

MiCollab Advanced Messaging ITT 3100/Millennium Integration Technical Note

For version 9.2 and above

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Preface

This Integration Technical Note (ITN) is written for dealers who are experienced with MiCollab Advanced Messaging (MiCollab AM) and are familiar with its procedures and terminology. It also assumes that you are familiar with the features and programming of the ITT System 3100 or Millennium telephone system.

This document describes how to integrate MiCollab AM with the ITT 3100/Millennium telephone system, and documents critical application considerations, installation requirements, and telephone system programming. The ITT 3100 integration is an outband RS-232 data link integration.

The RS-232 interface sends calling and called-party information to MiCollab AM. Analog extensions carry for voice and DTMF signaling between the caller and MiCollab AM. When a call is sent to MiCollab AM, the ITT 3100 sends a data packet with call-type information over the RS-232 serial connection. The data packet is matched with the associated ringing voice mail port, and MiCollab AM answers the call with the appropriate dialog. Message-waiting indicator (MWI) operation is performed through the analog station ports.

For information on the ITT System 3100 RS-232 protocol, please refer to the CORTELCO specification for the System 3100, Generic D6.1.

References

A catalog of technical documentation is included on the MiCollab AM Installation Media. If you are installing any advanced applications, such as Networking and Fax Server applications, you should refer to the appropriate technical documentation for application and installation information.

Documentation

The technical documentation is produced in the PDF format and requires the PDF reader to view it. The MiCollab AM Documentation Library includes the following documents and resources:

- **Administration Documentation.** Available as a PDF only. Contains the following:
 - **Administration Guides.** Available as a PDF only. Contains administrative guides for administrators about how to manage and configure the messaging system.
 - **Quick Reference Cards (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
 - **User Guides.** Available as a PDF only. Contains user guides for subscribers about accessing the messaging system and checking and sending messages.
- **Server Documentation.** Available as a PDF only. Contains the following:
 - **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.

- **Installation and Configuration.** Available as a PDF only. Contains installation and configuration guides for server administrators about how to install and configure the messaging system.
- **Integration Technical Notes (ITN).** Contains a set of guides that describe the integration methods and instructions for a variety of phone systems to work with MiCollab AM. The ITNs are generally used by resellers or administrators who are experienced with MiCollab AM and familiar with the integration procedures and terminology.
- **Spare Parts Documentation.** Contains a set of guides that describe the instructions for installing and configuring hardware parts to work with MiCollab AM. These documents are written for Mitel-certified MiCollab AM technicians who are experienced with MiCollab AM and familiar with the procedures and terminology.
- **Software Release Notice (SRN).** This notice introduces the new features, capabilities, and hardware/software requirements for the corresponding MiCollab AM version.

Documentation Updates

Documentation updates may be available from the following sources:

- Mitel-certified technicians can view or download documents and program files from our partner web site: www.mitel.com

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** by clicking the **Help** button in the dialog box or window in which you are working.

Document Conventions

The following conventions are used in this document:

- **Key Names.** Names of keys on the keyboard are shown in a box.

Example: **Enter**

When two keys must be pressed simultaneously, they are joined by a + sign.

Example: **Alt** + **Tab**

- **Reference to Document** Titles of other documents are shown in italics.

Example: See the *System Installation and Configuration Guide*.

- **User Interface (UI) Element Names.** Names of UI elements such as dialog boxes, windows, screens, menu items, tabs, buttons, and icons are shown in bold.

Example: On the **Startup** screen, click the **Start** icon.

- **User Input.** Information required to be typed is shown in italics.
| **Example:** Type the password *voicemail*.
- **Warning, Caution, Important, and Notes.** Text for the contents that require attention are shown as follows:

WARNING A warning paragraph advises you of circumstances that can result in the loss of data, harm to the MiCollab AM System Server platform, or personal harm.

CAUTION Failure to follow these recommendations can result in unauthorized access to the system and consequent loss of data.

IMPORTANT An important paragraph gives decision-making information or informs you of the order in which tasks need to be completed.

NOTE A note gives additional information, provides an explanation, or indicates an exception to the information in the preceding text.

For more detailed documents, refer to the following list of references:

Table 1. References

Document Type	Document Title
Administration Documentation	<i>System Administration Guide</i>
Server Documentation	<i>System Installation and Configuration Guide</i>
Online help	MiCollab AM online help system

Features Supported by This Integration

The following tables list the features supported with the ITT 3100/Millennium integration.

Table 2. Call diversion to personal greeting for these call types

Divert to MiCollab AM on	Supported
No Answer	Yes
Busy	Yes
Forward All	Yes

Do Not Disturb	Yes
----------------	-----

Table 3. Integration features supported for ITT 3100/Millennium

Feature	Supported	Notes
Automatic subscriber logon	Yes	
ANI/CLI	No	
Announce Busy greeting on forwarded calls	No	
Call screening	Yes	
Caller queuing	Yes	Note 1
DNIS	No	
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax ports	Yes	Note 2
Internal calling party ID for reply	Yes	
Live record, integrated	No	
Live reply to sender	Yes	
Message notification callouts	Yes	
MWI, set/clear	Yes	
MWI, inband/outband	Outband	
Networking, analog	Yes	
Overflow from MiCollab AM to attendant	No	
Overflow to MiCollab AM from attendant	Yes	
PBX-provided disconnect signaling	Yes	Note 3
Revert to operator	Yes	
Transfers, blind	Yes	

Transfers, confirmed	Yes
Transfers, fully supervised	Yes
Transfers, monitored	Yes
Trunk ID for call routing	No

NOTES

1. Caller Queuing is specific to each local Call Server. Call Servers within the system are unaware of queued calls to the same subscriber on other Call Servers. For more information, refer to the [Critical Application Considerations](#).
2. Requires separate analog ports or fax server
3. Requires a VDT modem control card for loop current disconnect

Critical Application Considerations

Known limitations or conditions within the telephone system and MiCollab AM that affect the integration performance are listed here. General recommendations are provided when ways to avoid these limitations exist.

- A maximum of 16 ports can be defined as voice mail ports on the System 3100. Voice mail integrated ports must be connected consecutively, beginning with port 1.
- The MiCollab AM **Lines** tab must have the correct extension numbers specified in each line or the integration cannot function.
- Line ringing must be enabled to each MiCollab AM port
- Installing RS-232 communications on the same shelf as a T1 span can cause conflicts with the T1 clock and the IDEA PBA card.
- To use the Camp-on or Call-Back features in the System 3100, disable call forward of internal calls when busy.
- The Call Queuing feature does not transcend the Call Server. Calls may be queued on multiple Call Servers for the same subscriber but Call Servers do not have knowledge of calls in the queue on other Call Servers within the system. Callers may be prompted with specific information about their place in the queue; however, the information pertains to the specific Call Server on which their call is queued.

Serial Integrations in a Multi-Box Call Server Environment

In a multi-box environment, it is possible that a single serial link connection may need to service two or more Call Servers. The serial link can be terminated on any Call Server or System Server with Call Services within the system. The data is then distributed to the correct Call Server or Call Servers through the network interface of the MiCollab AM system.

- Use the **Link Integration Mode** parameter on the **Integration Options** dialog box of the server to configure each server in the system as:
 - Normal – the serial link is connected to this server's COM port, and is not passing serial data through the network to other Call Servers
 - Link Client – The serial link is connected to another server in the system and is receiving integration data through the network
 - Link Server – The serial link is connected to this server and is passing serial data through the network to other Call Servers
 - MWI Only – The server is only sending/receiving MWI data to the switch

- If you are terminating the serial link at the System Server, the System Server must have Call Services enabled. It is not required to have lines enabled on the System Server.
- If you use the System Server to perform only MWI operation for the integration, the System Server must have Call Services enabled. It is not required to have lines enabled on the System Server.

Installation Requirements

Review the following information before performing any of the procedures in this document. To install this integration successfully, you must meet the installation requirements for both the telephone system and for MiCollab AM. For correct hardware installation and wiring, see Volume 2 of the System 3100XL Technical Manual, Section 35-165-201, Figure 43.

Telephone System Requirements

- Version D6.1E Revision B002 software or above (Version D6.2 Revision 4 is preferred)
- One IDEA PBA for RS-422 communications with data registers (Configuration #1 to DTE). All four data registers must be cross-connected and enabled. (If upgrading to Version D6.1AA, make sure that the power card for the IDEA card shelf is the same type and version as the power card in the Data Register shelf.)
- One Data Register PBA (with A005 software or above)
- One single-line station port per MiCollab AM port. The VDT modem control card provides loop current disconnect capability. To enable this feature, bridge the disconnect leads T1 to T and R1 to R.

NOTE Line Ringing must be enabled for all of the MiCollab AM ports.

- One IDEA PBA for RS-232 communications with MiCollab AM (Configuration #1 to DTE). Refer to *System 3100XL Technical Manuals (Gen. D6.1)* for proper configuration of the RS-232 port.

The serial port connector configuration is as follows:

DB-25 Pin	RS-232C Description	DB-9 Pin Number
2	Transmitted data	3
3	Receive data	2
6	Data set ready	6
7	Data ground	5
20	Data terminal ready	4

MiCollab AM Requirements

- Properly configured system server platform running Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience)
- MiCollab AM version 9.2 – consult the Mitel Connect web site for the current software patches and service pack information
- Mitel software key diskette or feature file with ITT 3100 serial integration enabled
- One Dialogic port for each MiCollab AM voice port to be integrated
- One available serial COM port
- Uninterruptible power supply (UPS) and surge protection device (recommended)

Programming the Telephone System

Follow the recommendations and programming examples in this section to program the ITT 3100 integration with MiCollab AM. Programming examples show commands and parameters that are necessary for integration; they do not represent PBX programming in its entirety.

The installing technician should be familiar with programming the telephone system. For detailed programming information on the ITT System 3100 telephone system, refer to the *System 3100XL Technical Manuals* (Gen. D6.1), Volume 1 and 2, CORTELCO (P/N 35-165-000).

Programming the MiCollab AM Ports

Program the System 3100 data register and station ports with the following information. Enter the command sequences from your terminal.

NOTE The variables X, Y, and Z indicate data that you must add to the command sequence.

To program the ports for MiCollab AM:

- 1 Program the system for data registers to interface with the IDEA PBA (RS-422) using the Miscellaneous Equipment coding form found in System 3100XL Technical Manuals (Gen. D6.1). The location type for the IDEA port is DREG, with an assignment of DREGNUM. At the system prompt, type:

Lx	TYPE	DREG
Lx	DREGNUM	DREGy

Where x = the port number and y = a data register (1–4).

NOTE Make sure that all four data registers are enabled and cross-connected.

- 2 Program one port on the IDEA II PBA (RS-232) for the MiCollab AM serial link. At the system prompt, type:

Lx	TYPE	VMDATA
----	------	--------

Where x = the port number.

- 3 Program the analog MiCollab AM ports as VMVOICE and assign each a unique VMPORT designation (0A–7B). At the system prompt, type:

Lx	TYPE	VMVOICE
Lx	VMPORT	y

Where x = the port number in the System 3100 (physical port in telephone system) and y = the port number assigned to MiCollab AM.

Number the MiCollab AM port numbers in sequence, as follows:

Table 4. MiCollab AM Port/VoiceMail Number

MiCollab AM Port Number	Voice Mail Number
1	0A
2	0B
3	1A
4	1B
5	2A
6	2B
7	3A
8	3B

- Identify stations as owning a mailbox on MiCollab AM by programming each station port's PROFILE. At the system prompt, type:

```
PROFILE      METy   VMBOX (for multi-button sets)
PROFILE      SLPy   VMBOX (for single-line sets)
```

When y = voice mail profile number.

- Program the PROFILE attributes for the RS-232 port. At the system prompt, type:

```
PROFILE      VMDATA TMOUT150      SEND_ENQ
```

- Program each station that owns a mailbox on MiCollab AM for the PROFILE in Step 4. At the system prompt, type:

```
Lx      PROFILE      METy (for multi-button sets)
Lx      PROFILE      SLPy (for single-line sets)
```

- Create a Class of Service (COS) for stations that have access to the MiCollab AM voice mail system and that have the local call forward feature. At the system prompt, type:

```
COS      STATIONy      VM      CF
```

Where y = the COS number.

- Program the stations that need access to the COS. At the system prompt, type:

```
Lx      COS      STATIONy
```

- 9 Create a dial access code (dial message send) for stations to automatically log on to MiCollab AM subscriber mailboxes. At the system prompt, type:

```
CODE  MSGS  xxxx
```

Where x = digits 0–9, S, or #.

- 10 Create a dial access code (dial message retrieve) for stations to access the system prompt, type:

```
CODE  MSGR  xxxx
```

Where x = digits 0–9, S, or #.

NOTE The dial access code for message send or message retrieve can be from 1 to 4 digits in length. You can use this code to program call forwarding of stations to MiCollab AM subscriber mailboxes or to use the automatic mailbox logon feature for subscribers.

- 11 Program the Message Receive (MWI) button on MET sets. At the system prompt, type:

```
Lx    By    MSGRB  Lz
```

Where x = the MET station port number, and

y = the station's feature button number, and

z = the number assigned to an intermediate or secondary answering station. Usually this number is the same as Lx, but, for example, a secretary might have a message button for the boss's station that enables the secretary to be notified of messages pending for the boss.

Programming Phantom Ports for the Automated Attendant

The System 3100 does not send trunks directly to voice mail ports. To use MiCollab AM ports for both automated attendant and voice mail, program a phantom extension that is directed to the voice mail pilot number. For day and night announcements, you need two phantom extensions: one for day mode and one for night mode.

Use Remote Call Forwarding and Call Forward Follow Me on the phantom extension to the voice mail pilot number.

See the *Automated Attendant Scheduling Administration Guide* for information about how to select the appropriate Extension Specific Processing (ESP) fields and accomplish trunk sorting if required.

Programming Subscriber Extensions for Voice Mail

The programming procedure to activate station sets varies between multi-button and single-line stations. This procedure lets you add the MiCollab AM forwarding or automatic logon features to specific stations by dialing a 0 or 2 after the access code. Follow the instructions listed in this section of the document that correspond to the system at the site and the feature you wish to use.

Programming a Station for Call Forwarding

Choose the appropriate procedure from the procedures that follow, depending on the type of station set you are programming, either multi-button or single-line.

To program multi-button stations:

Program each station to forward calls to MiCollab AM. At the subscriber's station, follow these steps:

- 1 Lift the handset and listen for a dial tone.
- 2 Press the CFFM (CFBDA or CFDA) button or dial the proper CF access code (see the section, [Critical Application Considerations](#), in this document).
- 3 Activate the call forwarding capability on the subscriber's station by dialing the access code (MSGR), or by pressing the programmed feature key you created in Step 10 of the section, *Programming the MiCollab AM Ports*, followed by a 0 (zero).
- 4 Hang up the handset.

To program single-line stations:

Program each station to forward calls to MiCollab AM. At the subscriber's station, follow these steps:

- 1 Lift the handset and listen for a dial tone.
- 2 Dial the access code for the desired mode of call forwarding.

For example:
61 is the factory-set default for CF access.)
- 3 Activate the call forwarding capability on the subscriber's station by dialing the access code (MSGR) you created in Step 10 of the section, *Programming the MiCollab AM Ports*, followed by a 0 (zero).
- 4 Hang up the handset.

Configuring Automatic Mailbox Logon to MiCollab AM

Choose the appropriate procedure from the procedures that follow, depending on the type of station set you are programming, either multi-button or single-line.

To program multi-button stations:

If you have a button programmed for Message Retrieve (MSGR), the lamp associated with that button lights when new messages are received.

To use the automatic logon feature to MiCollab AM from a station, perform the following steps:

- 1 Lift the handset and listen for a dial tone.
- 2 Press the MSGS button or dial the MSGS code from a DIB extension button.
- 3 The system automatically logs you into the mailbox associated with that telephone and prompts, *Please enter your security code.*

To program single-line stations:

If you have a message-waiting lamp on your telephone, it lights when new messages are received. To set up the automatic logon feature to MiCollab AM, follow these steps:

- 1** Lift the handset and listen for a dial tone.
- 2** Dial the MSGR code or the MSGS code, then press 2.
- 3** The system automatically logs you into the mailbox associated with that telephone and prompts, *Please enter your security code.*

Configuring MiCollab AM

Once the telephone system is programmed, you must configure MiCollab AM for the integration. There are two ways you can configure MiCollab AM: (1) Configuring MiCollab AM for the telephone system integration when you are installing MiCollab AM for the first time, or (2) Configuring the existing MiCollab AM with the new telephone system integration.

Click the appropriate steps that your system requires from below and follow the steps:

- [Configuring MiCollab AM for the Integration During Initial Installation](#): Integrate the telephone system while you install MiCollab AM for the first time.
- [Configuring Existing MiCollab AM for the Integration](#): Integrate a new telephone system on your existing MiCollab AM system.

NOTE For general information on integrations, refer to the **Integrating MiCollab AM with the Telephone System** chapter in the *System Installation and Configuration Guide*, and the topic, **Integrating the Telephony Server with the Telephone System**, in the online help.

Configuring MiCollab AM for the Integration During Initial Installation

To configure MiCollab AM for the integration during the initial installation:

- 1 In the **Database Initialization Parameters** dialog box, configure the following options:
 - a In the **Mailbox Length** box, enter the mailbox length in digits.
 - b In the **First Extension** box, enter first extension number for the first line. You can also leave the **First Extension** box empty.
 - c From the **Manufacturer** dropdown list, select **ITT**.
 - d From the **Model** dropdown list, select **3100**.
 - e From the **Integration Type** dropdown list, select **Serial Port**.
- 2 Click **Next**. The **Board Options** dialog box appears.
- 3 Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate Spare Parts document for more information on the Aculab card you are installing.
- 4 Click **OK**. The **Switch Options** dialog box appears.
- 5 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.

If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the *System Installation and Configuration Guide*.

- 6 Click **OK**. The **Integration Options** dialog box appears.
- 7 In the **Integration Options** dialog box, verify that the **Communication Settings** parameters from the **Local Integration Settings** section are correct.
- 8 Click **OK**. The **Switch Section Options** dialog box appears.
- 9 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, hunt group access code (dial access code) that configured previously in the section, [Programming the Telephone System](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box appears. Click **OK**.
- 11 If **MiCollab AM Configuration** does not open automatically after the configuration completes, open **MiCollab AM Configuration**, and select the **Lines** tab.
- 12 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 13 Click **OK** to save all changes.

Configuring Existing MiCollab AM for the Integration

To configure exiting MiCollab AM for the telephone integration:

- 1 Open **MiCollab AM Configuration**, and go to the **Main** tab.
- 2 In the **Main** tab, click **Shutdown** to stop the system. Wait until the **Current Status** shows **Stopped**.

NOTE If you have not configured the virtual board with your MiCollab AM system yet, complete **Step 3**. If your MiCollab AM already has the virtual board configured, skip to **Step 4**.

- 3 **[Optional]** Select the **Boards** tab, and then click the **Add** button. The **Board Options** dialog box appears.
 - a Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate Spare Parts document for more information on the Aculab card you are installing.
 - b Click **OK**.

- 4 Select the **Switches** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box appears.
 - a From the **Manufacturer** dropdown list, select **ITT**.
 - b From the **Model** dropdown list, select **3100**.
 - c From the **Integration Type** dropdown list, select **Serial Port**.
- 5 Click **OK**. The **Switch Options** dialog box appears.
- 6 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.

If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the *System Installation and Configuration Guide*.

- 7 Click **OK**. The **Integration Options** dialog box appears.
- 8 In the **Integration Options** dialog box, verify that the **Communication Settings** parameters from the **Local Integration Settings** section are correct.
- 9 Click **OK**. The **Switch Section Options** dialog box appears.
- 10 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, hunt group access code (dial access code) that configured previously in the section, [Programming the Telephone System](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 11 In **MiCollab AM Configuration**, verify that that the telephone system is properly added and configured in the **Switches**, **Switch Sections**, and **Integrations** tabs.
- 12 Select the **Lines** tab.
- 13 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 14 Click **OK** to save all changes.