDLC link, it depends on the terminal's X25 characteristics.

Value between 1 and 7. Default value: 2.

#### **MAX. PACKET DATA FIELD SIZE**

<b>128</b>	<b>256</b>	<b>512</b>	<b>1024</b>
------------	------------	------------	-------------

This is the maximum value of data bytes that a data packet can contain, used at level 3 (packet level).

For a PSDN link, this parameter is defined upon subscription; for an HDLC link, it depends on the terminal's X25 characteristics.

Default value: 128

#### **NR. OF LOGIC. CHANNELS EQUIPPED**

Number of equipped logical channels that the connected equipment can manage.

Value between 1 and 250. Default value: 3.

#### **NR.OF OUTGOING LOGIC.CHANNEL**

Number of logical channels reserved for making incoming calls to the iPBX on the link (called D channels).

Value between 0 and 250. Default value: 0.

#### **NR. OF INCOMING LOGIC. CHANNEL**

Number of logical channels reserved for making outgoing calls to the iPBX on the link (called D channels).

Value between 0 and 250. Default value: 0.



**Note :** To calculate the number of assigned logical channels, the following rule must be observed:  $M - (A + D)$ , where  $M$  = Number of bothway logical channels that can be equipped.

The iPBX has a maximum of 100 simultaneously active logical channels out of 250. To set the number of equipped logical channels (outgoing or incoming), refer to your PSDN subscription details or to the specifications of the connected X25 Terminal.

Total number of equipped logical channels on a system = 300 LCs, 80 of which are simultaneously activated. It is possible to set this at up to 100.

#### **LOGICAL CHANNEL 0 USAGE**

**YES**

**NO**

Select YES if the equipment uses the 0 logical channel to set up virtual circuits. Otherwise, select NO (PSDN recommendations).

#### **EXTENDED FORMAT X25/84**

**YES**

**NO**

Select YES if the equipment accepts the extended format of the different packets defined in the X25-84 recommendations. If this is the case, it will also be able to receive diagnostic packets. Otherwise, select NO.

#### **CONNECTED EQUIPEMENT TYPE**

**DTE**

**DCE**

This parameter determines link behaviour at level 2 and level 3.

- **DTE** (Data Terminal Equipment). The connected equipment is an X25 terminal: in this case the iPBX behaves like a DCE. When there is a direct X25 connection between two PBXs, one must be DTE, the other DCE.
- **DCE** (Data Communication Equipment). The connected equipment is a modem (TRANSPAC link): here, the iPBX behaves like a DTE.

#### **TRANSMIT CLOCK**

**INTERNAL**

**EXTERNAL**

- **INTERNAL**, if the iPBX provides the connected equipment with the transmit clock
- **EXTERNAL** if the connected equipment provides the transmit clock (as is the case with a PSDN modem). This is possible only if the connected equipment is of DCE type at level 1 (wiring).

**RECEIVE CLOCK****INTERNAL****EXTERNAL**

- **INTERNAL**, if the iPBX provides the connected equipment with the receive clock
- **EXTERNAL**, if the connected equipment provides the receive clock. This is possible only if the connected equipment is of DCE type at level 1 (wiring).

**THROUGHPUT****2400****4800****9600****19200****48000****64000**

Select the throughput according to the characteristics of the connected equipment.

For a PSDN, this parameter is set at subscription.

**REROUTING**

**Note :** This parameter is only available for a HDLC link.

**YES****NO**

If you select YES, outgoing calls will be rerouted to another link with the same characteristic (case of a faulty or saturated link whose number is given with its prefix by the following parameter).

This rerouting is equivalent to an immediate forward on busy. It allows you to have a backup link (to access a server, for example).

**- REROUTING NUMBER**

This field is only available if you select YES for the parameter REROUTING.

Link directory number, preceded by the prefix which the iPBX must dial to reroute the call.

**DEDICATED USE**

**Note :** This parameter is only available for a PSDN link.

**YES****NO**

If you select YES, all the calls arriving on this link are routed to a subscriber whose number is given in the next parameter.

Activating this parameter is equivalent to incoming direct routing (IDR) on a link. This allows, for example, a server (formerly connected directly to PSDN) to be connected behind the iPBX, without changing the numbering performed by remote calls (IDR performed on a link).

**EXTENSION NUMBER**

Directory number.

**FORWARDING IN "STURTEL" MODE ALLOWED****YES****NO**

STURTEL ("Spécifications Techniques d'Utilisation du Routage TELETEL" – "Technical Specifications for the Use of TELETEL Routing") routing is an additional contractual service of France Telecom. It allows a server to transfer a user to another server during the same call.

**FAST SELECT ALLOWED****YES****NO**

Fast select is an additional user option service which a DTE can request for a given virtual call.

This service, if requested in the call packet, allows the packet to contain a call data field which can comprise up to 128 bytes instead of a call packet comprising 16 bytes.

**DEFAULT DATA RATE****75****150****300****600****1200****2400****4800****9600****19200****48000****64000**

This allows the default data rate to be set when the subscription is taken out.

**THROUGHPUT CLASS NEGOTIATION ALLOWED****NO****YES**

This service allows throughput classes in both transmission directions to be negotiated at the time of virtual circuit set-up. For the programming of this parameter, refer to the TRANSPAC subscription contract.

**NEGOTIATION OF FLOW CONTROL ALLOWED****NO****YES**

This service allows packet lengths and window sizes to be negotiated at virtual circuit set-up. These values will be used in both transmission directions on this virtual circuit. For the programming of this parameter, refer to the TRANSPAC subscription contract.

**CALL REROUTING ALLOWED****NO****YES**

If you select YES, users can divert calls to other terminals by entering the PSDN number after the RELEASE command.

**LINK SUPERVISION**

The description of this parameter is the same as the one given in the characteristics of an asynchronous link in Paragraph 6.5.1.1.1.

**6.5.1.1.3 Links via the IP network**

Menu **NETWORK AND LINKS>Data links>Link management>Link characteristics**

Select the IP link then click **Select item** to move to the next screen.

#### 6.5.1.1.4 Links via an ISDN access

Menu **NETWORK AND LINKS>Data links>Link management>Link characteristics**

Data exchange on the ISDN accesses is compatible with the S0, T0 (BRI) and S2, T2 (PRI) ISDN (NUMERIS) interface specifications.

Data is exchanged on the B and D channels of these various links.

• <b>S0 Interface</b>	<b>2 channels B + 1 channel D</b>
• <b>IS2 Interface</b>	<b>For high flow (30 channel B + 1 channelD)</b>
• <b>IT0 Interface</b>	<b>144 kb/s = 64x2 + 16 to PSTN</b>
• <b>T2 Interface</b>	<b>2048 kb/s = 64x30 + 64 to PSTN</b>

This exchange between ISDN equipment or over the NUMERIS network can be carried out in two ways:

- In transparent circuit mode on the B channel at 64 Kbits/s
- In X25 switched packet mode on the B channel or D channel if the equipment so allows

#### 6.5.1.2 Assign directory numbers to ISDN accesses

Menu **NETWORK AND LINKS>Data links>Link management>Assign directory Nos. to ISDN accesses**

This screen is used to create an ISDN/T0/T2 link or an ISDN/S0 link before defining its characteristics.

- An ISDN/T0/T2 link allows a PLL link (Permanent Logical Link) to be made available to access PSDN via ISDN (on the D channel).
- An ISDN/S0 link allows an ISDN user to set up X25 packet calls on the B or D CHANNELS of the S0/S2 access. Packet on the D CHANNEL is possible with ISDN as from VN3 (in permanent mode).

#### BY EQUIPMENT NUMBER

Here, selection takes place according to the equipment number. Enter the cabinet, the card and the equipment on the card for a T0, S0, T2 or S2 access.

#### OR BY DIRECTORY NUMBER

Selection is performed here by using circuit extension numbers, assigned to terminals on the S0 BUS.



**Note :** Selection of a T0 or T2 access can only be made by means of the equipment number as there is no telephone directory number on T0 and T2 accesses.

If no selection criterion is specified in line 1 or 2, the first LS1 card declared in the iPBX via the “Card management” screen is selected.

A link cannot be assigned to an S0 terminal until it has been declared at the telephony level.

Click **Select item** to go to the next screen and fill in the following fields:

#### **FIELDS 1 TO 4**

In these fields, enter the link directory number(s) to be declared. A maximum of 4 numbers can be assigned to a physical access.

The directory number that is part of the iPBX packet numbering plan (X25) can comprise up to 8 numeric characters maximum.

#### **CASE OF ISDN S0 & S2**

##### **FIELDS 1 TO 16 (S0) AND FIELDS 1 TO 30 (S2)**

In these fields, enter the directory number(s) assigned to a link. A maximum of 16 numbers for S0 and 30 numbers for S2 can be assigned to a physical access.

The directory number that is part of the iPBX packet numbering plan (X25) can comprise up to 8 numeric characters maximum.

There are two lines for the directory in the S0-ISDN link:

1. A DIRECTORY NUMBER line which is the LINK PACKET DIRECTORY
2. a CIRCUIT EXTENSION NUMBER line which is the TELEPHONY DIRECTORY NUMBER of the S0 terminal associated with this link

#### **6.5.1.3** *Display by equipment number*

Menu **NETWORK AND LINKS>Data links>Link management>Display by equipment**

This screen allows equipped links in the iPBX to be displayed: this screen is for viewing (consultation) and not for making modifications.

<b>NO.</b>	directory number assigned to the link
<b>EQUIPMENT NO.</b>	cabinet, card, equipment
<b>TYPE</b>	type of link
<b>NAME</b>	name assigned to the link
<b>GROUP</b>	name of the group to which the link belongs
<b>TEL NO.</b>	telephone directory number (circuit) corresponding to the terminal when the link is ISDN/S0 type.

For a CA1 card, links are declared as PAD at Total Reset.

For a CS1 card, links are declared as HDLC LOCAL at Total Reset.



**Note :** To display the dynamic status of data links, you can also consult the screen “Status of data links”.  
For a multi-company configuration, the department is displayed in place of the phone number.

### 6.5.1.4 *Display by directory*

Menu **NETWORK AND LINKS>Data links>Link management>Display by directory number**

This screen allows equipped links in the iPBX to be displayed: this screen is for viewing (consultation) and not for making modifications.

<b>NO.</b>	directory number assigned to the link
<b>EQUIPMENT NO.</b>	cabinet, card, equipment
<b>TYPE</b>	type of link
<b>NAME</b>	name assigned to the link
<b>GROUP</b>	name of the group to which the link belongs
<b>TEL NO.</b>	telephone directory number (circuit) corresponding to the terminal when the link is ISDN/S0 type.



**Note :** To display the dynamic status of data links, you can also consult the screen “Status of data links”.  
For a multi-company configuration, the department is displayed in place of the phone number.

### 6.5.1.5 *Hunt groups*

Menu **NETWORK AND LINKS>Data links>Link management>Hunt groups**

To optimise sharing of a set of links (asynchronous, synchronous or CP1), you can group these links and assign a single directory number to them, thus defining a partial hunt group:

All links in the same hunt group must have identical characteristics.



**Note :** S0/T0 link hunt groups cannot be defined.

The hunt group directory number is only used as a call number for incoming calls, which are presented cyclically on the different links of the hunt group.

In this way, a link belonging to a hunt group can be called either via its directory number or via the hunt group's directory number.

By default, the iPBX assigns the directory number of the link that the call is made on.

#### 6.5.1.5.1 **Names**

Menu **NETWORK AND LINKS>Data links>Link management>Hunt groups>Names**

This screen is used to assign a name to a hunt group numbered 0 to 15, with a view to facilitating access to a given hunt group.

The number of hunt groups is fixed at 16 (numbering from 0 to 15).

#### **HUNT GROUP N (FROM 0 TO 15)**

Hunt group name comprising at most 6 alphanumeric characters: this name can only be deleted if the hunt group is empty.

#### 6.5.1.5.2 **Characteristics**

Menu **NETWORK AND LINKS>Data links>Link management>Characteristics**

**BY NAME**

Select the name of the hunt group you want to define.

Click **Select item** to go to the next screen which gives the characteristics of the selected hunt group. It allows the subscribers constituting the hunt group to be defined.

**DIRECTORY NUMBER**

Enter the hunt group's directory number.



**Note :** In the case of a CP1 link group, the first character of the directory number can be the letter "A" or "B"; the others must be digits (as a CP1 group is never called directly).

**CONSTITUENT DIRECTORY NUMBERS**

Enter the number of each subscriber constituting the hunt group. A maximum of 16 subscriber numbers is reserved for hunt group links.

These numbers must satisfy the following conditions :

- The directory number must be assigned to a link
- The link must not belong to another hunt group
- The link cannot be ISDN S0/S2 or T0/T2
- To be able to constitute a hunt group, there must be the following common characteristics: type of link, reverse charging, access rights, same outgoing and incoming CUG, subscriber category

**6.5.1.5.3 Display users**

Menu **NETWORK AND LINKS>Data links>Link management>Display users**

This display shows the users of the selected hunt group, in this instance, Circuit or Packet type routing.

**6.5.1.6 Profiles**

Menu **NETWORK AND LINKS>Data links>Link management>Profiles**

A PROFILE is the image of the current values of PAD parameters: these 22 parameters (P1 to P22) are defined in recommendation X3 of the CCITT.

The PAD parameters (Packet Assembler>Disassembler) determine its behaviour with respect to characters from the terminal and packets from the remote user.

6.5.1.6.1 **Names**

Menu **NETWORK AND LINKS>Data links>Link management>Profiles>Names**

**FIELDS 1 TO 15 - PROFILES 0 TO 14**

This screen is used to create a profile by assigning it a NAME (a maximum of 15 profiles).

There are four different profiles :

- Profile 0 - WITH ECHO
- Profile 2 - EBV
- Profile 6 - TERMINAL
- Profile 12 - PROCESSING



**WARNING : These 4 profiles are standard: so you are advised not to modify them.**

6.5.1.6.2 **Characteristics**

Menu **NETWORK AND LINKS>Data links>Link management>Profiles>Characteristics**

Select the name of the profile you want to define.

Click **Select item** to go to the next screen.



**Note : Profile 00, WITH ECHO, has been selected for this description of the 22 parameters. at the end of the menu a table summarises the parameters according to the different types of profile.**

**PROFILE TYPE**

**CHANGEABLE**

**SYSTEM**

Select a profile type: profiles 0, 2, 6, 12 are "PBX", the others are "changeable".

**CHANGEABLE**

In this case the parameters of lines 3 to 17 can be changed, access is by the password, "DONNE".

**SYSTEM**

In this case the parameters of lines 3 to 17 cannot be changed by the password, "DONNE". Access to any modification is by the password "INSTALLER" (INSTA).

**3 - P1: PAD RECALL BY DLE**

**YES**

**NO**

Selecting YES validates the escape command (DLE: Data Link Escape).

If NO, there is no escape character.

**4 - P21: ECHO**

**YES**

**NO**

Selecting YES causes echo return of characters transmitted by the PAD.

If NO, Echo suppressed is generated by the PAD (generally performed by the remote DTE-P).

**5 - P3: DATA TRANSMIT CHARACTERS**

126	127	0	2	18
-----	-----	---	---	----

The PAD ends a complete packet sequence when one of the data transmission conditions occurs.

**126** All International Alphabet number 5 control characters are data transmit characters for data transmission.

**127** All the characters of International alphabet number 5 are data transmit characters (see Appendix C4, table 4).  
(see Appendix C4 table 4).

**0** No data transmit character. Transmission on time-out of field 6.

**2** CR (Carriage Return) is the data transmit character.

**18** CR, ESC, EXT, are data transmit characters.

**6 - P4: IDLE TIMER DELAY (0/254)**

Time delay to program if there is no data transmit character (0 in field 5); programming is performed in increments of 50 ms.

Example: if the selected value is 4, this gives a time-out of 200 ms.

**7 - P5: DTE FLOW CONTROL BY PAD**

YES	NO
-----	----

The PAD ensures Terminal data flow control (control of DTE-C).

If YES, the PAD controls the terminal by using the X-ON and X-OFF characters, but only in the Data Transfer phase.

If NO, there is no flow control.

**8 - P6: CTRL PAD SERV. SIGNALS**

YES	NO
-----	----

The PAD transmits command acknowledgement messages to the terminal.

If YES, the PAD transmits signal characters to DTE-C, either in response to a command or to signal an event linked with virtual circuit status change (Example: . ETABLIE, LIB DTE, LIB DEUR).

If NO, the PAD sends no signal to DTE-C.

**9 - P7: BREAK HANDLING**

2	5	8	21	0	1
---	---	---	----	---	---

Handling performed by the PAD when the user presses the "BREAK" key.

**0** The BREAK triggers data transmission.

**2** The BREAK causes virtual circuit reset via the PAD.

**5** The BREAK triggers transmission by the PAD to the remote terminal, of a trap packet whose data field is reset to zero, and a PAD message signalling BREAK to the terminal.

**8** The BREAK is used instead of the escape character (see line 3). (Gives total transparency at the character level).

**21** Same handling as in point 5 and data discarded (the P8 parameter goes to "YES" until DTE-P sets it back to "NO").

**1** The PAD transmits a trap packet with its data field at 1 to the remote (DTE-P). data is the value 1.

#### 10 - P8: DISCARD OUTPUT

**NO**    **YES**                    (Data discard)

If YES, the data received by the PAD from the remote terminal is not transmitted to the remote terminal, and is deleted by the PAD (see line 9 code 21).

If NO, the data received by the PAD from the remote terminal is transmitted to the remote terminal.

#### 11 - P12: PAD FLOW CONTROL BY DTE

**YES**    **NO**

If YES, the X-ON and X-OFF characters received by the PAD from DTE-C are recognised as flow control characters.

If NO, there is no flow control by DTE-C.

Flow control only applies in the data transmission phase.

#### 12 - P13: LF INSERTION AFTER CR

Insertion of Line Feed (LF) after Carriage Return (CR).

**0**    **4**    **6**

**0** No line feed is inserted after a carriage return.

**4** A line feed is inserted after each carriage return for a character string that is Echoed back to DTE-C.

**6** Same as point 4 with, in addition, a line feed inserted after a carriage return of a character string from DTE-C to DTE-P.

#### 13 - P15: EDITING

**NO**    **YES**

Selecting YES enables editing of characters, if they have not been transmitted.

If NO, no editing by the PAD is possible in the data transmission phase (in the "YES" command phase).

The editing functions available are:

- character deletion
- line deletion

- line display

#### 14 - P16: CHARACTER DELETE

BS	ESC	NUL	SOH	STX	ENQ	ACK	BEL	HT
LF	VT	FF	SO	SI	DC1	DC3	DC4	NAK
SYNN	ETB	EM	SUB	FS	GS	RS	US	DEL

By default, the selected character is BS (Back Space – move back one column to the left). All the above characters belong to international alphabet number 5.

Reception of the "delete character" causes deletion of the last character in the PAD editing buffer.

#### 15 - P19: EDIT PAD SERV. SIGNAL (0/2)

0	1	2
---	---	---

If 0, the PAD sends no editing signal to the DTE-C.

If 1, the PAD sends appropriate editing signals to the printers :  
Character deletion = \ ; line deletion = xxx.

If 2, the PAD transmits appropriate editing signals to the terminals (consoles) :  
character deletion = (BS)(SP)(BS); line deletion = (BS)(SP)(BS) repeated N times.

#### 16 - P20: ECHO MASK (0/255)

This parameter allows Echo-suppressed transmission on certain characters.

- 0** - Echo for all characters (no masking).
- 1** - Echo suppressed for the CR character.
- 2** - Echo suppressed for the LF character.
- 4** - Echo suppressed for the VT, HT, FF characters.
- 5** - Echo suppressed for the BEL, BS characters.
- 1** - Echo suppressed for the ESC, ENQ characters.
- 3** - Echo suppressed for the ACK, NAK, STX, SOH, EOT, ETB, ETX characters.
- 64** - Echo suppressed for the editing characters, i.e.: the characteristics defined in the P16, P17, P18 parameters.
- 128** - Echo suppressed for the other control characters (columns 0 and 1 of the ASCII code).

The values are multiples of 2 (binary code) in order to be able to add them together according to the characters to be masked (the maximum being 255).

*Example:*

7 (4 + 2 + 1): therefore Echo suppressed for characters

<u>CR</u>	,	<u>LF</u>	,	<u>VT, HT, FF</u>
1		2		4

**17 - P21: PARITY HANDLING (0/3)**

The PAD checks or generates a parity bit on each character from the DTE-C.

- If 0, there is no parity check.
- If 1, the PAD checks the parity of the characters transmitted by the DTE-C.
- If 2, the PAD generates a parity bit in all characters going to the DTE-C.
- If 3, combination of value 1 and value 2.

**18 - PARAMETERS CAN'T BE MODIFIED**

P9, P10, P14, P17, P18 and P22 of the profile

**19 - P9: PADDING AFTER CR**

Number of NUL characters to be inserted by the PAD after a CR character destined to the DTE-C. By default, this parameter is configured at **NO** : (i.e.: no padding).

**20 - P10: NEXT LINE**

This parameter indicates that the PAD automatically manages line feed. By default, this parameter is set to **NO** (i.e.: no automatic management of line feed).

**21 - P14: PADDING AFTER LF**

This parameter indicates that the PAD inserts NIL characters for padding after line feed. By default, this parameter is set to **NO** (i.e.: no padding).

**22 - P17: LINE DELETE**

The international alphabet number 5 character "CAN" is the line deletion character (CAN – line deletion, its value is 18 (hexa) in the table).

This is not modifiable.

**23 - P18: LINE DISPLAY**

The international alphabet number 5 character "DC2" is the line display character (DC2 – its value is 12 (hexa) in the table).

This is not modifiable.

**24 - P22: WAIT FOR END OF PAGE**

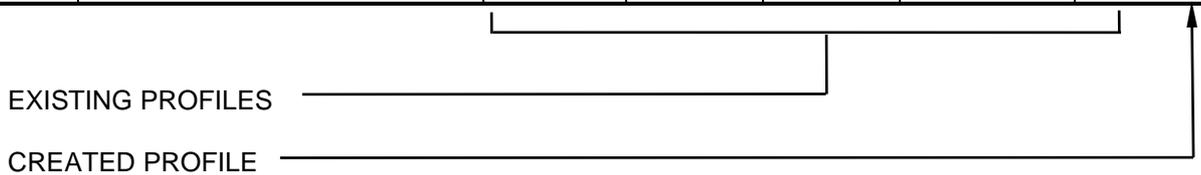
By default, this value is configured at **NO** : no page wait.



**Note :** These parameters, common to all profiles, have different values according to the profile selected (see following table).

**Table 6: SUMMARY TABLE PROFILES WITH THEIR STANDARD VALUES**

PARAMETERS	NAME	WITH ECHO	EBV	TERMINAL	TRANSPARENT	EADS DSN
	PROFILE NUMBER	0	2	6	12	1 OR XX
	<b>Type of profile</b>	<b>Modifiable</b>	<b>Modifiable</b>	<b>Modifiable</b>	<b>Modifiable</b>	<b>Modifiable</b>
P1	PAD recall by DLE	YES	NO	YES	NO	NO
P2	ECHO return	YES	NO	NO	NO	NO
P3	Data transmit characters	126	0	127	0	0
P4	Idle timer delay (0/254)	0	1	0	1	4
P5	DTE flow control by PAD	YES	YES	YES	NO	NO
P6	CTRL PAD serv. signals	YES	NO	YES	NO	NO
P7	BREAK handling	2	21	2	21	2
P8	Discard output	NO	NO	NO	NO	NO
P12	PAD flow control by DTE	YES	YES	YES	NO	NO
P13	LF insertion after CR	0	0	0	0	0
P15	Edit	NO	NO	NO	NO	NO
P16	Character delete	BS	BS	BS	BS	BS
P19	Edit PAD serv. signal (0/2)	2	2	2	2	2
P20	ECHO mask (0/255)	0..	0..	0..	0..	0..
P21	Parity handling (0/3)	0	0	0	0	0
	<b>Parameters cannot be modified</b>					
P9	Padding after CR	NO	NO	NO	NO	NO
P10	Next line	NO	NO	NO	NO	NO
P14	Padding after LF	NO	NO	NO	NO	NO
P17	Line delete	CAN	CAN	CAN	CAN	CAN
P18:	Line display	DC2	DC2	DC2	DC2	DC2
P22:	Wait for end of page	NO	NO	NO	NO	NO



### 6.5.1.6.3 Display users

Menu **NETWORK AND LINKS>Data links>Link management>Profiles>Display users**

This display shows the users of the selected profile, in this instance, data links of PAD, Video PAD or EBVO type.

### 6.5.1.7 Categories

Menu **NETWORK AND LINKS>Data links>Link management>Categories**

Categories allow access restrictions for incoming and outgoing subscribers to be specified.

These restrictions are based on the French packet numbering plan prefixes, i.e.:

- 0 --> international TRANSPAC access
- 1 to 6 --> national TRANSPAC access
- 7 --> Free
- 8 --> PSTN modem access
- 9 --> local access

Every subscriber **MUST** have a category.

#### 6.5.1.7.1 Names

Menu **NETWORK AND LINKS>Data links>Link management>Categories>Names**

##### **CATEGORY N (FROM 0 TO 15)**

Give a name to each category (with 8 alphanumeric characters maximum): the iPBX displays the names of the 16 categories offered.



**Note :** A category list can be managed only if its name has been declared. Initially, no list is defined.

### 6.5.1.7.2 Definition

Menu **NETWORK AND LINKS>Data links>Link management>Categories>Definition**

After choosing the category, click "Select item" to move to the next screen, which gives the characteristics of the selected category. It is used to define access restrictions.

#### 1 - INCOMING ACCESS

**ALLOWED**   **PSDN**   **FORBIDDEN**

**ALLOWED** All incoming calls are allowed on the link.

**PSDN** Only calls with the calling number beginning with a number from 0 to 6 are allowed on the link.  
Authorised on the link.

**FORBIDDEN** Incoming calls are not allowed on the link (including local calls).

#### 2 - PSDN OUTGOING ACCESS

**ALLOWED**   **LOCAL**   **INTERNATIONAL**   **FORBIDDEN**

**ALLOWED** Outgoing calls with a number beginning with prefixes 0 to 6 are allowed.  
Authorised.

**NATIONAL** Outgoing calls with a number beginning with prefixes 1 to 6 are allowed.

**INTERNATIONAL** Outgoing calls with a number beginning with the prefix 0 are allowed.

**FORBIDDEN** All outgoing calls are barred (including local calls).

### 6.5.1.7.3 Display users

Menu **NETWORK AND LINKS>Data links>Link management>>Categories>Display users**

This screen shows the users of the selected category.

## 6.5.2 ACCESS LISTS

Menu **NETWORK AND LINKS>Data links>Access lists**

In order to limit accesses to a subscriber, it is possible to allocate the subscriber a list of access rights.

These access rights concern external calls from PSDN (i.e.: those with the "caller address" field beginning with a digit between 0 and 6). The iPBX allows such a call only if this corresponds to an item in the list associated with the link (barring on the incoming call).

### 6.5.2.1 Names

Menu **NETWORK AND LINKS>Data links>Access lists>Names**

A list item comprises :

- Either a calling number: in order to be accepted, the first digits of the "caller address" field of the call packet must be the same as the calling number defined in the "caller address" field of the list. This can be longer, if necessary, and comprise an "additional number".
- Or a password of 8 ASCII characters: to be accepted the call data in the call packet must correspond to the password defined in the screen.
- Or a combination of both of these; i.e.: a caller number and a password both previous conditions must be met for the call to be accepted.

#### ACCESS LISTS N (FROM 0 TO 15)

Give a name to each access list (with 8 alphanumeric characters maximum): the iPBX displays the names of the 16 access lists offered.



**Note : An access list can be managed only if its name has been declared. By default, no list is defined.**

### 6.5.2.2 Definitions

Menu **NETWORK AND LINKS>Data links>Access lists>Definition**

#### BY NAME

Choose the access list.

After choosing the access list, click "Select item" to move to the next screen and define the following parameters:

#### CALLING NUMBER

A remote number which has the right to contact the iPBX (15 digits maximum).

If the call comes from TRANSPAC, the calling number must be complete. If the number is local, it must include the digit 9 (local prefix).

#### PASSWORD

Enter a name consisting of 8 alphanumeric characters (this field must be filled in).



**Note : CREATING A 5-NUMBER BLOCK: an additional block is created by selecting the "S" function if any blocks remain available.**  
**ADDING, DELETING A LIST ITEM**  
**Items are displayed in the order in which they were created.**  
**An item is added by filling in any empty item displayed on the screen: this will be considered as the most recent whatever its position.**  
**To delete an item, you must delete either its calling number or its password.**

### 6.5.2.3 *Display users*

Menu **NETWORK AND LINKS>Data links>Access lists>Display users**

This display shows the users of the selected list, in this instance, data links.

## 6.5.3 SYMBOLS

Menu **NETWORK AND LINKS>Data links>Link management>Symbol management**

The operator can define symbols in order to facilitate dialling for users (100 symbols from 00 to 99).

A symbol represents, in short form, the entire dialling command that an asynchronous data terminal user would have to give to make their call (class of service, dialling, CUG, reverse charge call, etc.).

Besides its ease of use, using a symbol also enables the override of caller restrictions in terms of caller category and their CUGs. This means that a user without access to the international PSDN can use a symbol to reach a specific correspondent abroad.

### 6.5.3.1 *Characteristics of a symbol*

Menu **NETWORK AND LINKS>Data links>Symbol management>Characteristics**

#### **BY NAME**

Enter the name of the symbol.

#### **SEARCH**

For sorting using various criteria: in the order, defined number, available number.

Select the symbol then click **Select item** to move to the next screen used to define the following parameters :

#### **NAME**

This comprises 1 to 6 alphanumeric characters and must begin with a letter.

It constitutes the criterion for existence of the symbol and it is therefore the modification of this field that allows the symbol to be created or deleted.

#### **USED BY COMPANY**

**CMPN  
Y 0**

If the iPBX is declared MULTICOMPANY, this additional line appears.

Use of a SYMBOL can be reserved for the links of one company only or can be common to all companies.

A symbol belonging to company number 0 (CMPNY 0) can be used by all links.

#### **CLASS OF SERVICE**

**VIDEOTEX**

**ASCII TERMINAL**

The same symbol can be used by a terminal in ASCII mode and a terminal in VIDEOTEX mode. The class of service associated with the symbol can only be used by a terminal in VIDEOTEX mode.

It can have the following values:

**VIDEOTEX**

The user wishes to use his terminal in VIDEOTEX mode to dialogue with a server.

**ASCII TERMINAL**

The user wants to use his data terminal in ASCII mode. In this case, the iPBX automatically controls switchover of the terminal to this mode.

**CLOSED GROUP NUMBER (CUG)**

This specifies the closed group of users with which you wish to reach the call party.

The CUG value is between 0 and 15, given that the value 0 designates the CUG common to all users and that it is possible not to enter any CUG (empty field). In this case, the usual number is used.

The user of the symbol may not belong to this outgoing CUG (override of restrictions).

**MINITEL FUNCTION KEYS HANDLED**

Selecting "YES" corresponds to the "\*" information of VIDEOTEX mode dialling. The Minitel function keys must not be converted because the call party manages these keys according to VIDEOTEX encoding.

The "NO" setting therefore indicates that the call party cannot manage the Minitel function keys with VIDEOTEX encoding. Conversion into ASCII is then performed by the iPBX.

**REVERSE CHARGING**

The "YES" setting indicates that the call generated by the iPBX has the additional reverse charging service.

**NUMEROTATION (DIALLING)**

This comprises 1 to 15 digits specifying the call party to be reached.

**ASSOCIATED CALL ESTAB. DATA**

This is an optional setting. It can comprise up to 12 ASCII characters specifying the data that the iPBX inserts in the call packet transmitted to the call party.

**6.5.3.2** *Display symbols*

Menu **NETWORK AND LINKS>Data links>Symbol management>Display**

This display allows the main characteristics of all existing symbols to be viewed. It links the symbol's name with its number (these numbers are between 00 and 99, that is a maximum of 100 symbols).

**MULTI-COMPANY OPERATION****CMPNY.0**

.....

Select the name of a company. Select ..... to view all declared companies.

**6.5.3.3** *Display users*

Menu **NETWORK AND LINKS>Data links>Symbol management>Display users**

This display shows the users of the selected symbol, in this instance, of PAD, Video PAD or incoming PSTN type data links.

## 6.5.4 ROUTES

Menu **NETWORK AND LINKS>Data links>Routes**

When the iPBX receives an X25 call packet, it analyses the number shown in the "called address" field in order to route the call to its destination.

The analysis of these first digits that are also called packet numbering plan "prefixes" leads to identification of a route.

### LOCAL ROUTE

To reach a iPBX local subscriber, the caller must dial numbers that include a prefix linked to a route defined as being a route of local (internal) type followed by the called subscriber's number.

The prefix used for local routing is "9".

### REMOTE ROUTE

Remote subscribers, connected to different networks (PSDN? ISDN), can be reached by using prefixes associated with remote routes.

To offer a better quality of service, it is sometimes desirable to define several possible routes to reach a subscriber. This involves linking a backup route with the first route (also called the main route).

The backup route, which can be backed up itself if necessary, is implemented as soon as there is a fault or congestion on the main route.

A remote route of any type always consists of :

- The associated prefix(es)
- The hunt group or link directory number to which routing must be performed
- A possible backup route

### TYPES OF ROUTE

The iPBX has 3 types of possible links to the outside:

- The iPBX is connected via an X25 leased line connected to a CS1 card (PSDN modem).  
The associated route is a packet mode route.
- The iPBX is connected via one or more PLL(s) to a T0 or T2 access.  
The associated route is also a packet mode route.
- The iPBX has no permanent X25 link to the outside but, if requested, sets up a 64 Kbit circuit that then uses a CP1 card X25 link.

The associated route is a circuit mode route.

It must be associated with a remote identifier (which specifies the circuit call number to be set up and the X25 characteristics of the remote link reached in order to assign them to the CP1 access associated with this circuit).

Whatever the remote route to the hunt group, it is necessary to specify the subscriber (or hunt group) number associated with the link (or links) on which the call will be routed to the remote user.

When the back-up route planned for routing uses a different network from the main route (X25 private network overflow to TRANSPAC), it is often necessary to change the numbering: delete the initial

prefix and replace it with another dial number while keeping the destination subscriber number. This is possible with "number translation" type routing.



**Note :** It is highly advisable to follow the packet numbering plan used by TRANSPAC as the categories which specify access restrictions for incoming and outgoing subscribers are based on this plan, which requires:

**0** : INTERNATIONAL PSDN access  
**1 to 6** : NATIONAL PSDN access.

#### REMINDER:

	NETWORK NUMBERING PLAN	NETWORK
0	<Network number> 4 digits <Network subscriber number> 10 digits	INTERNATIONAL VIA TRANSPAC
1	<TRANSPAC subscriber number and subaddress> 8 to 14 digits	NATIONAL VIA TRANSPAC
2	<Telex subscriber number> 6 digits	TELEX VIA TRANSPAC
3	<Number from 1 to 14 digits>	TRANSPAC and NATIONAL
4	<Number from 1 to 14 digits>	TRANSPAC and NATIONAL
5	<Number from 1 to 14 digits>	TRANSPAC and NATIONAL
6	<Number from 1 to 14 digits>	TRANSPAC and NATIONAL
7	<Number from 1 to 14 digits>	X25 on 64 kbit/s circuit
8	<Videotex telephone subscriber number> 6 to 14 digits (server or PAV)	VIDEOTEK (and PBX) PSTN
9	<Local network subscriber number, subaddress> 1 to 14 digits	INTERNAL

#### 6.5.4.1 Definition

Menu **NETWORK AND LINKS>Data links>Routes>Definition**

#### CREATING A ROUTE

To create a route, the type "EMPTY" must first be selected in the selection menu. Then, the route type chosen must be defined in the input menu. From this time on it will be recognised by the iPBX and can be displayed by simply entering its type in the selection menu.

#### DELETING A ROUTE

A route is deleted by assigning its type as "EMPTY". All existing prefixes for the route must have previously been deleted.

#### MODIFYING THE ROUTE

To modify a route, first delete the old prefix then return to the selection menu to enter the edit menu for the new route.

This screen is used to create, modify or delete a route by selecting it using various criteria.

#### BY ITS PREFIX

A numeric field of 9 digits maximum.

**WARNING :** The value of route 0 internally is 9 (default prefix).



#### BY ITS RANK

Rank is a numeric field between 0 and 63 (64 possible routes).

#### BY ITS TYPE



Select a type of route (64 types of possible routes).

If more than one criterion is specified, the prefix overrides both the other criteria (whether they are filled in or not); the route number is considered as the initial rank in the search for the type of route specified.

To summarise, the first two criteria are used to select a known route, the third is to facilitate the search when only the route type is known.



**Note :** When selecting a route by the **EMPTY** type, the first available route is number 8, defined by default as **CIRCUIT** type.  
If you do not choose any criterion, the first empty route is displayed.

Select the route then click "Select item" to move to the next screen used to define the following parameters :

#### DIRECTORY NUMBER

This is the directory number of the associated link (or link group) on which the call packet will be routed.

It comprises a maximum of 4 characters, whereby the first can be either a digit or one of the letters A or B; the other characters must be digits.

- With PACKET routing :
  - Number of the synchronous link (CS 1, for PSDN LL)
  - number of the PLL link declared on a T0 access (for D CHANNEL TRANSPAC access) D-CHANNEL)
- With CIRCUIT routing :
  - Number of the link or packet circuit link group (CP 1)

#### BACK-UP ROUTE

It allows the rank of the route used for back-up to be defined (values from 0 to 63).

Example: PACKET routing via a TRANSPAC link (via CS1 card) and backup with circuit routing via the TRANSPAC EBS 64 (via LD4 card T0 access - NUMERIS and CP1).

#### REMOTE IDENTIFIER NAME



Select the remote identifier defined in the "Names of remote identifiers" menu.

This remote identifier is used, when the route is of circuit type, to obtain the circuit call number and the X25 characteristics of the X25 link reached: characteristics defined in the "Definition of a remote identifier" menu.

The "CXTUN02" item is to assign connection names to the selected tunnelling link.

----- DEFINED PREFIXES -----

This section displays the prefixes associated with the route.

- Examples:
- Internal routing → prefix 9
  - Packet routing → prefixes 0, 1, 2, 3, 4, 5
  - Circuit routing → prefixes 7X (X = 0 to 9)

#### ACCESS TYPE

**PSTN**

**NATIONAL**

**INTERNATIONAL**

This allows the network access type for this route to be defined.

#### PREFIX

A prefix is a 9-digit sequence specifying the numbering to be analysed: it cannot belong to different routes.

#### ACTION

**CREATE**

**DELETE**

**MODIFY**

This allows prefixes for this route to be created, modified or deleted: to enter a prefix the route must exist (non-empty type).



**Note :** In case of route translation, the following fields are displayed:

**NEW NUMBERING:** route translation can be used only to back up a route. Once translated, the called number undergoes complete analysis.

1-15 digit number which is added before the numbering provided by the caller after having possibly deleted certain digits.

**Example:** Main/secondary route, backup by route translation.

**NUMBER OF DIGITS TO DELETE:** number of digits to be deleted from the called number.

#### 6.5.4.2 *Display*

Menu **NETWORK AND LINKS>Data links>Routes>Display**

With this menu, you can display all existing prefixes for a type of routing specified at selection.

For each prefix found, a reminder of route characteristics is displayed.

Moving between "next" and "previous" changes the type. The EMPTY type is not considered in this cycle but may be selected at entry.

There are five types of routing:

- EMPTY routing
- INTERNAL routing
- CONSIST. INTERNAL routing
- PACKET routing
- CIRCUIT routing
- TRANSLATION routing
- IP TUNNEL routing
- X31 B routing



**WARNING :** Internal routing 0 prefix 9 is the default value.

## 6.5.5 REMOTE IDENTIFIERS

Menu **NETWORK AND LINKS>Data links>Remote identifiers**

Remote identifiers are used in the case of data calls in X25 packet mode on 64 Kbit/s switched circuits.

They are used :

- **For an outgoing call** : the circuit mode route definition must be filled in by entering the complete circuit call number to be set up, and the X25 characteristics of the link reached.
- **For an incoming call** : the X25 characteristics of the calling equipment must be obtained by using the circuit calling number (if this exists). These characteristics are then applied to the selected X25 link (of the CP1 card). If the calling number is unknown, use the characteristics of the number 0 remote identifier (the default remote identifier).

### 6.5.5.1 *Names of remote identifiers*

Menu **NETWORK AND LINKS>Data links>Remote identifiers>Names**

#### **REMOTE IDENTIFIER N (FROM 0 TO 127)**

Assign a name to the remote identifiers (8 alphanumeric characters). The number of identifiers is set at 128.



**Note :** An identifier can only be used if it has a name.



**CAUTION :** The remote identifier 0 (IDENT\_0) is reserved for incoming: it is dedicated to TRANSPAC SBS (TRANSPAC synchronous standardised output).

### 6.5.5.2 *Definition*

Menu **NETWORK AND LINKS>Data links>Remote identifiers>Definition**

#### **BY NAME**

Choose the name of the remote identifier to define.

Select the identifier then click **Select item** to move to the next screen.

This screen is divided into three parts :

- REMOTE IDENTIFIERS
- X25 PARAMETERS
- LEVEL 2 IDENTITY

-----**REMOTE IDENTIFIERS**-----

#### **CIRCUIT NUMBERING**

Outgoing, this field is MANDATORY, its value is 1 to 15 digits. It corresponds to the directory number to be transmitted to an ISDN T0 access (Numeris BRI) to set up the 64 kbit/s circuit (do not forget to put 0 before the complete number, 0 being the external prefix for setting up a circuit call).

Incoming, the number corresponds to the directory number of the caller associated with the identifier (do not forget that if the caller is in the Paris region, NUMERIS (ISDN) adds a "1" before the caller number, so enter 1 ABPQMCDU).

### SUB-ADDRESS

Value 1 to 4 digits, this field is optional. This value can be used only in the case of a call via NUMERIS (ISDN).

### NETWORK TYPE

**INTERNAL**

**PSDN**

**CIRC EXT LINK**

**INTER NETWORK**

You must select one of these settings.

The iPBX often modifies the (caller and called party) addresses contained in the X25 packet in order to compensate for differences in the numbering plans of interconnected iPBXs. This modification depends on a parameter called "Remote packet network type".

#### **INTERNAL**

Prefix 9 is added followed by the subscriber number in the "caller address" field of the transmitted packets.  
caller" of sent packets.

#### **PSDN**

Prefix 9 is added in the "called address" field of the call packets received from PSDN and it is added in the "caller address" field of the packets transmitted to PSDN.

#### **INTER NETWORK**

Used in multi-site operation. Do not modify the numbering.

#### **CIRCEXTLINK**

Same as PSDN for the "called address" field in the packets received. But in addition, the external prefix associated with the identifier in the "caller address" field is added.

### EXTERNAL PREFIX

This field is optional for an incoming identifier, it allows the prefix to be added before the calling number so that a complete number can be given to the caller.

### COMPANY

### DEPT.

These two fields are linked to multi-company configuration.

### -----X25 PARAMETERS-----

#### **OUTGOING CUG (0 . . . . . 15)**

Indicates the list of values of the closed user group to which the link belongs.

#### **MODIFY GROUP NUMBER**

Allows the Outgoing CUG number to be modified.

**INCOMING CUG (0 . . . . . 15)**

Same principle as outgoing CUG.

**MODIFY GROUP NUMBER**

Allows the Incoming CUG number to be modified.

**NUMBER OF EQUIPPED LOGICAL CHANNELS**

Value between 0 and 250, mandatory.

It gives the total number of virtual circuits that can be set up on the 64 Kbit/s circuit.

**NR. OF OUTGOING LOGIC CHANNEL**

Value between 0 and 250, mandatory.

This is the number of logical channels reserved for making incoming calls to the iPBX on the link.

**NR. OF INCOMING LOGIC. CHANNEL**

Value between 0 and 250, mandatory.

This is the number of logical channels reserved for making outgoing calls to the iPBX on the link.

**PACKET WINDOW**

Value between 1 and 7, mandatory.

It gives the number of data packets that the iPBX can send in anticipation without waiting for acknowledgement from the remote user. A value "2" is recommended.

This mandatory field indicates the maximum data field size in data packets.

**MAX. PACKET DATA FIELD SIZE****128****256****512****1024****LOGICAL CHANNEL 0 USAGE**

This field is mandatory. If you tick YES, the 0 logical channel can be used to set up a virtual circuit.

**LINK BEHAVIOR****VARIABLE****DCE****DTE**

This mandatory field specifies link behaviour with respect to level 3 packet processing, in particular, for the logical channel selection mechanisms.

There are three possible settings :

**DCE**

Indicates that the iPBX must behave like a network

**DTE**

Indicates that it must behave like a terminal (notably for PSDN access).  
access to TRANSPAC).

**VARIABLE**

Indicates that link behaviour depends on the direction in which the switched circuit is set up,

The caller is DTE and the called party is DCE.

**REVERSE CHARGING ACCEPTED**

This field is mandatory. If the box is not ticked, the iPBX will refuse calls for which reverse charging is requested.

#### EXTENDED FORMAT X25/84

This field is mandatory. The YES setting indicates that the remote user (called party) accepts extended packet format specified in the X25/84 recommendations and also diagnostic packets.

#### FRAME WINDOW

This field is mandatory, value from 1 to 7.

Gives the number of information frames that the iPBX can send in anticipation.

#### DEFAULT DATA RATE



This allows the default data rate to be set when the subscription is taken out (default 64000).

#### FAST SELECT ALLOWED

Refer to the PSDN Contract, Packet Level line 7.

Fast select is an optional user service that a DTE can request for a given virtual call.

#### THROUGHPUT CLASS NEGOTIATION ALLOWED

Refer to the PSDN Contract, Packet Level line 4.

#### NEGOTIATION OF FLOW CONTROL ALLOWED

Refer to the TRANSPAC Contract, Packet Level line -6.

#### CALL REROUTING ALLOWED

Refer to the PSDN Contract, Packet Level line 6.

-----**LEVEL 2 ID**-----

The following columns are used to define this identity.

#### LINK ID

#### CERTIFIED LINK ID



- CAUTION :** Access to the packet switch via a 64 kbit/s circuit takes place as follows:
- for an incoming call, by its DID circuit number. This must be declared on the telephony side, in the "DID" general call numbers" menu and use call packet routing. In the case of a local call, the packet switch must be called by its circuit number. This must be declared on the telephony side, in the "Access to features" menu, and a directory number on the packet switch call line given.
  - for an outgoing call, do not forget to create the corresponding circuit routes in the menu "Routes" / Data links.

### 6.5.5.3 *Display remote identifiers*

Menu **NETWORK AND LINKS>Data links>Display users**

This screen shows the users of the selected remote identifier.

## 6.5.6 **SERVERS**

A "server" provides MiVoice 5000 services; these services can be configured in the following menus:

### 6.5.6.1 *Server selection*

Menu **NETWORK AND LINKS>Data links>Servers**

This screen only allows you to modify the server characteristics: by definition, you cannot create or delete a server.

#### **BY NAME**

**AFISER**

Dummy service user.

Link operational test server (sub-addresses 01, 02, 03), it also returns the caller number (sub-address 04).

**SERVTL**

Telephone status display server for hunt groups and

Attendant Consoles accessible from a PAD link with Videotex emulation.

**KITAXE**

Charge record distribution server used, for example, by attendant console on PC with the charging management option.

with option, charging management.

Accessible from a PAD link ("IRIS" card with Attendant Console on PC).

**EAS**

External Application Server.

Allows management of set categories, wake up calls, etc., from a PC running the corresponding application software (Hotel management, Call distribution, etc.).

**MUFACT**

Billing multiplexer/demultiplexer (Multi-site).

Allows call records to be sent to external PCs according to sorting criteria and the companies they are meant for. This server calls on the KITAXE server to perform its task.

**SERGIC**

Server used in multi-site situations. Maximum packet data field size = 1024.

**SRVRHM**

Server used for remote operation.

**TELBOR**

Server used for DECT.

**BUFTIC**

SERVER BUFFER associated with the integrated buffer.

**Table 7: SERVER DIRECTORY NUMBER LIST**

<b>SERVER</b>	<b>DIRECTORY NO.</b>	<b>SUB-ADDRESS</b>	<b>COMMENTS</b>
AFISER	010	00	Echo
		01	Eliminator
		02	Slow speed character generator
		03	Fast speed character generator
		04	Caller identification
SERVTL	011	1	VMAIL V.24 call
		6	CSTA server call
		7	SRTAPI call
		8	SRTAPI call
		90	Windows attendant console server call
		91	H.323 gateway access server call
		92	SMDI call
		93	Debug server call
KITAXE	012	000	Telephone ticket
		010	Packet data ticket
		020	Circuit data ticket
		030	Service ticket
		040	Supervision ticket
EAS	013		EAI internal server External application interface
MUFACT	014		Called by KITAXE Multi-site ACD
SERGIC	016		Multi-site server
SERVRHM	017		MMC hot line call from a PAD
TELBOR	019		Hot line call for DECT
BUFTIC	021		Associated with the integrated buffer

Select the server name then click **Select item** to move to the next screen used to define the following parameters :

### STATUS

**DISABLED**

**IN SERVICE**

The current status of the server is shown in the <name> section.

This field is used to enable>disable the server.

### DIRECTORY NUMBER

Corresponds to the directory number indicated in the table entitled "list of server directory numbers". Example, 010 corresponds to the AFISER server.

### CATEGORY

This is the name of the category that is to be assigned to the server; it is defined in the "Category names" menu.

This category defines the outgoing/incoming restrictions which are to be applied to the server, characteristics given in the “Category definition” menu.

### REVERSE CHARGING ACCEPTED

**NO**

**YES**

If YES, indicates that the subscriber associated with the server systematically accepts a call requesting charging of the called party (reverse charge or collect call).

### ACCESS LIST

Name of the access list defined in the “Access list names” menu which is to be assigned to the server.

This list gives the number of a list of external callers (from PSDN) authorised to communicate with this particular subscriber (barring of incoming calls).

X25 calls are filtered according to either caller number, or a password, or a combination of both of these.

### OUTGOING CUG (0 . . . . . 15)

Indicates the list of values of the closed user group to which the server belongs.

### MODIFY GROUP NUMBER

Allows the Outgoing CUG number to be modified.

### INCOMING CUG (0 . . . . . 15)

Same principle as outgoing CUG.

### MODIFY GROUP NUMBER

Allows the Incoming CUG number to be modified.

### MAX. PACKET DATA FIELD SIZE

Available values are: 128, 256, 512 or 1024. For the SERGIC server, the maximum packet data size is 1024.

### NR. OF LOGIC. CHANNELS EQUIPPED (1/250)

Possible values are from 1 to 250. The default value is 16. These logical channels concerning the server are incoming channels.

### NR. OF OUTGOING LOGIC. CHANNELS (0/250)

### NR. OF INCOMING LOGIC. CHANNELS (0/250)



**CAUTION :** The AFISER server offers different services for character generation/elimination. This is the first item to be put into service in the iPBX as connected terminals can then dialog with it, which allows connection, programming and operation of link configuration to be checked.

- **Available Services**

- 00 --> Eliminator/generator
- 01 --> Eliminator
- 02 --> Low speed character generator (1 packet/second)

- 03 --> Fast speed character generator
- 04 --> Provides the caller number.
- **Access to a service is obtained by dialling the code corresponding to the service, after the server directory number.**

*Example:* numbering 9 010 04

- 9 = Local routing number
- 010 = AFISER directory number
- 04 = AFISER service number

### 6.5.6.2 *External applic. Server users*

Menu **NETWORK AND LINKS>Data links>Servers>External applic. server users**

In the table displayed on this screen, the already declared users are displayed.

#### **SELECTION OF USER NO. (1/8)**

A digit from 1 to 8 for selecting the user listed in the first part of the display.

#### **ACCESS LIMITED TO ONE COMPANY**

**NO**

**YES**

Select YES to configure access to one company only.

Select NO to obtain the list of all declared companies (16 maximum).

#### **NAME OF THIS COMPANY**

**COMPANY**

Select a company.

After making the selection (single or multi-company), click the corresponding number to access the screen used to define the following parameters:

#### **USER IDENTIFICATION**

Enter a name for the user.

#### **PASSWORD**

Enter a password for the user.

#### **ACCESS RIGHT TO COMMANDS:**

- Password modification YES/NO
- Update system time YES/NO
- Calendar switchover YES/NO
- Least Cost Routing Management YES/NO
- Wake-up management YES/NO
- Category management YES/NO
- Message lamp management YES/NO

- Digital set key management YES/NO
- Read set status YES/NO
- Set language management YES/NO
- Hunt group monitoring YES/NO
- Prepayment management YES/NO
- Move multi-users YES/NO
- Confidential code management YES/NO
- Call distribution management YES/NO
- Forwarding management YES/NO

Click YES to validate the departments that will be accessible to the user.

The scroll bars on top and on the right side of the screen << and >> are used to navigate to configure the EAS rights for all the users declared.

### 6.5.6.3 *CSTA servers*

Menu **NETWORK AND LINKS>Data links>Servers>CSTA servers**

This menu is used to configure the CSTA servers whose connection is password-protected.

Number of CSTA links per user:

- On MiVoice 5000 Server, 6 CSTA links,
- On Mitel 5000 Gateways, 2 CSTA links,

#### **CHARACTERISTICS TAB**

##### **CSTA server number 0 to 63**

The first 64 CSTA servers may be associated with a password.

##### **Server password**

Enter here the CSTA server password: 16 ASCII characters maximum, upper cases and lower cases.

##### **Recording**

Checkbox indicating whether the server type is a call recorder, like the server at ASC.

**TCP port:** TCP port chosen for the TCP-IP/X.25 gateway. Authorised values: 2001 -> 65534 except for the following port values used already, and system ports.

Default assignment of port 3211 to Server 00 in NOT DELIMITED mode.

##### **Mode:**

NOT DELIMITED: Default value

TPKT:

#### **STATUS TAB**

This tab is used to display the status of CSTA servers:

Column 1: server number

Column 2: server type: CTI\_CSTA, CTI\_ACP, CTI\_BSS or CTI\_ASC

Column 3: number of sessions on the server

Column 4: server host site

Column 5: host site node

#### 6.5.6.3.1 Notes during an update to R7.2

In the first **CHARACTERISTICS** tab, the ports already in place before the update to R7.2 can be entered, but it is preferable to delete them first in the Translation menu **TCP port - X.25 address**). Refer to paragraph 6.5.7.

Deleting a port from the **Translation TCP port - X.25 address** menu and recreating it in the CSTA Servers menu (or vice versa, for that matter) has no impact on established connections.

Once recreated, it disappears from the other menu.

To force a release of the connections established via the TCP-X.25 gateway, it is possible to put the X.25 subscriber under operator.

It is not possible to force a direct TCP connection release without restarting the application or the iPBX.

## 6.5.7 TCP/IP – X25 GATEWAY LINK

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway**

This screen is used to select a gateway to access TCP/IP – X25 server characteristics. It has five functions.

### 6.5.7.1 TCP - X25 address port translation

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway>TCP – X25 address port transl.**

#### DIRECTORY NUMBER

Select the directory number of the gateway link. The field displayed is used to modify the characteristics of a remote server.

It is possible to modify a TCP – X25 Address port translation with the active gateway link; the modification is only taken into account when the gateway link is reactivated.

- If, when the translation is modified the gateway link is free, it will be automatically “disabled” then “reactivated”.
- If, when the translation is modified the gateway link is in communication, it will be automatically “disabled” then “reactivated” as soon as the gateway link becomes free (e.g., when modifying a translation with MiVoice 5000 Manager, as soon as MiVoice 5000 Manager disconnects, the gateway will be automatically “disabled” then “reactivated”).
- If, when the translation is modified the gateway link is in communication, for the modification to be taken into account immediately, the gateway must be “disabled” then “reactivated” manually.

The title displays the link’s directory number.

#### PORT

Port number of 5 digits maximum: This number must be greater than 2000. If it is nil, the field is considered as empty.



**Note :** As long as this number has not been entered, the following fields are not displayed.

#### X25 NUMBER

X25 number of 15 digits maximum (address requested in the call packet).

#### MODE

By default, the NOT DELIMITED mode is assigned.

#### CALL DATA (VALUES):

<b>ASCII</b>	(16 characters max.)
<b>HEXA (00/07)</b>	42 6F 6E 6A 6F 75 72 0D
<b>HEXA (08/0F)</b>	0A .....

X25 call data is stored in the table (PIPD\_DONNEES\_APPEL) in the form of ASCII characters. Excluded characters are replaced, for display, by the substitution character "?".

16 remote X25 servers, per gateway, can access call data; the “FULL TABLE” message is shown in the case of overflow.

If certain ACSII characters cannot be entered, you can use the corresponding hexadecimal (HEXA). Input in one mode (ASCII or HEXA) automatically updates the other mode (HEXA or ASCII) at line change.

### **ACTION**

Save or delete.



**Note :** The **PORT** and **X25 NUMBER** fields must be filled in for the action to be valid.

The scroll bars on top and on the right side of the << and >> screen are used to navigate to modify the characteristics of another remote server.

#### **6.5.7.2** *Update X25 addresses*

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway>TCP – Update X25 addresses**

This screen offers a quick means of updating, in just one operation, the correspondences between port ↔ X25 address for the internal routing plan.

#### **OLD BEGINNING OF X25 ADDR.**

Enter the old beginning of X25 addresses (from 9 to 901).

#### **NEW BEGINNING OF X25 ADDR.**

Enter the new beginning of X25 addresses (from 9 to 901).

#### **CONFIRMATION**

Click the bar to confirm the update.

#### **6.5.7.3** *Display TCP port translation X25 Address*

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway>Display TCP port transl. – X25 addr.**

#### **DIRECTORY NUMBER**

Select the directory number of the gateway link.

The screen displays all the X25 numbers associated with the port numbers for the selected gateway link.

#### **6.5.7.4** *X25 – IP address translation*

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway>X25-IP address translation**

#### **DIRECTORY NUMBER**

Select the directory number of the gateway link. The screen displays the following field:

#### **SUB-ADDRESS**

2-digit X25 additional number. If the field is empty, the subaddress is OFFH.



**Note :** As long as this number has not been entered, the following fields are not displayed.

From this menu you can modify the characteristics of a remote TCP server, but only if the associated gateway link is inactive.

The title displays the link's directory number.

**SUB-ADDRESS**

2-digit X25 additional number. If the field is empty, the subaddress is 0FFH.

**IP ADDRESS**

IP address of the local network set the set which the gateway must connect to when it receives the subaddress.

**PORT**

Port number (5 digits maximum) of the local network set to which the gateway must connect when it receives the subaddress. This number must be greater than 2000. If it is nil, the field is considered as empty.

**MODE**

By default, the NOT DELIMITED mode is assigned.

**ACTION**

Save or delete.



**Note :** The PORT and IP ADDRESS fields must be filled in for the action to be valid.

### 6.5.7.5 *Display X25 – IP addr. translation*

Menu **NETWORK AND LINKS>Data links>TCP/IP – X25 gateway>Display X25-IP addr. translation**

**DIRECTORY NUMBER**

Select the directory number of the gateway link. The next screen displays the list of TCP servers (IP address and port) accessible from the iPBX through the sub-address, for the selected gateway link.

## 6.5.8 PARAMETERS



**WARNING :** Data link parameters may only be modified under the control of Technical Support.

Menu **NETWORK AND LINKS>Data links>Parameters**

**PARAMETER NO. IN DECIMAL**

In this field, enter the number, in decimal, of the parameter to be modified.

**VALUE TYPE**

**DECIMAL**

**DCB**

Indicate the value type.

**DECIMAL VALUE**

This line is displayed if the value type selected is DECIMAL.

Enter in this field the value of the parameter. Each parameter has a default value.

**BCD VALUE**

This line is displayed if the value type selected is DCB. Enter the parameter value in Binary Coded Decimal.

### CONFIRMATION

After each modification, just click "Confirmation" to validate the operation.

## 6.6 INTERNET GATEWAY

Menu **NETWORK AND LINKS>Internet gateway**

 **This command is not available for Mitel 5000 Gateways.**

The SBC provides the following service on MiVoice 5000 Server and for trunk calls only:

- Signal/media NAT
- Audio/video transport (interface with RTPProxy)
- Defence against DoS (flooding or hacking) and DDoS attacks

The function is not subject to a license; however the IPbx key code must be entered first. This command is used to configure the SBC trunk integrated in the MiVoice 5000 Server solution. This service is used to manage NAT in case of access to an SIP (SIP trunk) operator for which the NAT problems cannot be solved by the operator.

The screen contains four tabs:

- The first one is used to modify the global parameters.
- The second one is used to edit the security parameters.
- The third one is used to enter white list addresses.
- The fourth one is used to display the blacklisted DoS addresses, and to partially reset this list.

For service and port-based DSCP encryption and configuration, please refer to Section Encryption and IP parameters.

## 6.6.1 GLOBAL PARAMETERS

It is the first tab displayed by default. It sets the global parameters of the SBC trunk.

In case of modification, the service is automatically restarted when the operator exits the MMC or closes the global parameters tab.

### INTERNET GATEWAY SERVICE

Gives the service status. When the field name is clicked, a link opens the service configuration menu in which the **Internet gateway** service can be stopped or started.

Refer to Section SECURITY .A certificate must also be assigned to this service beforehand.

The screenshot shows the Mitel Telephony service web interface. The main content area is titled "Certificates management" and includes a breadcrumb trail: "Telephony service>System>Security>Certificates management (2.4.1)". There are several tabs: "Certificates", "Servers certificates assignment", "Clients certificates assignment", "Certification authorities", and "Revocation". The "Certificates" tab is active. Below the tabs, there is a dropdown menu for "Available certificates" set to "SelfSignedSHA2". A table lists certificates with columns for "Comment", "Authority (CA)", "Valid from", "Valid until", and "Common name". The first row is "Signature SHA256" with authority "1C...". Below the table is a list of services with checkboxes: "Inter-site Link" (unchecked), "WebAdmin" (checked), "User Portal" (checked), "Internet Gateway" (unchecked), "SIP" (unchecked), and "LDAP server" (checked). At the bottom, another table shows the "Use" of certificates for various services: "Inter-site Link", "WebAdmin", "User Portal", "Internet Gateway", "SIP", "LDAP server", "P1CS", and "P7CS".

Comment	Authority (CA)	Valid from	Valid until	Common name
Signature SHA256	1C...	10/02/20 11:52	07/02/30 11:52	1C...

Use	Name	Valid from	Valid until
Inter-site Link			
WebAdmin	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
User Portal	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
Internet Gateway	pascal.f...	27/01/20 18:31	24/01/30 18:31
SIP	pas...	27/01/20 18:31	24/01/30 18:31
LDAP server	SelfSignedSHA2	10/02/20 11:52	07/02/30 11:52
P1CS			
P7CS	pa...	27/01/20 18:31	24/01/30 18:31

The Global parameters tab can be used to configure up to 5 IP addresses.

The addresses 0.0.0.0 and 255.255.255.255 are forbidden.

**Secure interface and Operating mode:**

Web Admin home  
Subscribers  
System  
Dialing plan  
Network and links  
Internet gateway  
Reception  
Voice mail and tones  
Fast links

Internet Gateway configuration  
Telephony service>Network and links>internet gateway (4/6)

General settings | **WebRTC** | **Security settings** | WhiteList | DoS BlackList

Service INTERNET GATEWAY STOP

Secure interface

Working mode SBC TRUNK ▼

NAT on public interface

- public address 10.148.65.105

- port (UDP) 5062

- public interface 10.148.65.105 ▼

- port (UDP) 5062

private interface 10.148.65.105 ▼

- port (UDP) 5064

NAT on the private interface

IPBX address from SBC viewpoint

- port (UDP) 5060

IPBX address

- port (UDP) 5060

SBC Trunk :

- minimum RTP port 20000

- maximum RTP port 27999

Modification of RTP port on renegotiation

Support of symmetric RTP NO ▼

To achieve TLS support for trunks via SBC, the Internet gateway allows TLS protocols to be defined on both public and private interfaces.

These protocols only apply to SBC trunks and, thus, to Operating Mode: **SBC TRUNK** or **SBC TRUNK + WEBRTC**, if **Secure interface** is ticked.

The **Public protocols** and **Private protocols** drop-down lists appear only if the **Secure interface** check box is ticked.

For **Public protocols**, the options are:

- TLS
- TLS + UDP

For **Private protocols**, the options are as follows for the value **Public protocols**:

- If **Public protocols = TLS**
  - Options for **Private protocols**:
    - TLS
    - UDP
- If **Public protocols = TLS + UDP**
  - Options for **Private protocols**:
    - TLS + UDP



**Note:** **WEBRTC** can only be chosen when **Secure interface** is ticked and the public and private interfaces are different.

When **Public protocols = TLS + UDP**, the options are:

- TLS
- UDP
- TLS + UDP

But if the choice is **TLS** or **UDP**, **Public protocols** changes to **TLS**.

## **Other fields outside the Secure interface**

### **Public protocols**

See **Secure interface and Operating mode** above:

### **NAT ON THE PUBLIC INTERFACE**

A checkbox used to specify whether NAT is present on the public network.

By default, the box is unticked.

If this box is ticked:

#### **Public interface**

- Options list of public interface (IP address)
- **(UDP/TCP) Port:** 5062 by default (modifiable)
- **Secure port (TLS)** for secure interface: 5063 by default (modifiable)

### **Private protocols**

See **Secure interface and Operating mode** above:

#### **Private interface**

- Options list of private interface (IP address)
- **(UDP) Port:** 5064 by default (modifiable)
- **Secure port (TLS)** for secure interface: 5064 by default (modifiable)

### **NAT ON THE PRIVATE INTERFACE**

A checkbox used to specify whether NAT is present on the private network.

By default, the box not ticked.

If this box is ticked:

#### **IPBX ADDRESS**

- Enter the IP address of the iPBX seen from SBC.
- **(UDP) Port:** 5060 by default (modifiable)
- **Secure port (TLS)** for secure interface: 5061 by default (modifiable)

#### **SBC trunk**

- Port : 5060 (non modifiable)
- Port RTP minimum (20000)
- Port RTP maximum (28000)

**RTP port change on renegotiation:** checkbox

### **Symmetric RTP support**

Options list used to configure the type of symmetric RTP support:

- NO
- FOR DEVICES WITHOUT NAT
- ALWAYS

Leave on **NO**. The other options cannot be used in this release.

## **6.6.2 WEBRTC**

## **6.6.3 SECURITY PARAMETERS TAB**

### **SECURITY LEVEL**

This first parameter is used to configure the deployed level of safety. Options list, three possible values:

- None: if the security level (Level "None") is not activated, the white and black lists are not taken into account for IP address filtering. Moreover, the following lines on this screen are hidden.
- Self-protection: for the "self-protection" level the Black list and White list serve as a filter.
- White list only: for the "whitelist only" level (for SBC only), only the "whitelist" entered by the operator serves as a filter.

### **DoS parameters**

- Threshold: variation range of 10 to 5000
- Window (seconds): range of 2 to 10
- Period: options list
  - 30 seconds
  - 5 minutes
  - 30 minutes
  - 1 hour
  - 1 day
  - 1 week
  - indefinite

### **DDoS parameter**

- Threshold: variation range of 10 to 5000

- Window (seconds): range of 2 to 10

#### **DELETING THE DOS BLACKLIST**

- The DELETE option empties the DoS blacklist.

#### **6.6.4 WHITELIST TAB**

For entering the 100 IP addresses used on the white list.

#### **6.6.5 BACKLIST DOS TAB**

This tab is displayed when security is deployed. It is used to display, at a given time T, the IP addresses that are not trustworthy, preceded by the registration date and time.

The action possible on the list is deletion, in the "Security parameters" tab.

### **6.7 VPN TELEWORKING**

Refer to the document Open VPN service integrated into MiVoice 5000 Server and C2IC Implementation Manual AMT/PTD/PBX/0137/EN.

# 7 CALL DISTRIBUTION MANAGEMENT

This management domain is all about managing incoming calls according to :

- Timeslot (according to a calendar)
- Call origin (PSTN, TL or internal)
- Call number (special treatment for DISA number, for instance).

It also all about defining :

- The operator services on which incoming calls are distributed
- Interactive voice server (IVS) scripts
- DISA scripts
- Answering services.

Call distribution is managed from the menu **TELEPHONY SERVICE>CALL DISTRIBUTION**.

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

## 7.1 CALL DISTRIBUTION MANAGEMENT

Menu **RECEPTION>Call distribution management**

This menu is used to configure and display the different call distribution options available on the iPBX.

- For a multi-company configuration, an additional menu **Display by company** is proposed.

A call distribution service defines the way in which incoming calls are answered in three service modes :

- Normal day service
- Reduced day service
- Night service

"Normal day" mode is the normal answering mode for calls in the day period.

"Reduced" mode is the mode used during the day, if the normal day operator groups are deactivated.

"Night" mode is used in calendar night periods and if all the day operator groups are deactivated. (If even one of these operators is present, the "day" mode is used).

The answering service can be defined on an attendant console or on a set. It may be handled by 3 different answering services if the calls are from the public switched network, TLs or internal users (order line).

A day/night calendar which manages the answer mode for incoming calls is associated with each call distribution service. This calendar is defined in "CALL DISTRIBUTION>Calendars" and assigned to call distribution in "CALL DISTRIBUTION>Call distribution management>Definition".

## 7.1.1 CALL DISTRIBUTION NAMES

Menu **RECEPTION>Call distribution management>Characteristics, Names tab**

This command is used to display the list of call distribution operations declared already on the system, and to declare new ones.

Like other entities, a call distribution service is defined by a name and cannot be managed or allocated unless it features a name.

This menu is therefore used to define the various call distribution services available in the system. Call distribution service C. DIST .0 is provided on installation.

The system proposes 64 call distribution names (with the possibility of one per company in multi-company configuration).

Each call distribution service is designated by a name and can only be managed if its name has been declared.

This name can contain up to 16 characters.



**Note :** In the case of multi-company configuration, it is advisable to use the **COMPANY NAME** for the **CALL DISTRIBUTION NAME**.

### C. DIST. 0

You will find in this field the call distribution service C. DIST. 0 provided upon system installation.



**Note :** The default call distribution service, **C. DIST 0**, can be renamed.

### CALL DIST. 1 TO 63

Name of call distribution services (1 to 63): these fields are used to create supplementary call distribution services in addition to the call distribution service initially defined.

## 7.1.2 CALL DISTRIBUTION MANAGEMENT

Menu **RECEPTION>Call distribution management>Characteristics, Definition tab**

This command is used to configure the call distribution services declared on the system.

Select the name of the call distribution service to be configured in the drop-down list then click **Select item**.

### 7.1.2.1 C. DISTR. ACC.0 DEFINITION

This screen is used to define the distribution of incoming calls in the three service modes.

#### DAY: TO

Name of operator group (OPGP1 to OPGP15), dissuasion message or internal extension (directory number) for day routing.

The definition of DAY ROUTING : ROUTED TO OP GP 1 to OP GP15 corresponds to normal operation (day and night, with the operator console active).

#### OR TO DIRECTORY NUMBER

Directory number of the set or group of sets assigned to day routing.

#### REDUCED : ROUTED TO

Name of operator group (OPGP1 to OPGP15), dissuasion message or internal extension (directory number) for reduced day service routing.

The definition of REDUCED SERVICE ROUTING: TO OPGP1 to OPGP15 corresponds to reduced day service. (ATDC deactivated during calendar day periods).

#### OR TO DIRECTORY NUMBER

Directory number of the set or group of sets assigned to reduced day service routing.



**Note :** Reduced day service call distribution is also used when the set assigned to day call distribution is busy 2.

If the set assigned to reduced day call distribution is busy, calls are routed to the service group defined in the characteristics of the trunk group on which the call is received (see the menu NETWORK AND LINKS> Network> Trunk groups> Characteristics).

#### NIGHT : ROUTED TO

Select the name of an operator group (OPGP1 to OPGP15), a dissuasion message, or an internal set (directory number) for night routing.

The definition of NIGHT ROUTING: TO OPGP1 to OPGP 15 corresponds to reduced night service (ATDC deactivated during calendar night periods).

#### OR TO DIRECTORY NUMBER

Directory number of the set or group of sets assigned to night routing.

#### REFERENCE CALENDAR

Name of the reference calendar to determine the switch-over from reduced service routing to NIGHT routing and vice-versa, when day routing is deactivated.



**Note :** If the terminal assigned to night call distribution is busy 2, calls are routed to the service group defined in the characteristics of the trunk group on which the call is received (see NETWORK AND LINKS> Network>Trunk groups> Characteristics).

#### CALL DISTR. AUTHORIZ. BY EXTERIOR

**NO** **YES**

If you select YES, call distribution may be handled by a remote set in case of no answer (case of networking on a QSIG trunk group; see also "Characteristics of a QSIG trunk group").

Once you select YES for this field, the screen is refreshed to display the parameters used to configure the distribution of incoming external calls arriving on this call distribution service.

Example :

If the INTERNAL DAY DIRECTORY NUMBER does not answer, the call is forwarded to the remote terminal defined in the field DAY : ROUTED TO #.

Moreover, if the parameter RETURN TO INTERN. REDCD. ANSW. S is set to YES and the remote terminal fails to answer, the call is forwarded to the REDUCED INTERNAL DIRECTORY NR. If this latter does not answer, the call is forwarded to the number indicated in REDUCED : ROUTED TO #

#### DAY : ROUTED TO #

Directory number of the remote set that will be assigned to day routing in case of no answer from the internal extension with the same function.

#### RETURN TO INTERN. REDCD. ANSW. S

**NO** **YES**

If you select YES, return to reduced internal call distribution is authorised.

#### REDUCED : ROUTED TO #

Directory number of the remote set that will be assigned to reduce service routing in case of no answer from the internal extension with the same function.

#### RETURN TO BACKUP CALL DISTR.

**NO** **YES**

If you select YES, return to backup call distribution is authorised.



**Note :** The emergency answering service is the night forwarding service extension. It is defined by the parameter FORWARD CONSOLE TO DN, in the answering service definition menu.

#### NIGHT : ROUTED TO #

Directory number of the remote set that will be assigned to night routing in case of no answer from the internal extension with the same function.

#### RETURN TO BACKUP CALL DISTR.

**NO** **YES**

If you select YES, return to backup call distribution is authorised.

### 7.1.3 CALL DISTRIBUTION ALLOCATION (SINGLE-COMPANY CONFIGURATION)

Menu **RECEPTION>Call distribution management>Characteristics, Allocation tab**

This command is used to assign a call distribution service to each type of call and to define the common bell number.



**CAUTION :** This command is only available in single-company configuration. In a multi-company configuration, call distribution services are assigned in the company/department definition menu **SUBSCRIBERS>Hunt groups and companies>Multi-company management>Company/department parameters.**

By default, the three traffic flows (PSTN + return on no answer of a set in DID + TL + internal) are routed to the same call distribution service (ACC.0). This allocation is only valid for trunk groups or lines which have declared an incoming route on a "call distribution service".

However, it is possible to select a different call distribution service for each type of traffic flow (PSTN, TL, and internal).

#### C.DIST. FOR PSTN CALLS

Name of the call distribution service on which calls received from the public network are routed (ISDN and ANALOGUE PSTN) : the call distribution service by default is ACC.0

#### TIE LINE CALL DISTRIBUTION

Name of the call distribution service on which calls received from the TL (tie line) network are routed: the call distribution service by default is ACC.0

#### INTERNAL CALL DISTRIBUTION

Name of the call distribution service on which calls received from the LAN are routed (internal attendant console calls): the call distribution service by default is ACC.0

#### COMMON BELL DN

Internal directory number of the common bell (this number must be in the subscriber numbering plan) :

- Either "798" (on NeXspan S/L/D) corresponding to the integrated bell relay command
- or a directory number of an analogue equipment interface to which an external bell is to be connected

#### 7.1.4 DISPLAYING CALL DISTRIBUTION USERS (MULTI-COMPANY)

Menu **RECEPTION>Call distribution management>Characteristics, User tab**

This command is used to display the list of users of a given call distribution service.



**Note : Call distribution user display is available in multi-company configuration only.**

##### CALL DISTR NAME

The drop-down list contains the names of call distribution services declared on the iPBX.

Select a call distribution service from the drop-down list then click **Select item**.



**Note : Only the columns with at least one call distribution user are displayed.**

The call distribution user display screen shows, for each call type, the company/department pair used. It also shows each DID corporate number whose routing has been defined on this call distribution service, as well as the company/department pair it is using.

DISPLAY ...	MEANING:
*****                      *****	for all the departments of all the companies
Cmpny 0                      *****	for all the departments of "company 0"
Cmpny 0                      *****	for the "doc department" of "company 0"

For a given call distribution, when any of the lines is clicked, the user interface redirects the user to call distribution assignment in the company/department definition menu **SUBSCRIBERS> Hunt groups and companies>Multi-company management>Company-department parameters** (multi-company configuration).

## 7.1.5 CALL DISTRIBUTION STATUS DISPLAY

Menu **RECEPTION>Call distribution management>Characteristics, Status tab**

This command is used to know at a given moment the status of each of the call distribution services, and therefore, the resulting overall service.

A call distribution service can be in the following 3 statuses :

- Day
- Reduced
- Night.

### RECEPTION

Name of the call distribution service.

### TYPE

Current status of the call distribution service.

Possible values are : day, night, or reduced.

### HANDLED BY

Current routing of calls arriving on the call distribution service.

Possible values are: directory number, operator group or dissuasion message.

## 7.1.6 C.DISTR. DISPLAY BY COMPANY

Menu **RECEPTION>Call distribution management>Display by company**

This command is used to display the call distribution services to which calls are routed by type, day of the week and time.



**CAUTION :** The display of the call distribution services by company/department only appears in multi-company configuration.

### COMPANY

\*\*\*\*\*

**CMPNY.0**

Company name.

The drop-down list contains the names of companies created in the system.

### CALL TYPE

**PSTN**

**TL**

**INTERNAL**

Types of calls for which display is required.

### DAY OF THE WEEK

-----

**MOND  
AY**

**TUESD  
AY**

**WEDNESDA  
Y**

**THUR  
SDAY**

**FRIDAY**

**SATUR  
DAY**

**SUNDAY**

Day of the week for which the display is required.

### TIME HH: MM

Time: HH MM (HH=hour, MM=minute) for which the display is required.

Select the criteria then click **Select item**. The next screen summarises the use of call distribution services by each of the departments in the company, from the required date (day, time) until the date on which a modification may be made.



**Note :** The required date and time are indicated in the screen header.

The display screen table indicates for each department that uses a call distribution service on the required date :

- The department name
- The name of the call distribution service used
- The status of the call distribution service
- The routing for the call distribution service
- The expiry date and time of the information displayed.

## 7.2 IVS SCRIPTS MANAGEMENT

### Menu **RECEPTION>IVS scripts**

IVS (or IVR) is the interactive voice response function integrated into Mitel 5000 Gateways systems and MiVoice 5000 Server.

Interactive voice response is a special subscriber (AUTOMATED ATTENDANT) to which an IVS script is assigned.

The capacities and occupation rates of message formats are indicated in Menu **Device>Monitoring>Filling of the disk space**.

When a call arrives on its number, the associated script presents some messages to the caller. Depending on the answer given to a message by the caller (in form of Q23 codes corresponding to keys "1", "2"... «9», «\*», «#» on the telephone keypad), either a new message is presented to the caller or an action is triggered such as a transfer to an internal subscriber.

An IVS script is a tree of nodes; each node is associated with an IVS message, that is a file in ".WAV" format. If the script is multi-lingual, a message per language may be assigned to each node.

The IVS messages on the iPBX are stored in distinct directories for each language, and there is no sharing of files between two languages.



**CAUTION :** The sound files correspond to the IVS messages that must be recorded in this format: 8 bitsWAV, A law or  $\mu$  law, Mono at 8KHz. The compression law must be compliant with the law of the country in which the iPBX is used.

For the MiVoice 5000 Server, the sound files can be stored in 16bits.16 Khz mono PCM linear format and the audio file in H264 avi format (baseline profile).

The IVS management menu is used to manage, modify and delete up to 15 IVS scripts. The IVS can be activated once the scripts are developed. An example of activation is given in 7.2.6.



**Note :** Generally, a company uses 1 or 2 scripts, typically a day call distribution service and a night call distribution service, and provides its own recorded announcements with a given studio voice. It is, therefore, advisable to use the company name as prefix for the sound files because two companies are not likely to use the same file. Moreover, this facilitates script and announcement management.

IVS scripts are managed using 4 commands :

- **Names** : this command is used to declare the scripts on the system.
- **General characteristics** : this command is used to define all the parameters that are common to all the nodes of a script.
- **Tree** : this command is used to describe the script nodes.
- **Copy of script** : this command is used to copy a script to another script, for instance, in order to modify it without disturbing the behaviour of the script in operation, or to share announcements between several scripts (see point 2 in the next paragraph).

The **User display** command is used to know the users of a script.

### 7.2.1 GENERAL RULES APPLICABLE TO IVS SCRIPT MANAGEMENT

1. A script may exist in one or more languages. Each script may use a maximum of 3 languages, and all the scripts may use a maximum of 8 different languages.

2. In the language name drop-down list, an arrow in front of the language name indicates that this language is used by at least one script:
3. An announcement may be used by only one script, except in the special case where a script is copied. This constraint means that if two scripts must present the same announcement to a caller, this announcement must be available in two copies, under two different names. As indicated above, the need to share announcements among several companies is very unlikely due to the consistency of recording voices. On the other hand, within the same company, it is possible that two scripts use the same generic announcements. To avoid this constraint, it is advisable to create a first script then make one or more copies of this script and modify the tree for each copy, according to the needs.
4. When a file name is available in an announcement definition field, there is a hypertext link on the name of the field.
  - Left-clicking this link plays back the announcement, provided a .wav file player is available on the PC.
  - Right-clicking this link saves the announcement on the PC.
5. To be able to untick an option with which an announcement is associated, you must also delete the association with the corresponding announcement. This action is proposed by the graphical interface and illustrated by the following example :

## IVR script: TEST

Telephony service&gt;Reception&gt;IVR scripts (5.2)

By its name TEST ▾

Names	General characteristics	Tree	Users	Recopy
<p>Default language <span style="float: right;">-&gt; Francais ▾</span></p> <p>Multi languages <input checked="" type="checkbox"/></p> <p>Language (key 1) <span style="float: right;">-&gt; Francais ▾</span></p> <p>Language (key 2) <span style="float: right;">..... ▾</span></p> <p>Language (key 3) <span style="float: right;">..... ▾</span></p> <p>Messages: WAV mono 8khz 8bits A LAW</p> <p style="text-align: center;"><a href="#">Advanced characteristics ...</a></p>				

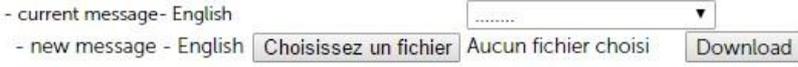
In this example, the multi-language option has been unticked after being ticked. The confirmation button "Supp language and associated files" is used to validate the action, and the file **selection langue.wav** becomes an unused announcement if it is not used elsewhere.

6. The drop-down list of fields used to associate an announcement with a node contain some actions and, possibly, some file names if some announcements are already being used by the script. The dropdown list is used to check whether or not an announcement has already been associated.

The file names located above the horizontal line correspond to the files used already in the script for the language in question. The ones below the horizontal line are files available on the iPBX but which are not used for the language concerned.



**Note :** The files used by another script or another language of the script are not available on the drop-down list.

<p><b>REPLACE THIS MESSAGE BY A NEW</b></p>	<p>The following download field appears:</p>  <p>Press the “Browse...” button to open a browser.</p> <p>Select the file you want then click “Download”.</p> <p> <b>WARNING: all the occurrences for the file will be replaced and not just the ones corresponding to the field in which this choice is made.</b></p>
<p><b>DO NOT USE THESE MESSAGES</b></p>	<p>Deletes the association of the announcement(s) with the script node</p> <p><b>General characteristics</b> tab: deletes the announcement(s) from the iPBX if there is no other usage occurrence (in any of the scripts).</p> <p>In the <b>Tree</b> tab: the announcement is not immediately erased; so, it can be used again by another node. It will be deleted after a new IVR is added or when the PBX is restarted.</p> <p> <b>Note: if the script is multi-lingual, these actions apply to all the announcements associated with the script node.</b></p>
<p><b>File name</b></p>	<p>The announcement corresponding to the selected file is associated with the script node.</p>

7. An announcement associated with a LONG MESSAGE node is an announcement through which it is possible to navigate.  
The following navigation codes are available while a LONG MESSAGE type announcement is being broadcast:
- 77 : replay message
  - 7 : rewind for 3 seconds
  - 8 : pause/play
  - 9 : fastforward for 3 seconds
  - 99 : end of message

## 7.2.2 DECLARING A SCRIPT

Menu **RECEPTION>IVS scripts – Names tab**

An IVS script is identified by name. To be able to create a script, you must first declare it after giving it a name.

### IVS SCRIPT X

Script name (8 characters maximum).



**Note :** The 15 possible scripts are numbered 0 to 15, the number 10 is excluded.

## 7.2.3 GENERAL CHARACTERISTICS OF A SCRIPT

Menu **RECEPTION>IVS scripts – General characteristics tab**

This command is used to define the general properties applicable to all the nodes of a script (for instance, the choice of languages), as well as the generic behaviour of each of the nodes (actions and associated announcements available to each script node; for instance accesses to the control menu).

### BY ITS NAME

Name of the script.

The drop-down list contains the names of the scripts declared in the system.

Select a script then click **Select item**.

### 7.2.3.1 *Languages choice*

#### DEFAULT LANGUAGE

**FRENCH**

**ENGLISH**

Language which will be used in :

Single-language mode

Multi-language mode, to broadcast the language selection message and the message associated with the Q23 test if available.

The default value for this field is the iPBX language.



**Note :** The value selected for the default language is used to manage the language directories on the iPBX and is not necessarily the actual language of downloaded announcements.

### MULTI LANGUES

If the box is ticked, the script will be available in several languages, provided the corresponding announcements are available.

Once the box is ticked, the language parameters corresponding to multi-language mode are displayed on the screen :

### LANGUAGE

These three columns are used to define up to 3 languages for the script.



**Note :** The value selected for a language is used to manage the language directories on the IPBX and is not necessarily the actual language of downloaded announcements.

#### - CURRENT MESSAGE

This field appears once two languages are chosen. This announcement will be presented to the user so he can choose the script execution language. This announcement is unique (it is not multi-lingual) and is stored in the default language directory.



**WARNING :** If the default language of the script is changed, the announcement is not copied to the directory of the new default language.

See the description of the values in Paragraph 7.2.1 point 6.

#### VIDEO MESSAGES

Field available on MiVoice 5000 server only

Box to be ticked if the script accepts some video scripts. This will display information about the type of files allowed for downloading. In this case, the **avi** line is displayed in the following information columns :

#### MESSAGES: WAV MONO 8KHZ 8BITS A LAW

- **wav mono 16khz 16bits PCM** (only on MiVoice 5000 Server)
- **avi** (only on MiVoice 5000 Server)

Information indicating the formats that must be respected for message file names.



**Note :** There is no processing of video file deletion when the Video messages check box is unticked.

After entering the parameters, click **Advanced characteristics...** to move to the next screen.

#### 7.2.3.2 Q23 test and access to control menu

Clicking **Advanced characteristics** ... opens the following columns :

- Conduct a Q23 test at the start of a script to check that pressing a key on the calling device's keypad actually transmits a Q23 code, which is necessary for interactive navigation during script execution
- Give access to the control menu from any script node.  
The control menu gives access to the following 4 operations through the numeric keys on the keypad:
- Playing back the help message (key 1)
- Returning to the beginning of the script (key 2)
- Transferring a call to the ATDC (key 3)
- Returning to the previous node (key 0).



**Note :** The values for these keys are not configurable.

#### Q23 TEST

If you tick the box, a Q23 test will be conducted at the start of script execution.

Once the box is ticked, the field used to associate an announcement appears on the screen :

**- CURRENT Q23 TEST MESSAGE**

See the description of the values in Paragraph 7.2.1 point 6.



**Note :** It is advisable to associate an announcement prompting the caller to press a key on his keypad.

This announcement exists only in one language and is downloaded to the default language directory.

**MENU OF CONTROL (NAVIGATION BY \*)**

If you tick this box, the control menu will be accessible using the \* key from any script node.

Once the box is ticked, the fields used to associate an announcement with the \* key and the help key are displayed on the screen :

**- MESSAGE CURRENT CONTROL - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**- KEY 1 – HELP MESSAGE (77 7 8 9 99)**

Information string indicating the key to use to play back the help message, as well as codes used to navigate in the help message which is a long message.

**- CURRENT HELP MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**- KEY 2 - RETURN AT BEGIN OF IVS****- KEY 3 - ATD TRANSFER****- KEY 0 – EXIT CONTROL**

Information string indicating the key to use for the actions described.

After entering the parameters, click **Advanced characteristics...** to move to the next screen:

**RETURN TO PREVIOUS NODE BY KEY 0**

If you tick this box, the 0 key can be used to return to the previous node from any node of the script.

The box is ticked by default.

**HANG UP MESSAGE**

**Note :** The hang up message is obligatory.

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**INCORRECT INPUT MESSAGE**

**Note :** The incorrect input message is obligatory.

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**NO INPUT MESSAGE**

**Note : The No input message is optional.**

If you tick the box, a message will be presented to the caller at the end of the timeout (period of inactivity).

Once the box is ticked, the fields used to associate an announcement with the end of the timeout appear on the screen:

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**DEFAULT TRANSFER MESSAGE**

**Note : The default transfer message is optional.**

If you tick the box, a message will be presented to the caller for any type of transfer.



**Note : The default transfer message is also associated with any transfer with which no specific message is associated.**

**- The specific message for transfer to the attendant console may be defined on this screen.**

**The messages for other transfers may be associated with the corresponding nodes while describing the script tree.**

Once the box is ticked, the fields used to define the default transfer message are displayed on the screen:

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**TRANSFER TO THE ATD MESSAGE**

**Note : The transfer to ATD message is optional.**

If you tick the box, a specific message will be presented to the caller for transfer to the attendant console.

If this box is ticked and a **default transfer message** is defined, this message will be presented to the caller.

Once the box is ticked, the fields used to associate an announcement with transfer to a predefined number appear on the screen:

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**DIAL MESSAGE**



**Note :** The dial message is optional.

If you tick the box, a message will be presented to the caller waiting to dial.

Once the box is ticked, the fields used to associate an announcement with the dial message appear on the screen:

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.

**NUMBERING CLOSED BY #**

If you tick this box, the number entered when the dial message was broadcast is considered as complete when # is entered.

If the box is not ticked, the number entered is considered as complete when the number of digits dialled reach the internal numbering plan length.

**ACTION IN CASE OF FAILURE**

Options for the action to take in case of failure:

**TRANSFER TO ATD,**

**TRANSFER TO SUBSCR.:** In this case, enter the internal subscriber number to be reached.

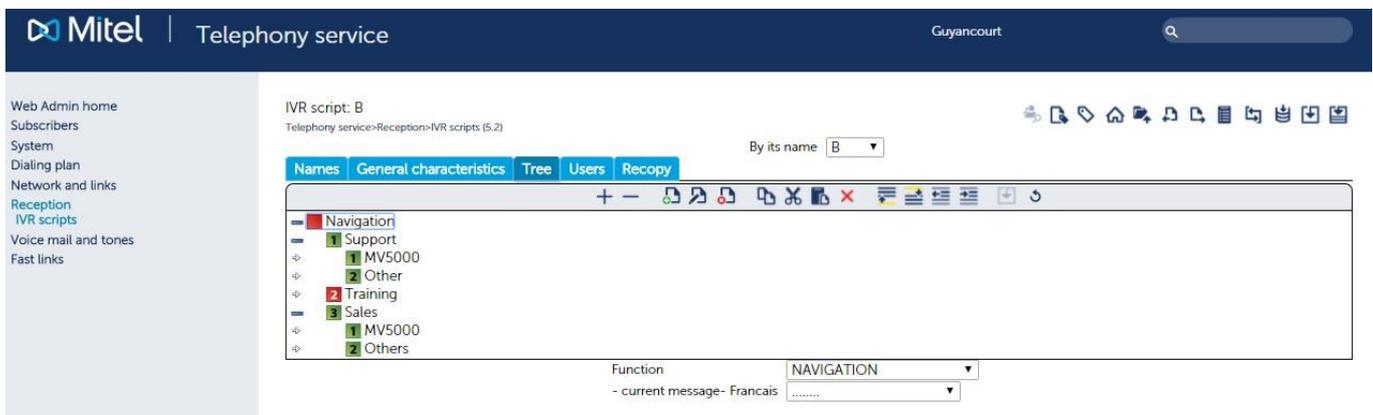
**HANG-UP.**

**7.2.4 SCRIPT TREE DIAGRAM**

Menu **RECEPTION>IVS scripts – Tree tab**

This command is used to create and/or modify an IVS script using a graphic tool.

*7.2.4.1 Overview of the graphic tool*



**Script tree diagram: graphic tool**

The script tree diagram screen is divided into two parts :

The upper part gives a graphic representation of the script tree diagram; this area contains 4 tree-related buttons (see description below).

The lower part, which is only displayed if a tree node is selected, concerns this node; this area contains only one button, , used to update the tree diagram, taking account of the changes made to the node in the lower part.

#### Icons :

The icon in front of the name of a node indicates the associated DTMF, that is the key used to access this node while executing the script, for example .

There are three exceptions to this rule which are node not accessible via a code :

- The first node of the script whose icon does not contain any character : 
- A child node of a LONG MESSAGE type node : 
- A new code which has not yet been backed up : 

A green icon means that the node definition is complete (parameters and associated announcements).



**Note :** A TRANSFER type node, the action of which can be carried out with or without an associated announcement (to ATDC, subscriber or voice mailbox), is deemed complete even if it has no associated announcement.

A red icon means that :

- Either the node definition is incomplete
- The tree was not backed up after this node was modified.
- Or the node is a child of a node that does not accept any child node (after a node is moved or after a copy/paste).



**Note :** The first node on the tree diagram remains red even if its parameters and associated announcements are defined, if at least one obligatory announcement is missing in the general characteristics of the script.

#### Tree and actions display :

- Clicking an item selects this item and opens the lower part of the screen for this item.
- The "up" and "down" arrows of the keypad are used to move the selection.
- Clicking  or  icon located in front of a node reduces or develops this node. The "left" and "right" arrow keys have the same effect on the selected node.
- The "\*" key on the numeric keypad develops all the child nodes of the selected node.
- Double-clicking an item or pressing the "F2" key when an item is selected changes to edit mode for its label.
- In node label edit mode, pressing the "Enter" key validates the modification, while pressing the "Esc" key cancels the last action taken since the last entry in edit mode.
- Pressing "Ctrl+c" copies to a buffer the selected node and its descendant.
- Pressing "Ctrl+v" pastes the content of the buffer as first child node of the selected node.

It is possible to drag and drop a node with the mouse :

- Select the node.
- Place the cursor on the name of the node.
- Then move the cursor to the target node (the moved node will be inserted as child node of the target node).



**WARNING :** It is possible, through copy/paste or drag and drop, to create a child node under a node that does not accept any child node. In this case, you have to cancel the operation by deleting the newly pasted or moved node (the nodes that accept child nodes are SURF and LONG MESSAGE).

Pressing "Ctrl+z" cancels the last movement made.

#### Buttons :

Buttons used to take actions in the upper part of the screen :

#### NEW

If a node is selected, this button inserts a child node under this node. If no node is selected, it inserts the child node of the first node.

In both cases, the insertion is made following the last existing child node.

#### DELETE

Deletes the selected node as well as its descendant.

#### SAVE

Saves the tree in the iPBX data.



**Note:** All the changes made since this button was last used (or since entry in the graphic tool) are local and will be lost if they are not backed up).

This button is only active if some modifications have not yet been backed up.

The backup operation assigns a DTMF code to new nodes, starting with the first one available in the branch.

#### CANCEL

Cancels all the modifications made since the last backup operation (or since entry in the graphic tool if no backup has been made).

This button is only active if some modifications have not yet been backed up.

Interactive button between both parts of the screen :



Updates the tree with the modifications made in the lower part of the screen.

### 7.2.4.2 *Description of a script*

To access a script's tree, click "Script tree diagram" from the IVS script management menu :

#### **BY ITS NAME**

Name of the script.

The drop-down list contains the names of the scripts declared in the system.

Select a script then click Select item.

Web Admin home  
Subscribers  
System  
Dialing plan  
Network and links  
Reception  
IVR scripts  
Voice mail and tones  
Fast links

IVR script: B  
Telephony service>Reception>IVR scripts (5.2)

By its name B

Names General characteristics Tree Users Recopy

- Navigation
  - 1 Support
    - 1 MV5000
    - 2 Other
  - 2 Training
  - 3 Sales
    - 1 MV5000
    - 2 Others

Function: NAVIGATION  
- current message- Francais

### Script tree diagram

The tree is modified as described in Paragraph 7.2.4.1.

To be able to enter a node's parameters, you must first create and save the node using the **Backup** button.

To define the parameters of a node, select the node on the tree. The lower part of the screen opens :

Function: NAVIGATION

- current message- Francais

- current message- English

Caution : general characteristics incomplete

### Script tree diagram: parameters of a node

The parameters that appear on this screen depend on the value of the first parameter FUNCTION.

#### FUNCTION

Indicates the type of action that will be taken during script execution.

**SURF** Accessing one of the child nodes with the help of a key.

**LONG MESSAGE** Broadcasting a long message.

**GO TO EXISTING NODE** Connecting to one of the tree nodes.

**TRANSFER TO ATD** Script output and call transfer to the attendant console.

**IVS BOX TRANSFER** Script output and call transfer to the IVS box.

**TRANSFER TO SUBSCR.** Script output and call transfer to a number defined in the script.

**SUBSCR. BOX TRANSFER** Script output and call transfer to the voice mail box of a number defined in the script.

**TRANSFER TO NUMBER**

Script output and call transfer to the number entered by the caller.

**HANG-UP**

Script output.

**DTMF CODE**

Code for the key that gives access to this node.

Possible values are [1, 2, ...9].



**Note :** Several child nodes of the same node cannot have the same DTMF code.



**Note :** This field is available for all the nodes, except for the first node of the script and for a long message output node.

**- CURRENT MESSAGE - LANGUAGE**

This field is available for each of the languages selected for the script.

See the description of the values in Paragraph 7.2.1 point 6.



**Note :** This field is available for all the nodes, except for the following node types:  
**GO TO EXISTING NODE**  
**TRANSFER TO ATD (messages defined in the general characteristics of the script)**  
**HANG-UP (messages defined in the general characteristics of the script)**

**- INTERNAL NUMBER**

A subscriber's number.

This number will be used to transfer the call:

- To the subscriber if the node's function is TRANSFER TO SUBSCR.
- To the subscriber's voice mail box if the node's function is SUBSCR. BOX TRANSFER.



**Note :** This field is only available for the following node types: TRANSFER TO SUBSCR. And SUBSCR. BOX TRANSFER.

**DESTINATION NODE**

Name of the connection node on the tree.

The drop-down list contains all the names of the nodes defined already in the script.



**Note :** This field is only available for the node type GO TO EXISTING NODE.

**7.2.5 COPYING SCRIPTS**

Menu **RECEPTION>IVS script, Copy tab**

This command is used to copy an existing script to another one. It is also used to :

- Modify a script and update it without disturbing the working of the IVS

- Share announcements (generic announcements, for example) between several scripts: In fact, copy of script is the only case in which two scripts can use the same announcement without this announcement having to be copied under two different names.



**Note :** Scripts from a copy sharing announcements with the source script.

#### **COPY THE SCRIPT**

Name of the source script.

The drop-down list contains the names of the scripts declared on the iPBX.

#### **IN THE SCRIPT**

Name of the target script.

The drop-down list contains the names of the scripts declared on the iPBX.

Select the scripts then click "Confirm".



**WARNING :** The content of the target script is overwritten through this operation.

### **7.2.6 DISPLAY USERS OF AN IVR SCRIPT**

Menu **RECEPTION>IVS script, Users tab**

This command is used to know the numbers of AUTOMATIC ATDC type subscribers using a given IVR script.

#### **BY NAME**

Name of the script.

The drop-downlist contains all the names of the IVR scripts defined on the system.

Select a script then click **Select item** :

The list of AUTOMATIC ATDC subscribers to which the script is assigned appears.

### **7.2.7 EXAMPLE OF IVS ACTIVATION (MITEL 5000 GATEWAYS)**

This example illustrates the activation of IVS for a company using for its call distribution service a day script and a night script, sharing certain generic announcements.

1. Create the AA\_DAY script.
2. Copy the AA\_DAY script to the AA\_NIGHT script and change its tree as needed.
3. Create an AUTOMATIC ATDC type subscriber per script, for example subscriber 600 for day IVS, and subscriber 601 for night IVS.
4. In the menu **SUBSCRIBERS>Subscriptions>Characteristics** (subscriber's general characteristic), assign the script to the subscriber and tick the IVB checkbox.
5. In the menu **RECEPTION>Characteristics management>Definition**, create the call distribution AA\_SVI which points to day number 600 and night number 601.

Day: routed to

or to directory number

Reduced:routed to

or to directory number

Night: routed to

or to directory number

Reference calendar

Call distr. authoriz. by exterior

6. Activate the IVR function in the menu System>Setting>Cards>Vmail configuration>BVF access board configuration:

0-06-00 ann. IN SERVICE

0-06-01 IVR. IN SERVICE

0-06-02 IVB. IN SERVICE

## 7.3 DISA CALL SCRIPT MANAGEMENT

### Menu **RECEPTION>DISA script**

The DISA function is used to access iPBX functions from outside.

For this function to be used from outside by a user with an internal directory number, the following criteria must be met :

- At least one DISA type subscriber must be created with a DID number (menu **SUBSCRIBER>Subscriptions>Create**).
- The internal subscriber wishing to use the DISA function from outside must be authorised to do so: The parameter USE OF DISA FUNCTION must be ticked in its characteristics (menu **SUBSCRIBERS>Subscriptions>General characteristics**).

The answer to a DISA number call from outside is a script. Two scripts, DISA 0 and DISA 1, are provided upon system installation :

- The DISA 0 script is used on a DISA subscription with an active password (password parameter LOCK ENABLED in the menu **SUBSCRIBERS>Subscriptions>Characteristics>General characteristics** for the DISA subscriber).
- The script DISA 1 is used on a DISA subscription with an inactive password.

A script consists of a certain number of phases (listed as script sequences in the user interface). Each phase indicates the action to be taken in the next phase according to the status (OK or NOK) of the script operation :

- If the status of the current phase is OK, the next phase will be, for instance, execution of sequence x.
- If the status of the current phase is NOK, the next phase will be, for instance, execution of sequence y, or end of the script.

Therefore, some sequences are then defined, which can be used by the different scripts and by the different phases of the same script.

This menu is used to :

- Create some sequences
- Display the sequences
- Display and modify the DISA 0 and DISA 1 scripts provided by the system.

### 7.3.1 DEFINING A SEQUENCE

#### Menu **RECEPTION>DISA script>Definition of a sequence**

This command is used to display/modify an existing sequence and create new ones.

The system allows the creation of 32 sequences, identified by their number (0 to 31).

#### **SEQUENCE NUMBER (0/31)**

Number of the sequence to display or create.

**SEARCH**

Sequence number search type.

**IN ORDER**

The first sequence number will be selected.

**DEFINED NUMBER**

The number indicated in the field.  
SEQUENCE NUMBER will be selected.

**FREE NUMBER**

The first sequence number will be selected.

To create a new sequence, you can go directly to the first free sequence by selecting FREE NUMBER.

Select the criteria then click **Select item**. The following fields are displayed :

**TYPE OF SEQUENCE****DEPT. CODE****EXTNS. NUMBER****EXTNS. CODE****DIALLING****RELEASE****CALLER NUM.**

Type of sequence.

If no type is selected, the sequence is free: this is used to delete a declared sequence if and only if it is no longer used in any other script.

**ANN. TO CONNECT**

Name of the announcement to be connected for the selected sequence.

The drop-down list contains all the company names available on the iPBX.

**- OR MSG NB**

Number of the announcement to be connected for the selected sequence.

**NO. OF DIGITS EXPECTED (0/20)**

Number of digits expected for a given sequence :

- 4 – secret code
- Less than 20 – open dialling
- Not significant for open dialling or a release

**NO. OF AUTHOR. ATTEMPTS (0/3)**

Number of authorised attempts: from 0 to 3. This number is not significant if dialling is selected above.

**ANNOUNCEMENT RENEW**

Name of the announcement displayed if a wrong number is dialled.

The drop-down list contains all the company names available on the iPBX.

**- OR MSG NB**

Number of the announcement displayed if a wrong number is dialled.

### TIME-OUT IF OPEN DIALING

Timeout before a number entered in open dialling is taken into account.

## 7.3.2 DESCRIPTION OF A SCRIPT

Menu **RECEPTION>DISA script>Definition of a script**

This command is used to describe a script on a phase-by-phase basis.

### BY ITS NAME

Name of the script.

The drop-down list contains the names of the scripts declared in the system.

### CURRENT SEQUENCE (0/31)

Phase number of the script (0 to 31) for which an action must be defined.



**Note :** The first script sequence must be entered in the first position because its tasks begin the script. The other sequences can be defined in any order.  
You must check that there are no breaks in the links.

Select the script and its sequence then click **Select item**.

The next screen is used to describe a script sequence.

Two successive actions are possible for the current sequence :

- Next action if the current sequence is OK (example of a correct action: valid number)
- Next action if the current sequence is NOK (example of an incorrect action: wrong secret code).

### ACTION ON SEQUENCE OK

The next action after the current sequence if current sequence is OK.

#### NOT DEFINED

This means that the current phase is not part of the script.

#### OTHER

Next action = execution of another sequence.

#### END

Script end (no following sequence).



**Note :** The value **NOT DEFINED** is used to delete a phase in the sequences of a script.

### - TO NEXT SEQUENCE NO :

The next sequence number in the link: from 0 to 31.



**Note :** This field only appears if the value **OTHER** is selected in the field **ACTION ON SEQUENCE OK**

### ACTION ON SEQUENCE NOT OK

*The next action after the current sequence if current sequence is NOT OK.*

**NOT DEFINED**

This means that the current phase is not part of the script.

**OTHER**

Next action = execution of another sequence.

**END**

Script end (no following sequence).



**Note :** The value **NOT DEFINED** is used to delete a phase in the sequences of a script.

**TO NEXT SEQUENCE NO :**

Enter the next sequence number in the link: from 0 to 31.



**Note :** This field only appears if the value **OTHER** is selected in the field **ACTION ON SEQUENCE NOT OK**.

### 7.3.3 DISPLAY OF A SCRIPT

Menu **RECEPTION>DISA script>Display of a script**

This command is used to display a full script.

**BY ITS NAME**

Name of the script.

The drop-down list contains the names of the scripts declared in the system.

Select a script then click **Select item**.

The script display table shows :

- **Cr** : link analysis report (columns 1 and 7)
- **Deb** : start sequence
- **End** : end of script
- **Nc** : sequence not linked
- **sc** : current sequence number
- **type** : current sequence type (column 3)
- **act** : status of current sequence (ok or nok)
- **ss** : next sequence number
- **type** : next sequence type (column 6)

## 7.4 OPERATOR MANAGEMENT

### Menu **RECEPTION>Operators**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

This menu is used to configure the operator services available on the iPBX. It only concerns the attendant consoles integrated in the iPBX.



**Note :** This menu concerns only the attendant consoles integrated in the iPBX. When the ATDC service is offered by the CC (Web Attendant), this menu is not used.

### 7.4.1 PARAMETERS

#### Menu **RECEPTION>Operators>Parameters**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

This screen is used to configure the general parameters (authorisations, timeouts) of attendant consoles (ATDC).

#### **OPERATOR PARAMETERS**

##### **AUTOMATIC CALL DISTRIBUTION**

This option is only for class B attendant consoles. If you tick the box, incoming calls are routed to the attendant console with the lowest traffic level.

If you select this option, you can use the interactive keys on the attendant console to activate automatic call-pickup mode.



**WARNING :** For a multi-site operation, this parameter must be set to all the sites for which the function must be activated, and not just the sites with ATDCs.

##### **VOICE ANNOUNCEMENTS BROADCAST**

- This field is not available for MiVoice 5000 Server.

This option is only for class B attendant consoles. If you tick the box, incoming calls are routed to the attendant console with the lowest traffic level.

##### **ALLOW CONDITIONAL TRANSFER**

- This field is not available for MiVoice 5000 Server.

On a class B ATDC :

- If you tick this box, the operator console connection circuit is occupied until the called party off-hooks.
- Otherwise, the operator console connection circuit is released on transfer. If the called party fails to reply, the call is rerouted to the operator console INCOMING 2 key.

On a class A ATDC :

- If you tick the box, the TRK monitoring LED flashes slowly until the called party off-hooks.

- Otherwise, the TRK monitoring LED stays on steady until the called party off-hooks. At the end of the no answer time-out, the LED monitoring the trunk begins to flash rapidly.

### **PROTECTION OVERRIDE RIGHT**

- This field is not available for MiVoice 5000 Server.

If you tick the box, the attendant console can transfer a call to an extension for which the CALL WAITING parameter is REFUSED.

### **BACK, BEGIN. OF THE NAME DISPLAY**

- This field is not available for MiVoice 5000 Server.

If you tick the box, the first 6 characters of the extension name are displayed on the attendant console when a call is not answered by a free or busy extension.

### **“RELEASE” KEY INITIATES TRANSFER**

- This field is not available for MiVoice 5000 Server.

Parameter reserved for the operator console declared class A.

If you tick this box, pressing the “RELEASE” key activates the transfer.

### **ENQUIRY CALL BY “R” OR “COM”**

- This field is not available for MiVoice 5000 Server.

Parameter reserved for the operator console declared class A.

If you click the box, you can use the R or COM key for a consultation call.

### **OPERATOR GROUP AUDIT ACTIVATED**

This parameter is only used in multi-site configuration.

If you tick the box, the attendant console indicates its presence to other sites on the multi-site configuration. Calls to an attendant console can then be routed from another site to this set (for example, if 9 is dialled from another site, it will end up on the attendant console of this site).

### **PARAMETERS OF SET FORWARDED FROM CONSONLE**

#### **ALLOW PREDEFINED FORWARDING**

If you tick the box, the forwarding console is authorised to make predefined forwarding on common bell.

To enable forwarding to the bell, the directory number of the common bell must be indicated on the PREDEFINED FORWARD NO. line in the night bell extension characteristics.

#### **ALLOW VARIABLE FORWARDING**

If you tick the box, the forwarding console is authorised to make variable forwarding.

#### **ALLOW CALL PICK-UP**

If you tick the box, calls to the night console can be intercepted, using an interception code followed by the directory number of the night console.

#### **ALLOW RECEPTION OF INTERNAL CALLS**

If you tick the box, the forwarding console is authorised to receive internal calls.

### **ALLOW CONSOLE OVERFLOW ON OVERLOAD**

- This field is not available for MiVoice 5000 Server.

If you tick the box, the incoming calls are rerouted on no answer from the operator console at the end of the “overflow” time out.

### **EXTERNAL CALL OVERFLOW TO ATDC REDUCED**

#### **• IF ATDC BUSY :**

- Indicator of ATDC service overflow on busy (checkbox).
- Default value, box not ticked : no overflow to answering service.
- Box ticked: authorises the reduced answering service to handle overflow calls when the ATDC service associated with a day answering service is busy (all the ATDCs of an ATDC service taken).

#### **• IF ATDC SERVICE DOES NOT ANSWER**

- Timeout before prompting the answering service to handle overflow calls if the ATDC(s) does/do not answer.
- Default value, box not ticked: no overflow to answering service.
- **Box ticked** : overflow to answering service with indication of overflow time on the next line :

### **OVERFLOW TIME (SEC.) :**

Value (in seconds), timeout before turning to the answering service if the ATDC does not answer.

### **TIMEOUT (EXPRESSED IN SECOND)**

### **INCOMING CALL ON HOLD DELAY**

- This field is not available for MiVoice 5000 Server.

This time-out (in seconds) is activated on reception of an incoming call. The operator console cannot carry out any operation before the end of this time-out.

Default value : 5

### **LAST CONSOLE RINGING DURATION**

- This field is not available for MiVoice 5000 Server.

Timeout (in seconds) : The end of this time-out triggers the automatic deactivation of the operator set(s) if an incoming call is not answered (operator console switched to the current, reduced day, or reduced night service).

Default value : 120

### **OVERLOAD**

- This field is not available for MiVoice 5000 Server.

### **NO ANSWER ON INTERNAL CALL**

- This field is not available for MiVoice 5000 Server.

Timeout (in seconds) : the extension is activated for an internal call at the end of this timeout.

Default value : 40

#### **NO ANSWER ON EXTERNAL CALL**

- This field is not available for MiVoice 5000 Server.

Timeout (in seconds): the extension is activated for an external call at the end of this timeout.

Default value : 15

Minimum value : 5

#### **CALL DISR. IDLE DELAY**

- This field is not available for MiVoice 5000 Server.

Parameter reserved for the operator console declared class B.

Timeout (in seconds). At the end of this time-out, all incoming calls are distributed automatically to the ATDC (configured as class B only). This distribution is subject to the activation of "Automatic call distribution" defined above.

Default value : 5

#### **NIGHT SERVICE EXT. RING. DURATION**

Ringer timeout when the response terminal does not answer.

Forwarding console ringer timeout before automatic activation of predefined forwarding, for the ongoing call (which must be a network call) and all the next calls.

Timeout : 0.1s

Default value : 120 seconds

#### **SPEC. TIMEOUT REROUT. TO CONSOLE**

Timeout (in seconds): At the end of this timeout, a DID call is returned to the attendant console if not answered (set free or busy), if this feature is included in the characteristics of the extension concerned.

Default value : 20

#### **NIGHT SERVICE EXT. RING. DURATION**

Timeout (in seconds): At the end of this period, predefined forwarding of the assigned night console to the general night bell is automatically activated when an incoming call is not answered. This forwarding is subject to the right "Allow predefined forwarding" defined above.

Default value : 120

#### ***TIMEOUTS (IN 1/100 SEC.) :***

##### **IDLE SCREEN DISPLAY TIMEOUT**

Idle screen (or blank screen) display timeout after release on a digital attendant console.

The timeout is expressed in 1/100 sec, from 0 to 600 based on 0.01 s.

**Default value:** corresponds to a timeout of 2.5 seconds.

The value 0 allows immediate display.

## 7.4.2 DEFINITION OF OPERATOR GROUPS

Menu **RECEPTION>Operator>Operator services group**

This command is used to define the contents of each operator group (OP GP). The system has 15 attendant groups: OP GP1 to OP GP15.

Select the name of the attendant console to be defined in the drop-down list then click **Select item**.

This screen is used to define several operator numbers in a group, as well as the parameters defined below.

### OPERATOR NUMBER

Directory number for each operator in the group.

If some ATDC type extensions do exist on the system, this field is pre-completed with the first ATDC number.

The drop-down list contains all the ATDC extension numbers declared on the system.

### FORWARD CONSOLE TO DN

Directory number of the forwarding set. By default, the directory number is that of the common bell relay, but this can be replaced by a set or a group of sets designated by their directory number.



**Note :** When the night console is assigned to an MiVoice 5000 Server, in addition to being entered in the operator service on which the attendant console has been declared, it must be entered in the operator service of this MiVoice 5000 Server hosting it. This night console may be a remote TDM.

On this PBX, you can also designate a common bell connected to an LA card (subscriber equipment). The default forwarding set number is 798 on MiVoice 5000.

### ASSOC. NAME

This field is used to convert the name of the operator group concerned to QSIG signalling.

### OP SERVICE IDENTIFICAT. (TEL TICKET)

Information appearing on call records (tickets) identifying the operator service.

## 7.5 ANSWERING SERVICES

Menu **RECEPTION>Answering services**

The answering service menu (general DID call number management) is part of NUMBERING PLAN management and is described in the corresponding chapter in this document. It is accessible via Menu **NUMBERING PLAN>Incoming call dialling plan>Answering service**.

## 7.6 CALENDAR MANAGEMENT

### Menu **RECEPTION>Calendars**

This menu is used to:

- Declare some calendars identified by name
- Define for each calendar some night and day service timeslots for each day of the week
- Define a calendar to manage network access restrictions for all the subscribers
- Display the calendars declared on the iPBX
- Display the entities that use a given calendar.

### 7.6.1 CALENDAR NAMES

#### Menu **RECEPTION>Calendars>Names**

This screen is used to declare the different iPBX calendars. You can declare a maximum of 16 calendars. By default, only one calendar is defined.

#### **CALENDAR 1**

Name of the system default calendar (maximum 8 characters).



**Note :** You can change the name of the default calendar if you wish.

#### **CALENDAR 2 TO 16**

Name of the calendars (8 characters maximum).

You can create up to 15 additional calendars besides the default calendar.



**Note :** For the power-saving function, refer to Section 9.

### 7.6.2 CALENDAR RANGE DEFINITION

#### Menu **RECEPTION>Calendars>Ranges definition**



**Note :** For the power-saving function, refer to Section 9.

For each calendar, you can define 4 timeslots (2 slots in day mode and 2 slots in night mode), independently for each day of the week.

#### **CALENDAR NAME**

The drop-down list contains the names of previously defined calendars.

Select the name of the calendar to be configured in the drop-down list then click **Select item**.

This screen is used to define the day/night switchover timeslots for a given period, whereby a period is defined by a start day and an end day.

You can define 4 timeslots for each period. A maximum of 7 periods can be defined for the same calendar (if each day of the week has a different day/night switch-over range).

**FROM (FIRST DAY)**

-----	<b>MOND</b> AY	<b>TUESD</b> AY	<b>WEDNESDA</b> Y	<b>THUR</b> SDAY	<b>FRIDAY</b>	<b>SATUR</b> DAY	<b>SUNDAY</b>
-------	-------------------	--------------------	----------------------	---------------------	---------------	---------------------	---------------

First day of the period for which you want to determine the switch-over ranges.



**Note :** Only the days not defined for another period (from the 7 possible periods) are proposed.

Once a day is selected for this field, the screen is refreshed to display the parameters used to configure the period.

**TO (LAST DAY)**

-----	<b>MOND</b> AY	<b>TUESD</b> AY	<b>WEDNESDA</b> Y	<b>THUR</b> SDAY	<b>FRIDAY</b>	<b>SATUR</b> DAY	<b>SUNDAY</b>
-------	-------------------	--------------------	----------------------	---------------------	---------------	---------------------	---------------

Last day of the period.



**Note :** Only the days not defined for another period and after the first day chosen for the period are proposed.

Each period can consist of four ranges, two DAY ranges and two NIGHT ranges.

**FROM (DAY SWITCH HOUR) HH MM**

Switchover time for the first DAY range in the format HH MM (HH=hour, MM=minute).

**UNTIL (NIGHT SWITCH HOUR)**

Switchover time for the first NIGHT range in the format HH MM (HH=hour, MM=minute).

**AND FROM (DAY SWITCH HOUR)**

Switchover time for the second DAY range in the format HH MM (HH=hour, MM=minute).

**UNTIL (NIGHT SWITCH HOUR)**

Switchover time for the second NIGHT range in the format HH MM (HH=hour, MM=minute).

Repeat the operation for each period to be defined.

### 7.6.3 BARRING CALENDAR

Menu **RECEPTION>Calendars>Barring calendar**

- This command is not available for MiVoice 5000 Server.

This command is used to declare a calendar which will be used to define the network access restrictions for all subscribers.



**Note :** This command is only available in multi-company management.

#### FOR PSTN ACCESS BARRING

The drop-down list contains the names of previously defined calendars.

Select a calendar to assign it to network access restrictions.

### 7.6.4 DISPLAY CALENDARS

Menu **RECEPTION>Calendars>Display**

This command is used to display the list of calendars declared on the iPBX as well as their properties.

The following information is displayed for each calendar :

- Its name
- Its current status (Day/Night)
- Its operating mode (Automatic/Anticipated)
- Whether it is assigned to restrictions (Yes/No)
- Whether it is used by a call distribution service (Yes/No).



**Note :** Automatic mode means that the calendar status results from the ranges defined in the menu **RECEPTION>Calendars>Calendar range definition**.  
The anticipated mode means that the calendar status has been forced using a set which has this right (ATDC or Maintenance Set).  
This right is activated by ticking the “Restriction management” box in the menu **SUBSCRIBERS>Rights>General parameters**.

### 7.6.5 DISPLAY USERS

Menu **RECEPTION>Calendars>Display users**

This command is used to display the list of users of a given calendar.

#### CALENDAR NAME

The drop-down list contains the names of calendars declared on the iPBX.

Select a calendar from the drop-down list then click **Select item**.

The next screen is used to display the various uses of the calendar selected.



**Note :** Only the columns with at least one calendar user are displayed.

#### BY POWER SAVING

See Section 9.

#### **BY RESTRICTIONS OF**

Calendar used by the companies/departments to define the Day or Night switch-over times. The company/department pairs using the calendar are indicated.



**Note :** The display \*\*\*\*\* indicates all departments in all companies.

#### **BY RECEPTION**

Calendar used by the call distribution services to define the Day or Night routing switch-over times. The names of the call distribution services are indicated.

#### **BY DYNAMIC TRUNK GROUP**

Calendar used by the dynamic trunk groups to define the parameters for setting up or maintaining the link depending on the time. The names of the dynamic trunk groups are indicated.

## 8 VOICE MAIL AND TONE MANAGEMENT

### Menu **VOICE MAIL AND TONES**

- The columns differ according to type of system: Mitel 5000 Gateways or MiVoice 5000 Server.

This management domain is used to :

- Define voice mail parameters
- Configure tones
- Display information about available messages.

### 8.1 VOICEMAIL

#### Menu **VOICE MAIL AND TONES>Voice mail**

Generally, a voice mail system is used to receive, record, store play back or transmit voice messages. The messages are left in the voice mail boxes assigned to each system user.

As of release R5000.1, the voice mail box (VMAIL) comprises a set of integrated voice services on an MiVoice 5000 platform :

- Announcement service: transmitting audio announcements (or messages) to a remote set
- IVS (Integrated Voice mail Server: rendering an audio call distribution service to a remote set
- IVB (Integrated interactive voice mail box): offering an interactive voice mail box to each iPBX phone access user.

#### 8.1.1 VOICE MAIL PARAMETERS

##### Menu **VOICE MAIL AND TONES>Voice mail>Definition**

##### **VOICE MAIL CALL NUMBER**

Voice mail call number. This number must have be created beforehand (GROUP type (**SUBSCRIBERS> Subscriptions**)).



**Note :** The default voice mail number is 797.

##### **TYPE OF VOICE MAIL**

Type of signalling used by the voice mail system. The following message types are available :

**IVB**

**XML/IP**

**Q23**

**XML/IP CTI**

**ISDN S2**

**SMDI**



**Note :** The subscribers must be part of a hunt group associated with the messaging system (this hunt group must first be created as VMAIL GROUP type subscriber). Only the IVB does not require any hunt group.

##### **AUTOMATIC CALL BACK OF CALLS**

**INT**

**EXT**

**INT+EXT**

**NONE**

Select a configuration for callbacks.

## 8.1.2 INTERNAL VOICE MAIL (IVB)

Menu **VOICE MAIL AND TONES>Voice mail>Internal voice mail (IVB)**

This menu is used to configure direct access to the integrated voicemail box, without using Q23 codes, for all users on the MiVoice 5000 Server and Mitel 5000 Gateways.

This configuration is used to offer all subscribers a personal voice mail box and some message recording time.



**Note :** It is always possible to configure this code, for all the other voicemail types, via the Q23 voicemail settings menu, in the menu **Telephony service>Voicemail and tones>Voicemail>External voicemail**.

### 8.1.2.1 Parameters

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Setting**

#### **VIDEO MESSAGING SYSTEM (ON MIVOICE 5000 SERVER ONLY)**

Box to be ticked when the integrated mail system is managing video.

If the box is ticked, the internal messaging system is configured to use video, and the following lines are presented and used to configure a maximum data rate and minimum data rate for video exchanges with the IVB.

- **Minimum data rate**, for defining the minimum video data rate which can be used by the IVB,
- **Maximum data rate**, for defining the maximum video data rate which can be used by the IVB.

Possible data rate values are:

- 128 kb/s,
- 384 kb/s,
- 512 kb/s,
- 768 kb/s,
- 1024 kb/s.

The data rates presented on each line respect the following constraints :

- The minimum data rates presented are strictly below or equal to the current maximum data rate.
- The maximum data rates presented are strictly above or equal to the current minimum data rate.

#### **Background video**

This field is used to customise the background video broadcast during audio calls.

When the bandwidth is too low, a different, non-configurable file replaces the customised file.



**Note :** The call is not cut when a new video is loaded.

Downloading is rejected if :

- The file is not in the right format (wav in G711/G722 or avi in H264 baseline profile),
- The file is a video file, but video is not allowed for integrated messaging,
- The maximum IVB size (by default 50 MB on MiVoice 5000 Server) is reached.

#### DIRECT ACCESS OF MAIL BOX :

**Access to Menu** : Option used to indicate the voicemail box access mode

- **PASSWORD** : in this case, the prompt "*Please enter your password followed by a hash*" is made to the user.
- **MAIN** : depends on the voicemail box status: announcing the mode, requesting for signature. In this mode, the voicemail box is accessible without password (not secure).
- **LISTENING** : listening to the first message directly in the "not read" and "read" status, depending on the configured presentation order. In this mode the voicemail box is accessible without password (not secure).



**Note** : The modification applies to the IVB, that is to all box classes.

#### NUMBER OF ATTEMPTS

Number of attempts authorised for an operation.

#### SIGNATURE INCENTIVE DELETION

The signature corresponds to a short personal voice sequence inserted in the greeting message. Ticking the box deletes the prompt to record a signature.

#### CONFIGURATION TRANSFER

**INTERNAL**

**INT+EXT**

**NONE**

Select a transfer configuration. The transfer option is accessible when the voice mail box is being consulted.

#### PRESENTATION ORDER

**UNREAD THEN READ**

**READ THEN UNREAD**

**INCREASING DATE**

Select an order in which the messages will be presented when the voice mail box is consulted.

#### CALL BACK OF THE DEPOSITE

**INT+EXT**

**NONE**

**INTERNAL**

**EXTERNAL**

Configure the methods of calling back the person that left the message. Call back of the deposit is available during voice mail box consultation.

#### MESSAGES DEPOSIT :

##### - DTMF CODE FOR TRANSFER

Select the multi-frequency detection (DTMF) code for transfer to an attendant console: value 0 or 9.

##### - LANGUAGE IF EXTERN. CALL

**MSG. INTEGRATED**

**SUBSCRIBER**

Determines whether the language used to broadcast the greeting message is that of the integrated messaging system or the one assigned to the subscriber.

#### DELETE INTERACTIVITY

Indicator of interactivity deletion on a digital terminal.

Default value, box not ticked : interactivity enabled.

**Box ticked** : interactivity deleted.

### ***GREETING INTRODUCTION OF NAME TYPE:***

These different fields are used to customise the greeting message broadcast before broadcasting the name of a voicemail box. This only concerns the **Name** type greeting message.

Compatible formats are :

- Audio : wav
- Video : avi in H264 (baseline profile)



**Note** : The call is not cut when a new greeting message is loaded.

The following actions are possible for each language :

- Add new message,
- Replace current message with a new one,
- Delete current message.

For video message customisation (available for MiVoice 5000 server only), the **Video mail** box must be ticked in this same menu.

Downloading is rejected if :

- The file is not in the right format (wav in G711/G722 or avi in H264 baseline profile),
- The file is a video file, but video is not allowed for integrated messaging,
- The maximum IVB size has been reached.

### ***8.1.2.2 VMAIL box class***

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes**

#### **8.1.2.2.1 Voice mail classes names**

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Names**

Each voice mail box belongs to a class used to define the general characteristics of the mail box. 10 voice mail box classes can be defined. This menu is used to assign a name to the 10 voice mail box classes.

#### **CLASS 0-1**

Classes IVB 0 and IVB 1 are created automatically during total iPBX reset.

#### **CLASS 2-3-4-5-6-7-8-9**

Assign a name to these classes.

### 8.1.2.2.2 Defining the parameters of a class

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Characteristics**

#### **BY NAME**

Select one of the classes created in the previous menu (IVB 0 and IVB 1 are created automatically), then validate with **Select item**.

Once validated, the following screen is displayed.

This screen is used to define/modify the parameters of a class. The parameters are divided into two categories :

- Parameters relating to card physical characteristics
- Parameters relating to telephone operation characteristics.

#### **PHYSICAL SETTINGS**

##### **MAX. NO. OF MESSAGES**

Maximum number of messages recorded in a voicemail box (including the greeting messages): from 1 to 100.

##### **DUR: EXPECTED STEP (IN S.)**

Read-only line. The recorded messages are stored by section on the card's Flash memory. The size of these sections depends on the type of Flash memory used. PAS represents the duration of recording per section (expressed in seconds).

##### **MAXIMUM RECORDING DURATION**

Maximum duration of a voice mail box recording for a given class: value expressed in seconds (from 1 to 3600 seconds).

##### **MAXIMUM MESSAGE DURATION**

Maximum duration of a recorded message: value expressed in seconds (from 1 to 3600 seconds).

##### **RECORDED GREETING DURATION**

Maximum duration of personal greeting message: value expressed in seconds (from 1 to 360 seconds).

##### **SIMPLE VOICEMAIL GREETING DURATION**

Maximum duration of personal greeting message: value expressed in seconds (from 1 to 360 seconds).

##### **NAME ANNOUNCEMENT DURATION**

Maximum duration of personal greeting message: value expressed in seconds (from 1 to 35 seconds).

#### **MANAGEMENT SETTINGS**

##### **VIDEO MAIL BOX**

- Box available for MiVoice 5000 Server only

Box to be ticked if the voicemail box is a video mailbox. This type of box can be used to record and send audio and video type voice messages.

### **CALLED STATUS BROADCAST**

When a call arrives on a voice mail box, the caller can be informed about the status of the called party (for instance, if the called party has a call in progress, the caller is informed that extension XXXX is engaged).

Tick (or untick) the box to allow (or disallow) the broadcasting of a called extension status message.

### **E-VOICEMAIL**

#### **OPTIONS :**

FORBIDDEN

NOTIFICATION



**Note :** The E-voicemail service requires a licence key code.  
For more information about the E-voicemail service, see the description in Menu **DEVICE>Configuration>E-mail**.

This function is used to send left messages by e-mail.

If you select **NOTIFICATION**, an e-mail will be sent to the called party (beneficiary of this class), informing him that a voice message has been left in his IVB.

This option will work well if you also declare the called party's e-mail address in the integrated directory.

#### **- ENCLOSED MESSAGE**

If you tick the box, the voice or video message left in the subscriber's voice mail box will be forwarded as attachment to the e-mail address.

#### **- DELETION OF MESSAGES**

This line is only displayed if e-voicemail notification is activated and the addition of e-voicemail message is set (the **ENCLOSED MESSAGE** box is ticked).

If the box is ticked, the voice or video message left in the subscriber's voicemail box is deleted upon receiving the message-read or message-sent notification from the associated e-mail address, as defined in the line below (ON).

#### **- ON**

Choice concerning the deletion of voice or video messages :

READING ACKNOWLEDGEMENT or SENDING (see above).

This line is only displayed if the DELETION OF MESSAGES box is ticked.



**Note :** The scroll arrows **Erreur ! Nom du fichier non spécifié.** and **Erreur ! Nom du fichier non spécifié.** are used to define the characteristics of other voice mail boxes declared.

### 8.1.2.3 Characteristics of a Box

Box: 2800 class: BVI 0  
 Telephony service>Voice mail and tones>Voice mail>Internal voice mail (IVB)>Voice mail characteristics (6.1.2.3)  
 Voice box number 2800

**Greeting announcements** | Box's messages

Greeting mode: RECORDING MODE

"Name" greeting  
 - current message: ADD A NEW MESSAGE  
 - new message: Choisissez un fichier | Aucun fichier choisi | Download

"Recorded announcement" greeting  
 - current message: ADD A NEW MESSAGE  
 - new message: Choisissez un fichier | Aucun fichier choisi | Download

"Simple announcement" greeting  
 - current message: .....

Greeting announcement: NUMBER

#### Greeting announcements tab

This tab is used to define the greeting mode and messages for each box:

#### REETING mode

- ANNOUNCEMENT MODE
- RECORDING MODE

The following three fields – Greeting of Name type, Greeting of recorded announcement type and type and Greeting of simple announcement - are used to :

- Add a message if there is none (New message),
- Display and/or listen to the current message, by clicking the **Current message** link,
- Replace the current message.

To download a message :

- Click **Browse** to locate the file to be downloaded.
- Then click **Download** to take account of the new message.



**Note :** After downloading a greeting message, it is possible to replace, but not, delete it.

Compatible formats for downloading:

- Audio : wav
- Video : avi in H264 (baseline profile).



**Note : The call is not cut when a new greeting message is downloaded.**

Downloading is rejected if:

- The file is not in the right format (wav in G711/G722 or avi in H264 baseline profile),
- The file is a video file, but video is not allowed for integrated messaging,
- The file is a video file, but video is not allowed in this IVB class.
- The maximum IVB size has been reached.
- The duration of the greeting is above the maximum duration defined in the box class.
- The voicemail box is currently used by its owner (a special message is displayed to the installer).

**GREETING MESSAGE**

The proposed options depend on the greeting mode chosen and the greeting messages defined in the **Greeting type** .... fields.

Greeting message options:

- Number (default value)
- Name
- Customised (Ans/Reco).

**Messages into the box tab**

The different columns are used to view the content of each box :

- **Number** : numbers of the messages left
- **Date** : date on which the messages were left
- **Reception type** : Type defined in the **Greeting messages** tab.



**Note : A hypertext link in the greeting type field gives access to the reading of the file in question.**

- **State** : status of the message received (LEFT or READ)
- **Type** : type of message received (audio, video)
- **Duration** : duration of the message received
- **Total**: total duration of all the messages. Information used to check whether the maximum duration has not been reached. This is done in comparison with the maximum duration defined in the box classes characteristics.

### 8.1.2.4 *Display*

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Display**

This function has three display screens :

- Global display
- Messages in a box
- Busy statistics

#### 8.1.2.4.1 **Global display**

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Display>Global display**

This menu is used to display all or part of the integrated voice mailboxes based on different criteria :

#### **FROM NUMBER**

A list of the voice mailboxes can be displayed in ascending order, from the directory number of any voice mailbox. Enter a directory number.

#### **FOR THE SERVICE CLASS**

A list of the voice mailboxes belonging to the same class can be displayed.

#### **FOR THE FUNCTIONAL MODE**

A list of the voice mailboxes can be displayed depending on their operating mode :

<b>-----</b>	View all voice mailboxes
<b>RE</b>	View voice mailboxes in Announcement and Recording mode
<b>RS</b>	View voice mailboxes in Announcement mode
	Select a voice mailbox operating mode.
<b>FOR THE STATUS</b>	
A list of the voice mailboxes can be displayed depending on their status :	
<b>-----</b>	View voice mailboxes with space available to receive new messages.
<b>FULL TIME</b>	View voice mailboxes with no more recording space available.
<b>FULL MEMORY</b>	View voice mailboxes with maximum number of authorised messages.
<b>LOCKED</b>	The announcement and recording function is locked. Until the unlocking code is entered (concerning the management of licences in <b>SYSTEM&gt;Info</b> ), the voice mail operates in announcement mode for all the voice mail boxes declared.

- The LOCKED field is proposed on MiVoice 5000 Server only.

Choose the selection criterion then click **Select item** to display the next page which contains a sequence of information statistics and a table describing the status of the voicemail boxes.

#### VOICE MAIL NUMBER :

Indicates the total number of voice mailboxes meeting the selection criteria.

#### RANGE/VOICE MAIL TOTAL NUMBER :

Indicates the percentage of voice mailboxes meeting the selection criteria out of the total number of voice mailboxes declared.

#### COLUMNS IN THE TABLE :

##### NUMBER

Voice mailbox directory number (same as the directory number of the user with this mailbox).

##### STATUS

Status of the voice mailbox :

##### AVAIL

Mail box in service (memory space available)

##### D SAT

Voice mailbox saturated in terms of duration

##### M SAT

Voice mailbox saturated in terms of messages.

##### DISA.

Voice mailbox inaccessible (for example, card disabled)

##### MODE

Voice mailbox operating mode :

##### RE

Announcement and Recording mode

##### RS

Announcement mode

##### TYPE

A voicemail box will be considered as **UNIFIED** if the associated voicemail box class has e-voicemail notification rights. Otherwise, the voicemail box will be considered as **STANDARD**.

##### STANDARD

Standard box

##### UNIFIED

Standard box

##### GREET.:

Type of voice mailbox greeting message :

##### STANDARD

Standard message (voice mailbox number)

##### NAME

Simple customised message (name of mailbox owner)

##### PERSONAL RE

Detailed customised message (greeting message in announcement and recording mode)

**PERSONAL RS**

Detailed customised message (greeting message in announcement mode)

**GREETING MESSAGE :**

Total number of greeting messages for each voice mailbox listed.

**MSG LEAVE :**

Total number of messages left in each voice mailbox listed.

**DURAT.:**

Total duration of all messages recorded in the voice mailbox (messages left + greeting messages).

### 8.1.2.4.2 Messages in a box

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Display>Messages in a box**

This screen is used to display all the messages contained in a selected voice mailbox.

#### VOICE MAIL NUMBER

Enter its number to display the messages in a voice mail box.

Click **Select item** to display the following screen.

On this screen, the recorded messages are of two types :

- First part of menu: greeting messages (maximum of 3 types per voice mailbox)
- Second part of menu : messages left

#### NUM

Message number in the order of arrival.

#### DATE

Date on which the message was left (dd/mm/yy hh:mm).

#### ACCESS TYPE

Type of greeting active :

**STANDARD** Greeting by voice mailbox number

**NAME** Greeting by name

**PERSONAL RE** Announcement and recording mode customised greeting

**PERSONAL RS** Announcement mode customised greeting

#### STATUS

Message status (for messages left only) :

**LEFT** A message has been left but not read

**READ** The message left has been read

#### DURATION

Duration of the message recorded in minutes/seconds.

### 8.1.2.4.3 Busy statistics

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Display>Busy statistics**

This screen gives an overview of the occupation status of the memory reserved for the IVB on the compact flash card :

- Display of all recorded messages (greeting messages + recorded messages)
- Display of greeting messages according to type (name, customised)
- Display of recorded messages according to status (read, not read)

### 8.1.2.5 Automatic suppression

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Automatic suppression**

An audit is used to manage the time during which the messages left are kept, according to the iPBX configuration.

This “Automatic suppression” function has three deletion screens :

- Audit start-up criteria
- Selection criteria
- Messages concerned by the audit

#### 8.1.2.5.1 Start-up criteria

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Automatic suppression>Start-up criteria**

This screen is used to trigger an audit according to predefined schedules.

Auditing is set to be carried out periodically (hourly or daily) beginning at a start date. If the frequency fields are set at 0, auditing will not be carried out.

#### **FREQUENCY : HOURLY**

Indicate the number of hours between 2 audits (HH: from 0 to 23).

#### **FREQUENCY : DAILY**

Indicate the number of days between 2 audits (DD: from 1 to 31).



**Note : The user must choose only one criterion between 2 previous parameters (time and day). To avoid any confusion, the web interface does not allow the selection of these two criteria at the same time.**

#### **TIME OF START-UP**

Indicate the start time for the first audit (HH: from 0 to 23).

#### **STATUS**

This field displays the current state of the audit, ACTIVE or INACTIVE.

#### **ACTION**

•••••

**MODIFY**

**CREATE**

**DELETE**

This field is used to create or delete an audit. It is also used to change the parameters for running the active audit with new parameters.

#### 8.1.2.5.2 Selection criteria

Menu **VOICE MAIL AND TONES>Voicemail>Internal voice mail (IVB)>Voice mail classes>Display>Message selection criterion**

This screen is used to define four conditions for a message to be selected or deleted when the audit starts.

For each condition you can specify 4 criteria: the message status (read or left), the length of time it has been in the voice mailbox (in days), its duration (in seconds) and its service class.

##### FOR MESSAGE STATUS

**.....**    **READ**    **LEFT**

**.....**    Whatever the message status

**READ**    Message left and read

**LEFT**    Message left but not read

##### AND THE LENGTH OF SERVICE (DAYS)

In days. The selected (or deleted) message has reached or exceeded the maximum length of time a message is allowed to remain in the voice mailbox.

##### AND THE DURATION (IN SECONDS)

In seconds. The duration of the selected (or deleted) message has exceeded the specified limit.

##### AND THE SERVICE CLASS

Select the name of the class or "-----" (whatever the class).



**Note : If no criteria are selected in a particular block, the audit will not be run on this block.**

### 8.1.3 EXTERNAL MESSAGING SYSTEM

Menu **VOICE MAIL AND TONES>Voice mail>External voice mail**

In order to successfully complete the installation of your voice mail, you must first configure the iPBX for the voice mail function.

By default, the parameters are predefined to facilitate the configuration.

This menu is specially used to connect voice mail boxes in DTMF mode. It indicates the exchange of information.

Details of the data is not required in order for the system to work correctly.

## 8.2 TONES

### Menu **VOICE MAIL AND TONES>Tones**

Each basic, MiVoice 5000-range system can manage announcements and messages whose total duration varies according to the size of the disk. MiVoice 5000 Server can access them for the needs of IP subscribers and network accesses.

The announcements and messages can be configured via the management portal (loading and backing up announcements and messages, reading their characteristics, assigning announcement-message tones).

Pre-recorded messages are sound files (.wav) linked to system tones.

The tones correspond to the different states of a telephone call. A pre-recorded message or music can be linked to each iPBX system tone.

The iPBX can support up to 256 tones (numbered 0 to 255), of two types :

- System tones
- Definable tones whose numbers range between [64, 113] and [136, 254], for customising pre-recorded messages according to the spoken language or company/department pair.

For MiVoice 5000-range iPBXs, the pre-recorded messages and announcements are integrated into the Compact Flash :

## 8.2.1 DEFINITION

### Menu **VOICE MAIL AND TONES>Tones>Definition**

This command is used to configure the different system tones, and possibly assign them some announcements (messages), by specifying the type of device providing the messages :

For Mitel 5000 Gateways systems, the device may be EXTERNAL MUSIC, ANALOG EXT, or BVF; the location must be defined, as well as the name of the message associated with the tone.

For MiVoice 5000 Server, the device is Media Server with the associated message.



**Note :** Changes in TONE type parameters are only taken into account by proprietary IP terminals after the system is restarted.



**WARNING :** The sound files correspond to the announcements that must be recorded in this format: 8 bitsWAV, A law or  $\mu$  law, Mono at 8KHz. The compression law must be compliant with the law of the country in which the iPBX is used.

For the MiVoice 5000 Server, the sound files can be stored in 16bits.16 Khz mono PCM linear format.

#### INTERNAL

<b>NORMAL DIAL TONE</b>	<b>EXTERNAL DIAL TONE</b>	<b>INTERNAT. DIAL TONE</b>
<b>ROUTE</b>	<b>ON BUSY</b>	<b>INTERNAL ON HOLD TONE</b>
<b>INTRUSION TONE</b>	<b>WARNING</b>	<b>INTERN. RINGBACK TONE</b>
<b>NETWORK RINGBACK TONE</b>	<b>INTERNAL EXT. O.S.</b>	<b>EXTERNAL O.S.</b>
<b>RESTRICTION FAIL</b>	<b>PROGRAM AGENDA TONE</b>	<b>CALL ACCEPTED TONE</b>
<b>CONGESTION TONE</b>	<b>UNKNOWN NUMBER TONE</b>	<b>ENTER PASSWORD</b>
<b>WAKE-UP RECALL</b>	<b>MSG IN BOX</b>	<b>ZERO CREDIT</b>
<b>MINIMUM CREDIT</b>	<b>CONSULT. CALL INTRUS.</b>	<b>SINGLE CALL INTRUSION</b>
<b>CONSULT. CALL NO INTR.</b>	<b>SINGLE CALL NO INTR.</b>	<b>D.N.D ACTIV</b>
<b>VAR FRWD ACTIV</b>	<b>AUTO CALLBACK ACTIV</b>	<b>PREDEF. CBACK ACTIV</b>
<b>DISA PASSWORD</b>	<b>DIRECTORY ENQUIRY</b>	

**NORMAL DIAL TONE** Internal tone

**EXTERNAL DIAL TONE** Dial tone on external line

**INTERNAT. DIAL TONE** International dial tone

**ROUTE** Call routing in progress (silence)

<b>ON BUSY</b>	On busy
<b>INTERNAL ON HOLD TONE</b>	Internal on-hold tone
<b>INTRUSION TONE</b>	Interrupt during call
<b>WARNING</b>	Warning
<b>INTERN. RINGBACK TONE</b>	Internal call return
<b>NETWORK RINGBACK TONE</b>	Network call return
<b>INTERNAL EXT. O.S.</b>	Internal extension out of service
<b>EXTERNAL O.S.</b>	External line out of service
<b>RESTRICTION FAIL</b>	Barred number, call disallowed
<b>PROGRAM AGENDA TONE</b>	Programmed reminder
<b>CALL ACCEPTED TONE</b>	Function accepted
<b>CONGESTION TONE</b>	No resource; call cannot be connected
<b>UNKNOWN NUMBER TONE</b>	Number unknown
<b>ENTER PASSWORD</b>	Personal code
<b>WAKE-UP RECALL</b>	Automatic callback requested
<b>MSG IN BOX</b>	Unread voice message
<b>ZERO CREDIT</b>	Prepayment empty
<b>MINIMUM CREDIT</b>	Prepayment nearly empty

**CONSULT. CALL  
INTRUS.** Enquiry call with intrusion privilege

**SINGLE CALL  
INTRUSION** Single call with intrusion privilege

**CONSULT. CALL NO  
INTR.** Enquiry call without intrusion privilege

**SINGLE CALL NO  
INTR.** Single call without intrusion privilege

**D.N.D ACTIV** “Do not disturb” activated

**VAR FRWD ACTIV** Variable forwarding activated

**AUTO CALLBACK  
ACTIV** Automatic callback activated

**PREDEF. CBACK  
ACTIV** Predefined forwarding activated

**DISA PASSWORD** Personal code for DISA

**DIRECTORY ENQUIR  
Y** Directory enquiry

Select an internal tone.

**OR NETWORK**

<b>EXTERNAL DIAL TONE</b>	<b>INTERNAL ON HOLD TONE</b>	<b>NETWORK HOLD</b>	<b>BF ANS: EXT FREE</b>
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<b>BF ANS: FWD OPCO FREE</b>	<b>AF ANS: EXT FREE</b>	<b>AF ANS: opco FREE</b>	<b>BF ANS: EXT BUSY</b>
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<b>AP REP AB OCC</b>	<b>BF DAY RING</b>	<b>BF NIGHT RING</b>	<b>MEET-ME PAGING</b>
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<b>BF ANS: DAY DISS UA</b>	<b>BF ANS: NIGHT DIS SUA</b>	<b>AF ANS: DAY DISSUA</b>	<b>AF ANS: NIGHT DISSU A</b>
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**EXTERNAL DIAL  
TONE** Dial tone on external line

<b>INTERNAL ON HOLD TONE</b>	Internal on-hold tone
<b>NETWORK HOLD</b>	Network on-hold tone
<b>BF ANS: EXT FREE</b>	Ringing before answer on free extension (subscriber or operator)
<b>BF ANS: FWD OPCO FREE</b>	Ringing before answer on free CAP (Central Answering Position) or night console extension number
<b>AF ANS: EXT FREE</b>	Ringing after answer on free extension (subscriber or operator)
<b>AF ANS: OPCO FREE</b>	Ringing after answer on free CAP or night console extension number
<b>BF ANS: EXT BUSY</b>	Ringing before answer on busy extension
<b>AP REP AB OCC</b>	Tone after answer on busy extension
<b>BF DAY RING</b>	Ringing before answer on day service
<b>BF NIGHT RING</b>	Ringing before answer on night service
<b>MEET-ME PAGING</b>	Awaiting response from person paged
<b>BF ANS: DAY DISSU A</b>	Dissuasion before answer on day service
<b>BF ANS: NIGHT DISS UA</b>	Dissuasion before answer on night service
<b>AF ANS: DAY DISSU A</b>	Dissuasion after answer on day service
<b>AF ANS: NIGHT DISS UA</b>	Dissuasion after answer on night service

Select a network tone.



**Note :** The tones can be customised in multi-company configuration in the same was as announcements can be customised according to the user's language.

**OR TONE NB**

Enter the number of a definable tone: 3 digits. These tones are unused on system start-up.

Make the selection then click **Select item** to display the screen used to define the characteristics of the tone concerned.

### SIGNAL TYPE



(Multi-site configuration only)

- The MULTI-SITE ANNOUNCEMENT option is only proposed for MiVoice 5000 Server.

Select the signal type.

If the signal type ANNOUNCEMENT OR TONE is selected, the definition screen opens so a tone can be defined, and an announcement listed. The listed announcement will be broadcast if the necessary resources are available, otherwise, the tone will be broadcast.

The tone configuration parameters vary according to the type of signal selected.

### ORIGIN NUMBER 1

This parameter is available for TONE and MESSAGE OR TONE signal types.



- The **INTERNAL MUSIC** and **EXTERNAL MUSIC** options are not proposed for MiVoice 5000 Server.

Select origin number 1 or modify the existing origin.

\* INTERNAL MUSIC (1 melody)

### PEAK DURATION (UNIT 10 MS)

This parameter is available for TONE and MESSAGE OR TONE signal types.

Number of 10 ms units for defining peak duration.

### TROUGH DURATION (UNIT 10 MS)

This parameter is available for TONE and MESSAGE OR TONE signal types.

Number of 10 ms units for defining trough duration.

### ORIGIN NUMBER 2

This parameter is available for TONE and MESSAGE OR TONE signal types.



- The **INTERNAL MUSIC** and **EXTERNAL MUSIC** options are not proposed for MiVoice 5000 Server.

Select origin number 2 or modify the existing origin.

\* INTERNAL MUSIC (1 melody)

### PEAK DURATION (UNIT 10 MS)

This parameter is available for TONE and MESSAGE OR TONE signal types.

Number of 10 ms units for defining peak duration.

### TROUGH DURATION (UNIT 10 MS)

This parameter is available for TONE and MESSAGE OR TONE signal types.

Number of 10 ms units for defining peak duration.

### ANNOUNCEMENT FROM

This parameter is available for MESSAGE and MESSAGE OR TONE signal types.

**BVF**

**EXTERNAL MUSIC**

**ANALOG EXTENS.**

The origin of the announcement.

### MESSAGE

This parameter is available for MESSAGE and MESSAGE OR TONE type signals, if the message is provided by the VMAIL for Mitel 5000 Gateways devices or Media Server for MiVoice 5000 Server.

#### ADD A NEW MESSAGE

For downloading a new message and assigning it to the selected tone.



**Note:** the number of messages that the VMAIL can support is 255. If this number is reached, the action ADD A NEW MESSAGE can no longer be used. Therefore, you only need to assign an unused message to the tone, and choose the action REPLACE THIS MESSAGE BY A NEW. The unused announcements can be displayed via the menu **VOICEMAIL AND TONES>Announcements>Display**.

#### REPLACE THIS MESSAGE BY A NEW

For downloading a new message and replacing all occurrences of the previous message with this new one. The old message is erased from the VMAIL.



**Note:** If other tones are using the previous message, they will be changed to use the new message.

#### File name

The message which corresponds to the selected file is associated with the tone.

The list contains all the messages available on the VMAIL.or Media Server

If you select ADD A NEW MESSAGE or REPLACE THIS MESSAGE BY A NEW, a downloading field appears :

**New message Browse ... Download**

Press the “**Browse...**” button to open a browser.

Select the file you want then click “**Download**”.



**Note :** A hypertext link on the name of this field is used to:

- Save the message on the PC, by right-clicking it
- Play back the announcement, provided a .wav file player is available on the PC.

The formats authorised for audio announcements are :

- G711, A-law if the iPBX is set to A-law
- G711,  $\mu$  law if the iPBX is set to  $\mu$  law
- G722, on MiVoice 5000 server only.



**WARNING :** The extension of the file name must be .wav.

#### ANNOUNCEMENT DURATION (SEC)

- This option is not available for MiVoice 5000 Server.

This parameter is available for MESSAGE and MESSAGE OR TONE signal types, if the message is provided by VMAIL

By default the duration is unlimited. To limit the duration, enter the desired duration here (limiting the listening time releases TSs more rapidly for other synchronised use). It is advisable to take account of the length of the recorded message.

#### OVERFLOW ON COMMON TIMESLOTS ALLOWED

**YES**

**NO**

- This option is not available for MiVoice 5000 Server.

This parameter is available for MESSAGE and MESSAGE OR TONE signal types, if the message is provided by VMAIL

If you select YES, the use of the VMAIL' common TSs will be authorised.

#### SLOT OF EQT CARD

- This option is not available for MiVoice 5000 Server.

This parameter is available for MESSAGE and MESSAGE OR TONE signal types, if the message is provided by an ANAOLG EXT. device.

Enter the number of the card/equipment to be connected.

#### OPTION: CAB/CARD/EQT - LISTEN.DEV.

- This option is not available for MiVoice 5000 Server.

This option is used to set up a connection between the equipment which emits the tone (analogue or digital set) and the control equipment.

Enter the cabinet number and the listening device card number (5 digits).

#### ORIGIN SITE

This parameter is available for the MULTISITE ANNOUNCEMENT type signal.

Select an origin site.

#### ORIGIN CLUSTER

This parameter is available for the MULTISITE ANNOUNCEMENT type signal.

Enter a numerical value from 2 to 99.



**Note :** The MMC does not check that there is a device in the cluster site specified. For an internal site, the cluster number is 2.

#### DEVICE NUMBER (IN DECIMAL)

This parameter is available for the MULTISITE ANNOUNCEMENT type signal.

Enter a numerical value from 0 to 767.

#### NUMBER OF AUTHORIZED CONNECTIONS

This parameter is available for the MULTISITE ANNOUNCEMENT type signal.

Enter a numerical value from 0 to 32.

## 8.2.2 ALLOCATION OF TONES TO LANGUAGES

Menu **VOICE MAIL AND TONES>Tones>Allocation of tones– languages**

Tones and languages are assigned automatically during first installation from the list of spoken languages (accessible via the command **System>Setting>Languages> Spoken languages**). The first language on the list is assigned to the system tone, and the other languages to the definable tones.

This screen is used to replace the standard tone of a function with a definable tone, for a given language (64-113 or 136-254). This requires that the messages be available for downloading.

#### FOR LANGUAGE

-----      **FRENCH**      **ENGLISH**

Select a language.

#### AND TONE

<b>INTERNAL ON HOLD TONE</b>	<b>EXT. INTERNAL O.S.</b>	<b>EXTERNAL O.S.</b>	<b>RESTRICTION FAIL</b>
<b>PROGRAM WAKE-UP</b>	<b>CALL ACCEPTED TONE</b>	<b>CONGESTION TONE</b>	<b>UNKNOWN NUMBER TONE</b>
<b>ENTER PASSWORD</b>	<b>WAKE-UP RECALL</b>	<b>MSG IN BOX</b>	<b>ZERO CREDIT</b>
<b>MINIMUM CREDIT</b>	<b>CONSULT. CALL INTRUS.</b>	<b>SINGLE CALL INTRUSION</b>	<b>CONSULT. CALL NO INTR.</b>
<b>SINGLE CALL NO INTR.</b>	<b>D.N.D. ACTIV</b>	<b>AUTO CALLBACK ACTIV</b>	<b>PREDEF. CBACK ACTIV</b>

Select the tone to be modified.

#### IDENTIFIED BY THE NUMBER

A number linked to the tone previously selected is displayed. To select a tone not in the above list and for definable tones (dual criteria company-dept/language), enter the tone number in three digits

#### *IS REPLACED BY DEFINABLE TONE*

**NUMBER (64-113 OR 136-254)**

Enter the number of the definable tone (3 digits) which will replace the tone selected.

## 8.2.3 COMPANY/DEPARTMENT SPECIFIC TONES

Menu **VOICE MAIL AND TONES>Tones>Company/department specific tones**

This screen enables you to replace network tones with definable tones (single-company or multi-company configuration).

### STONE

<b>EXTERNAL DIAL TONE</b>	<b>INTERNAL ON HOLD TONE</b>	<b>NETWORK HOLD</b>	<b>BF ANS: EXT FREE</b>
<b>BF ANS: FWD OPCO FREE</b>	<b>AF ANS: EXT FREE</b>	<b>AF ANS: opco FREE</b>	<b>BF ANS: EXT BUSY</b>
<b>AP REP AB OCC</b>	<b>BF DAY RING</b>	<b>BF NIGHT RING</b>	<b>MEET-ME PAGING</b>
<b>BF ANS: DAY DISS UA</b>	<b>BF ANS: NIGHT DISSU A</b>	<b>AF ANS: DAY DISSUA</b>	<b>AF ANS: NIGHT DISSU A</b>

Select the network tone to be allocated to the definable tone.

### *IS REPLACED BY DEFINABLE TONE*

#### NUMBER (64-113 OR 136-254)

Enter the number of the definable tone (3 digits) which will replace the tone selected.



**Note :** In multi-company configuration, the following additional parameter will have to be completed:

#### AND DEPARTMENT

Select a department in the company.

In a multi-company configuration, the message corresponding to an item (subscriber, hunt group) associated with the company/department pair 0/0 does not replace the previous message associated with another company/department.

This makes it possible to mutualise some items in different call distribution services while keeping specific messages.

## 8.2.4 DIRECT ACCESS MESSAGES

Menu **VOICE MAIL AND TONES>Tones>Direct access messages**

This screen is used to establish correspondence between a direct message and a definable tone. Listen to the message by dialling a prefix (see Voice mail parameters).

#### FOR MESSAGE XXXX DEFINABLE TONE NO.

Enter the definable tone number (1 to 126).



**Note :** Several messages can use the same tone. A direct access message can reach an announcement or a tone directly (for example: an internal speaking clock).

**LISTENING TIME (SEC)**

Message listening time, 8 seconds by default (5 to 600).

## 8.2.5 TONES DISPLAY

Menu **VOICE MAIL AND TONES>Tones>Tones display**

This command is used to display the characteristics of all the system tones.

Each table indicates for each tone defined on the system :

- The number of the tone
- Its name
- Its type
- The name of the file, for an announcement
- The tone definition parameters (see 8.2.1).

## 8.2.6 DISPLAY DEFINABLE TONES

Menu **VOICE MAIL AND TONES>Tones>Display definable tones**

This screen is used to display the list of definable tones of a single company.



**Note :** In single-company configuration, the company name displayed is not significant.

In this example, the definable tones used by CMPNY 0 are:

- Tone 065 is reserved for INTERNAL ON HOLD TONE.
- Tone 152 is reserved for EXTERNAL NUM.
- The other tones apply to all the services :
- Tone 136 is reserved for EXTERNAL NUM.
- Tone 137 is reserved for NETWORK HOLD.

## 8.2.7 EXTERNAL MUSIC LEVEL

Menu **VOICE MAIL AND TONES>Tones>External music level**

- This command is not available for MiVoice 5000 Server.

A special feature of the UCV card of the MiVoice 5000 range (except MiVoice 5000 Server) is that the on-hold music (external and internal music) can be adjusted using an electronic potentiometer activated on this user interface screen.

### PHYSICAL SLOT OF LIST. DEVICE

Enter the set's equipment number (cabinet no. + card slot no. + card equipment no.) from which the music is played (5 digits).

### ATTENUATE LEVEL (DB)

Read-only line, available only on the MiVoice 5000 range (except MiVoice 5000 Server). Gives the attenuation level at a given moment.

**SOUND LEVEL****MIN.****MAX.****MORE****LESS**

This choice is used to adjust (decrease/increase) the volume of the music. Selecting MORE or LESS increases or decreases the volume by 1 Db. Selecting MIN. and MAX. sets the minimum and maximum volume respectively.

**8.3 MESSAGES**

Menu **VOICE MAIL AND TONES>Messages**

The possibilities offered by the user interface in this part are basically information display functions and possibly the deletion of personalised messages not used.

**8.3.1 DISPLAY**

Menu **VOICE MAIL AND TONES>Messages>Announcement display**

This screen is used to display the list of existing messages, by indicating their equipment number (virtual VMAIL card) and the following information :

Number :	message number
NAME :	message name
DURA :	message duration in seconds
IT SYNC :	number of TSs reserved for synchronised messages
IT NOT SYNC :	number of TSs reserved for unsynchronised messages
TONE :	number of tones using the message
TONE NAME :	name of the tones using the message
DURA CONN :	duration of message playback



**Note :** If you click the message number (on which there is a hypertext number), you can obtain specifications on the nature of the message via tone definition.

**8.3.2 DELETING UNUSED MESSAGES**

Menu **VOICE MAIL AND TONES>Messages>Remove unused announcements**

This tab is used to delete customised messages, for instance, in order to free up memory space or when they are no longer used.

To be deleted, these messages should not be assigned a signal. See Menu **Voice mail and tones>Tones>Definition**.

Default messages (canonical values cannot be deleted).

### 8.3.3 ALLOCATION

Menu **VOICE MAIL AND TONES>Messages>Allocation**

- This menu is not available for MiVoice 5000 Server.

#### BOARD PHYSICAL SLOT-MSG NUMBER

After the type of allocation is selected, either by equipment number, or by message number, the following parameters are displayed :

#### BOARD PHYSICAL SLOT-MSG NUMBER

Gives the information provided previously, in this case 006, or the virtual VMAIL card number, followed by the message number.

#### NUMBER OF SYNCHRONIZED OUTPUTS

Enter the number of outputs in 2 digits. 15 outputs maximum

#### EXISTENCE OF NOT SYNC. OUTPUT

**NO** **YES**

Select YES to confirm the existence of unsynchronised outputs.



**Note :** This field only appears if the first field has been validated.

#### NUMBER OF COMMON OUTPUTS

Read-only column. Enter 2 digits to indicate the number of remaining common TSs updated by the modification of the other fields.



**Note :** The message "Full Table" only appears if there are no more common TSs.

### 8.3.4 OBSERVATION OF THE COUNTERS

Menu **VOICE MAIL AND TONES>Messages>Observation of the counters**

- This command is not available for MiVoice 5000 Server.

This menu displays the number of connections per tone number, and is used to optimise TS distribution.

The table displays the following details

TON :	Tone number
SLOT :	Card rack position
MSG :	Message number
SYNCHR :	Number of connections on synchronised TS
COMMON :	Number of connections on common TS
NO SYNC. :	Number of connections on not synchronised TS
FAIL :	Number of failed connections

### 8.3.5 RESET COUNTERS

Menu **VOICE MAIL AOND TONES>Messages>Reset counters**

- This menu is not available for MiVoice 5000 Server.

To reset the counters, you must have a profile that authorises this operation. For more information, refer to the menu **System>Setting>Users**.

If the required profile is not the current profile, a message is displayed indicating that this operation is not allowed.

## 9 APPENDICES

### 9.1 REGISTERING THE MIVOICE 5000 PBX IN THE MICROSOFT AZURE APPLICATION



**ATTENTION :** The menus and labels indicated in this document are provided by way of example to describe the procedure and are subject to changes specific to the Microsoft Azure application.

For the Microsoft account, register the MiV5000 application in the Azure portal:

<https://portal.azure.com/>

In the **Manage Azure Active Directory** area, Click **View**,

Welcome to Azure!

Don't have a subscription? Check out the following options.



**Start with an Azure free trial**  
Get \$200 free credit toward Azure products and services, plus 12 months of popular free services.  
[Start](#) [Learn more >](#)



**Manage Azure Active Directory**  
Manage access, set smart policies, and enhance security with Azure Active Directory.  
[View](#) [Learn more >](#)



**Access student benefits**  
Get free software, Azure credit, or access Azure Dev Tools for Teaching after you verify your academic status.  
[Explore](#) [Learn more >](#)

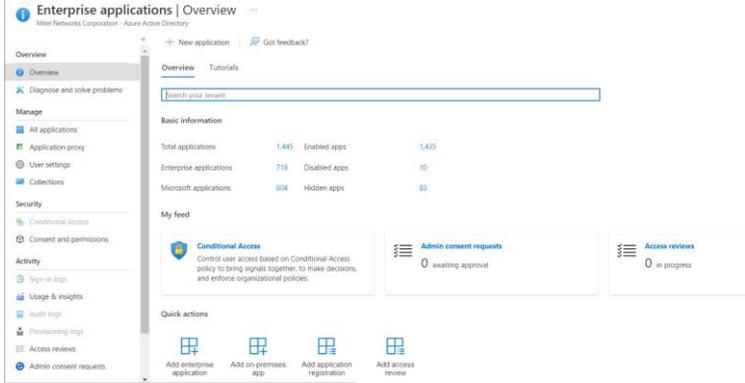
**Azure services**

Create a resource
 Quickstart Center
 Virtual machines
 App Services
 Storage accounts
 SQL databases
 Azure Cosmos DB
 Kubernetes services
 Function App
 More services

**Navigate**

Subscriptions
 Resource groups
 All resources
 Dashboard

In the following screen, select **Enterprise applications**



**Enterprise applications | Overview**

Mitel Networks Corporation - Azure Active Directory

Overview

Diagnose and solve problems

Manage

- All applications
- Application proxy
- User settings
- Collections

Security

- Conditional Access
- Consent and permissions

Activity

- Sign-in logs
- Usage & insights
- Audit logs
- Provisioning logs
- Access reviews
- Admin consent requests

Overview

Tutorials

Search your tenant

Basic information

Total applications	1,445	Enabled apps	1,435
Enterprise applications	718	Disabled apps	10
Microsoft applications	604	Hidden apps	83

My feed

**Conditional Access**

Control user access based on Conditional Access policy to bring signals together, to make decisions, and enforce organizational policies.

**Admin consent requests**

0 awaiting approval

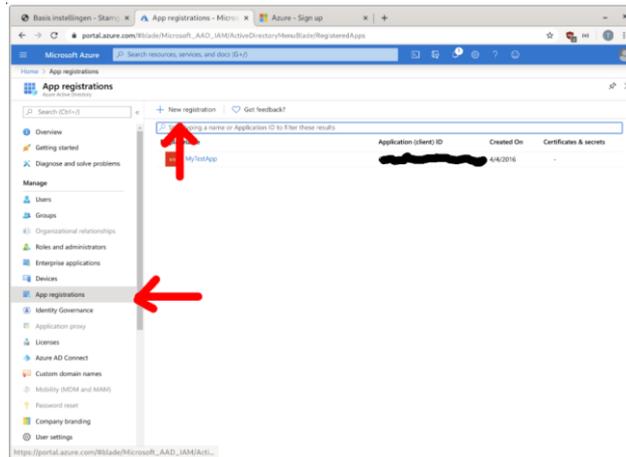
**Access reviews**

0 in progress

Quick actions

Add enterprise application
 Add on-premises app
 Add application registration
 Add access review

## Click **App registrations**



## Select **New registration**

In the **Register an application** screen

Tick the box **Accounts in this organizational directory only (Mitel Networks Corporation only – Single tenant)**

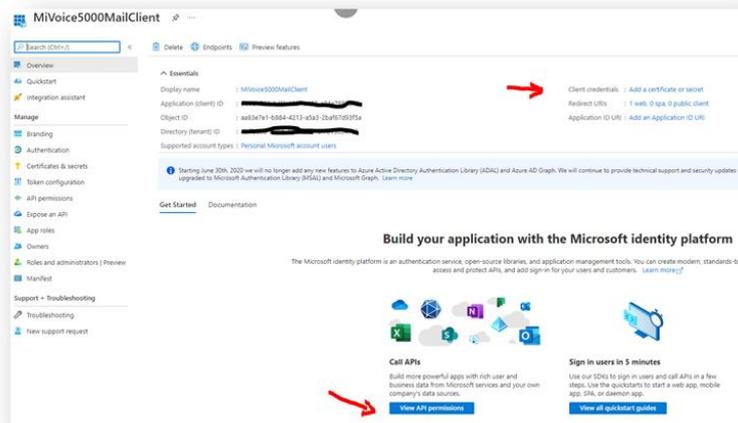
Fill in the **Name** field with the name considered for this application (Free field, in the example MiVoice5000MailClient)

This MiVoice 5000 Mail app is declared as a Web application

Then fill in the **Redirect URI** field

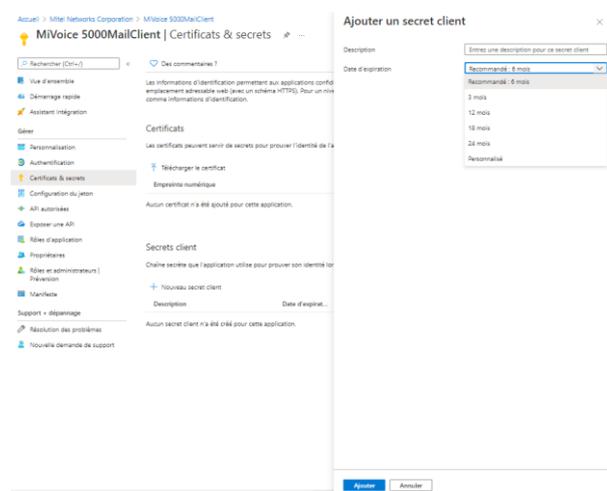
The value for MiVoice 5000 must be in this format:

<https://MIVOICE5000FQDN/system/MiVoice5000Mail.htm>

Click **View API permissions**

Then select the **Certificats & secrets** menu

Click **+ Client secret new** to add a new Secret,



Renseigner les champs du cadre **Ajouter un secret client**,



- **IMPORTANT :** Le secret client a une durée de vie limitée. Il doit être renouvelé.

Cliquer sur **Ajouter**.

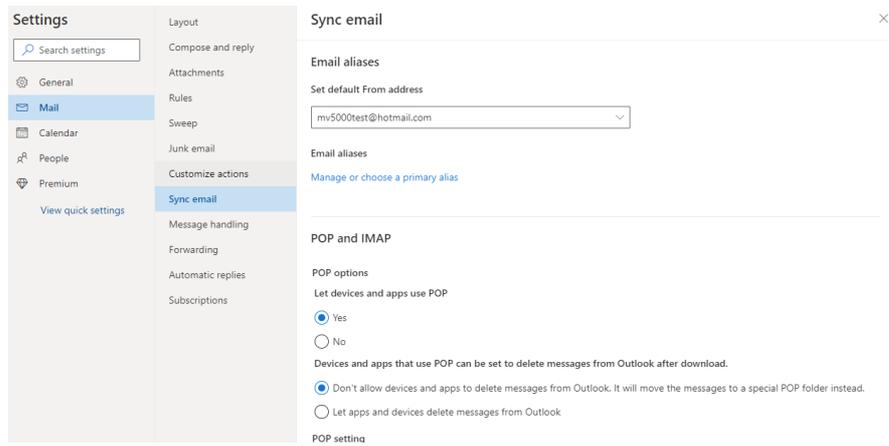
+ New client secret			
Description	Expires	Value	Secret ID
secret	10/7/2021	D.GF-oFT9.T0o.7K~8leNI-9zmYH...	61efef2d-859a-46c9-801f-3ee48...



- **IMPORTANT :** Lorsque le secret client est créé, une sauvegarde est impérative car il ne sera pas possible de le récupérer ultérieurement.

Ce n'est pas spécifique à OAuth2, mais pour pouvoir établir une connexion SMTP, POP ou iMAP, côté OutlookOnline, la boîte aux lettres doit être configurée pour accepter les connexions SMTP, POP et iMAP.

Des droits de niveau administrateur peuvent être requis pour accorder ces autorisations.



Then return for the rest of the procedure to the **SYSTEM> Configuration> E-mail** menu in the iPBX. Refer to 4.3.8.3 Description of the different fields section.

## 9.2 REGISTRATION OF THE MIVOICE 5000 IPBX IN THE GOOGLE APPLICATION



**ATTENTION: The menus and labels indicated in this document are provided by way of example to describe the procedure and are subject to changes specific to the Google Cloud portal.**

For the Google account, register the MiV5000 application in the Google Cloud portal:

<https://console.cloud.google.com/>

Fill in the required fields:

Then select in the **Create credentials** tab, the **OAuth client IDs** section,

### Create ID Client OAuth

← Create OAuth client ID

A client ID is used to identify a single app to Google's OAuth servers. If your app runs on multiple platforms, each will need its own client ID. See [Setting up OAuth 2.0](#) for more information.

Application type \*  
Web application ←

[Learn more about OAuth client types](#)

Name \*  
MiVoice5000MailClient ←

The name of your OAuth 2.0 client. This name is only used to identify the client in the console and will not be shown to end users.

**i** The domains of the URIs you add below will be automatically added to your [OAuth consent screen](#) as [authorized domains](#).

**Authorized redirect URIs** ⓘ  
For use with requests from a web server

URIs \*  
<https://mivoice5000FQDN.lab.company.fr/system/MiVoice5000Mail.htm> ←

[+ ADD URI](#)

[CREATE](#) [CANCEL](#)

### Some constraints in redirect URI declaration

#### Authorized redirect URIs ⓘ

For use with requests from a web server

#### URIs \*

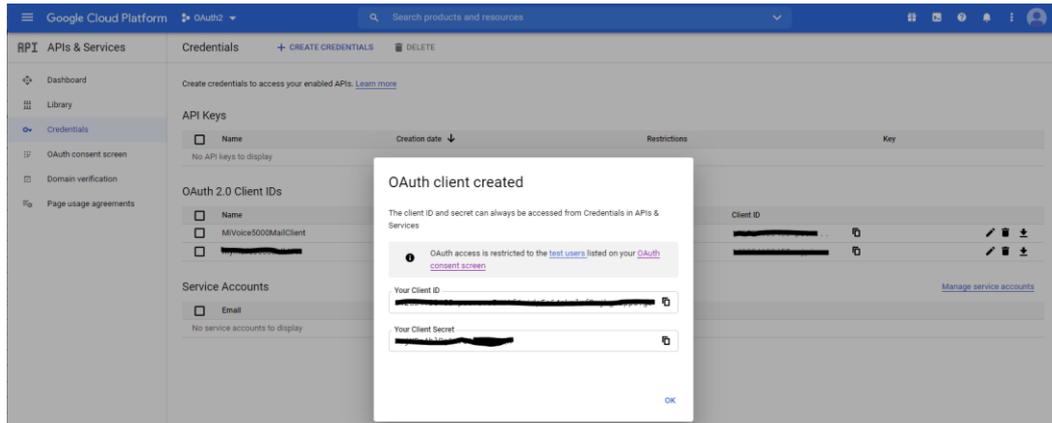
<https://mivoice5000FQDN.lab/system/MiVoice5000Mail.htm>

Invalid Redirect: must end with a public top-level domain (such as .com or .org).

Invalid Redirect: must use a domain that is a valid [top private domain](#).

L'URL must be complete, with wellknown public top-level domain. The value for MiVoice 5000 must be in this format:

<https://mivoice5000FQDN.lab.company.fr/system/MiVoice5000Mail.htm>.



Then return for the rest of the procedure to the **SYSTEM > Configuration > E-mail** menu in the iPBX. Refer to 4.3.8.3 Description of the different fields section.

## 9.3 IMPLEMENTING THE POWER-SAVING FUNCTION ON AX SERIES, A500X/A50X AND MIVOICE 5000 SERVER SYSTEMS

To reduce the power consumption on Mitel 5000 Gateways iPBXs, the power-saving function is used to configure a calendar on the basis of which a certain number of terminals are switched off or powered up:

- When the calendar changes to night mode, the terminals are switched off (Power Saving On).
- When the calendar changes to day mode, the terminals are powered up (Power Saving Off).

The terminals concerned are those connected to the following cards:

- EXT2S (XS)
- DL8, DL16 on Mitel 5000 Gateways (AXLD, XL and XS) system
- DL48 on AX500/A50X.

Activation or deactivation is on a port by port basis.

Power supply is not cut if:

- The terminal is communicating
- The firmware is being updated on the terminal
- The terminal is logging onto a subscription0

The terminal is restarted:

- At the time specified by the calendar
- When the iPBX restarts
- When an update operation starts on the terminal.



**Note :** The terminals do not all restart at the same time, to avoid too much power consumption.

### Common terminals

The configuration (activating or not activating the power-saving function) is general for all these terminals and associated with the characteristic of the common subscriber.

### Hunt groups

For hunt groups, the function is applied on terminals set to this mode (Menu **Telephony service>Subscribers>Right>General parameters**), except for priority terminals.

For virtual TDM terminals, the power-saving function is also activated on the MiVoice 5000 Server.

By default, all the terminals connected to these cards are concerned, except attendant consoles and night consoles.

The power-saving function can be prohibited for certain terminals by transferring an already existing right to the associated subscription: "Priority terminal".

Terminals on which the power-saving function has been applied are seen as "NOT SUPPLIED".

All the terminals are powered up when the iPBX is started.

The terminals change to power-saving mode next time the calendar associated with the power-saving function changes to night mode.

Changes in the power-saving function status (On/Off) are indicated by a message in the logbook and through the transmission of an alarm-type service ticket.

It is possible to force power supply to the terminals:

- From Web Admin, by making a manual switchover: ON/OFF operations on the subscriptions or on the devices concerned
- From MiVoice 5000 Manager or MiVoice 5000 User Portal, which proposes an action resulting in the sending of an OFF/ON request on the subscriptions concerned (see document AMT/PUD/NMA/0003/EN - MiVoice 5000 Manager User Guide)
- Power is then supplied to the terminal until the calendar switches to NIGHT mode.

### VIRTUAL TERMINALS

To manage virtual TDM terminals, MiVoice 5000 (subscriber declaration) and Mitel 5000 Gateways (terminal connection) sites must have consistent power-saving function calendars.

## 9.3.1 RECOMMENDATIONS

It is advisable to keep the terminals working, including outside opening hours, especially backup terminals, the answering service, corridor terminals, lift terminals, isolated sites, secretariats and, possibly, managers' terminals, in order to allow access to the phone (especially for emergency calls) in case of unexpected presence of a person. It is also advisable to inform users about the implementation of the power-saving function and about the list of terminals that remain available, even outside opening hours.

## 9.3.2 DECLARING A CALENDAR

The menu **Reception>Calendars>Names** is used to create a calendar (among the 16 possible calendars) for the power-saving function and to assign it an 8-character name.

The calendar is created without timeslot. Therefore, its default status is "Day".

## 9.3.3 DEFINING TIMESLOTS

The menu **Reception>Calendars>Calendar range definition** is used to define a specific calendar, the "Day" / "Night" switchover timeslots for each day of the week.

Select the calendar in question for the power saving function.

For the description of the different fields, see Section 7.6.2.

### 9.3.4 ACTIVATING THE POWER-SAVING FUNCTION AND ASSOCIATING THE CALENDAR

In the menu **Subscribers>Rights>General parameters**, the two lines below are associated with the power-saving function:

- The power-saving function line is used to activate/deactivate the function via a checkbox.
- The associated calendar option is used to assign a calendar to the power-saving function. This line is only displayed if the previous line is ticked.

#### **Principle:**

When the iPBX is started, all the terminals are powered up by default; the power-saving function is, therefore, disabled.

As a result, when the function is activated from this menu:

- If the status of the associated calendar is "day", no message is sent (logbook and alarm ticket).
- If the status of the associated calendar is "night", the messages are sent (logbook and alarm ticket).

On the other hand, when the function is disabled:

- If the status of the associated calendar has been "day", no message is sent (logbook and alarm ticket).
- If the status of the associated calendar has been "night", power up the terminals again, and the activation message is sent (logbook and alarm ticket).

When the associated calendar is modified, if the Day/Night status of the new calendar is different from the status of the previous calendar, the messages are sent (logbook and alarm ticket) with the status of the power-saving function corresponding respectively to the Night/Day status of the new calendar.

## 9.3.5 PRIORITY TERMINALS

### 9.3.5.1 *Rights managed according to subscription*

If the rights are not managed according to feature classes, the menu **Subscribers>Subscriptions>Characteristics** is used to inhibit the power-saving function for the terminals associated with the subscription on which the "priority terminal" right is ticked.



**Note :** When the right is modified, there is no status change for the subscription. Therefore, if the right is activated when there is no power supply to the terminal, it remains so unless the subscription/equipment status is changed manually (this forces power supply to the terminal). Next time the calendar changes to day mode the TEL software forces power supply to the terminal, no matter the value of the right.  
This right may (or may not) be defined on the **COMMON** subscriptions. Thus, **ALL** the terminals logged onto this subscription are protected (or not), against the power-saving function.

### 9.3.5.2 *Rights managed according to feature classes*

If the rights are managed according to feature classes, the menu **Subscribers>Rights>Feature classes** is used to inhibit the power-saving function for terminals whose subscription has a feature class in which the "priority terminal" right is ticked.



**Note :** When rights are modified in a feature class there is no status change on the subscriptions having this class. There is no status change either on a subscription whose feature class is changed. So, for terminals without power supply, if the right is activated via the feature class assigned to their subscription, the terminals remain without power supply unless the status is manually changed on the subscriptions/devices linked to this feature class. Next time the calendar changes to day mode the TEL software forces power supply to the terminal, no matter the value of the right.  
A feature class is also associated with **COMMON** subscriptions. This way, all the terminals logged onto the **COMMON** subscription are protected or not protected against the power-saving function, depending on the configuration in the feature class associated with the **COMMON** subscription.

### 9.3.6 VIEWING THE CALENDARS ASSIGNED TO THE POWER-SAVING FUNCTION

The menu **Reception>Calendars>Display** gives the status and assignment of all the Day/Night switchover calendars.

The power-saving column indicates whether or not a calendar has been assigned to this function.

### 9.3.7 DISPLAYING USERS OF THE POWER-SAVING FUNCTION

The **By power-saving** field of the menu **Reception>Calendars>Display users** displays the user function(s) of this particular calendar.

### 9.3.8 DISPLAYING THE STATUSES OF USERS OF THE POWER-SAVING FUNCTION

Menu **System>Supervision>Display status>Telephone extensions**

When power supply to a terminal is cut, the status of the terminal changes to PERMANENT OFF-HOOK.

The status **NOT SUPPLIED** is not displayed for the subscription and cannot be used as search criterion in this menu.

#### Single-association subscriptions

For single-association subscriptions, the **PERMANENT OFF-HOOK** telephone status of a terminal is displayed for the subscription. For example :

- If the terminal is disconnected :
  - Subscription status = PERMANENT OFF-HOOK
  - Terminal status = PERMANENT OFF-HOOK
- If the terminal is connected but without power supply :
  - Subscription status = PERMANENT OFF-HOOK
  - Terminal status = NOT SUPPLIED.

Therefore, it is possible to limit a search, with the status PERMANENT OFF-HOOK as search criterion.

#### Multi-association subscriptions

For subscriptions with multiple associations, the status of the subscription depends on the status of all the terminals. The method described previously cannot be used to display the subscriptions with at least one terminal not concerned by the power-saving function (for instance, an analogue terminal or a terminal declared on an LN16 ...).

The most appropriate method of displaying all the terminals in power-saving mode is to:

- List them by criteria: searched status equals "ANY" + "Display of the sets"
- Then make a search using CTRL+F : NOT SUPPLIED on the page displayed on the navigator.

### 9.3.9 VIRTUAL TERMINALS WITH DUAL HOMING

To manage virtual TDM terminals with dual homing, the calendar associated with the power-saving function must be consistent between the MiVoice 5000 Server on which the subscriptions are declared and the Mitel 5000 Gateways used to connect the terminals.

The principle is to copy the calendar using the Export/Import method described below.

The calendar must be correctly declared on MiVoice 5000 Server.

#### On MiVoice 5000 Server :

- Log on to MiVoice 5000 Server.
- From the menu **Reception>Calendars>Display**, note the name of the calendar associated with the power-saving functions.
- Display the timeslots of this calendar.
- Export the current item to a file with the  icon.

#### On Mitel 5000 Gateways systems :

- Log on to the Mitel 5000 Gateways.
- Create the calendar associated with the power-saving function at any level but with the same name as on the MiVoice 5000 Server (Menu Reception>Calendar>Name).
- Start144 a massive import operation from the menu **System>Software maintenance>Massive import**.
- Select the file created during export to MiVoice 5000 Server.
- Then "**Download**".
- Then "**Take account of the data**".
- From the menu **Subscribers>Rights>General parameters**, activate the power-saving function and associate the copied calendar.

## 9.4 MODE SSO ADDITIONS

**Erreur !  
Des objets  
ne  
peuvent  
pas être  
créés à  
partir des  
codes de  
champs de  
mise en**

**forme.** 

**Warning : The security certificate must be installed on the Client PC. Refer to the annex to document AMT / PTD / PBX / 0151.**

### 9.4.1 AUTHENTICATION IN MODE SSO BY KERBEROS PROTOCOL

#### 9.4.1.1 Generalities

Kerberos is a network authentication protocol based on a secret key mechanism and the use of tickets, not in clear text passwords, thus avoiding the risk of fraudulent interception of users' passwords.

Authentication is configured from an Active Directory environment is to use when accessing the User Portal.

The feature is available from MiVoice 5000 R6.2 and requires OS version 6.7 (CentOS or RedHat). To update the OS, refer to the document AMT / PTD / PBX / 0151

#### 9.4.1.2 Create an account in Active Directory

Create an account in Active Directory with the login / password associated (here given as an example):

- Login (example): **kerbmanager**
- Password (example): **mypassword**

These values are then used in the creation of the **keytab** file.

#### 9.4.1.3 Keytab file generation

**Keytab** file generation is performed on Active Directory Server in a Windows PowerShell with the following command:

```
ktpass -princ HTTP/machine_name.integration.com@INTEGRATION.COM -mapuser
kerbmanager@INTEGRATION.COM -pass mypassword -crypto RC4-HMAC-NT -ptype
KRB5_NT_PRINCIPAL -out C:\kerberos.keytab
```

Red values are to inform (here given as an example):

- Name of the machine from which the keytab file is imported: machine\_name
- Domain name: integration.com
- Coding Type: RC4-HMAC-NT

The **Keytab** file allows the web server to log in Active Directory with the account stored in this Keytab file. This account is defined by the Kerberos right in Active Directory to allow Active Directory to reply to a request for Kerberos ticket. Then this file will be imported in the IP PBX.

## 9.4.2 WEB BROWSER CONFIGURATION FOR THE SSO MODE

For Internet Explorer and Google Chrome, add the following URL or the following domain name in Internet Options> Security> Local intranet> Sites> Advanced:

Full URL:

In relatively example in the previous paragraph

- <https://mivoice 5000 manager machine name.integration.com> when the User Portal is managed by MiVoice 5000 Manager.
- <https://IPBX machine name.integration.com> when the User Portal is embedded in the iPBX

### Domain Name (\*domainname.com)

In relatively example in the previous paragraph

[\\*.integration.com](https://*.integration.com)

### For Firefox:

- Start Firefox and in the address bar, inform about: config for advanced configuration options.
- Add the URL or domain name preceding the network.negotiate-auth.trusted-uris variable.

It is mandatory to declare the FQDN and not the IP address.

In SSO mode, the User Portal Access URL is either:

*In relatively example in the previous paragraph*

- <https://mivoice 5000 manager machine name.integration.com/selfadmin> when the User Portal is managed by MiVoice 5000 Manager.
- <https://IPBX machine name.integration.com/aps> when the User Portal is embedded in the iPBX.

Direct access to the User Portal in SSO mode, without displaying the authentication window.