

MiCollab Advanced Messaging 9.3 Siemens Hicom 300e E1 Q.sig Integration Technical Note

For version 9.3 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 Siemens Hicom 300e telephone systems.

This document describes how to integrate MiCollab AM with a Siemens Hicom 300e telephone system using the E1 Q.sig interface. Critical application considerations are documented, as well as installation and programming procedures necessary to integrate MiCollab AM with the Siemens telephone system.

The E1 Q.sig integration is an outbound digital integration. Each E1/PRI (ISDN) physical interface is a single 2.048-MB 32-channel interface that provides up to 30 digital trunks or voice channels.

Q.sig is a signaling protocol that enables the interconnection of PBXs and other equipment that support the Q.sig protocol. E1 Q.sig provides a seamless, transparent interconnection of PBXs and PBX supplementary services over a public or private network. In this integration, MiCollab AM is seen as another PBX that is connected over a private network.

The E1 Q.sig connection is established at the Call Server platform through an Aculab E1/T1 Digital Network Access card or an Aculab Prosody X E1/T1 telephony linecard. The Aculab Digital Network Access card is the interface between the E1 trunk ports on the PBX and the Dialogic® media linecards on the Call Server platform. Aculab Prosody X linecards do not require Dialogic linecards as a media interface.

The PBX sends calls to MiCollab AM over the E1 Q.sig link; MiCollab AM parses the accompanying calling party and called-party information and answers with the appropriate dialog. Message-waiting indicator (MWI) operation is not supported by this Q.sig interface. Separate analog lines must be used to perform MWI operation.

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> |
| Server Documentation | <i>Dialogic and Aculab System Administrator Guide</i> |
| Spare Parts Documentation | <i>Aculab PCI E1/T1 Digital Access Linecard Installation and Replacement</i> |
| Spare Parts Documentation | <i>Aculab Prosody X PCI Express (PCIe) Linecard Installation and Replacement</i> |
| Spare Parts Documentation | <i>Dialogic PCI Express and Euro PCI Express Linecards Installation and Replacement</i> |

| | |
|---------------------------|---|
| Spare Parts Documentation | <i>Dialogic PCI and Euro PCI Linecards Installation and Replacement</i> |
| Online help | CX} online help system |

Features Supported by this Integration

The following tables list features that the Siemens Hicom 300e E1 Q.sig integration supports.

Table 2. Call forward to personal greeting support for common call types

| Divert to MiCollab AM on | Supported |
|--------------------------|-----------|
| No Answer | Yes |
| Busy | Yes |
| Forward All | Yes |
| Follow Me | Yes |
| Do Not Disturb | No |

Table 3. Integration features supported for Siemens Hicom 300e E1 Q.sig

| Feature | Supported | Notes |
|---|-----------|--------|
| Automatic subscriber logon | Yes | |
| ANI/CLI | Yes | |
| Announce Busy greeting on forwarded calls | Yes | |
| Call screening | Yes | |
| Caller queuing | Yes | Note 1 |
| DNIS/DDI | Yes | |
| End-to-end DTMF, attendant console | Yes | |
| End-to-end DTMF, proprietary telephones | Yes | |
| Fax Tone Detection | Yes | |
| 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, inbound/outbound | Inbound | Note 2 |
| Networking, analog | Yes | |
| Overflow from MiCollab AM to attendant | Yes | |
| Overflow to MiCollab AM from attendant | Yes | |
| PBX-provided disconnect signaling | Yes | |
| Revert to operator from personal greeting | 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.

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.

- Route optimization is recommended when integrating MiCollab AM with an E1 Q.sig interface. Because the Q.sig interface is an external trunk group, all transfer actions require two B-channels to initiate and complete the call. When route optimization is enabled in the PBX, the additional B-channel releases after the transfer action is complete or after a period of time set within the PBX. Finally, the PBX sets up an internal connection between the calling-party and called-party and frees up the second B-channel of the MiCollab AM trunk group.
- The first Aculab PCI E1/T1 card is the master clock on the SCbus; it must be set as the Resolved Primary Master FRU of the Dialogic TDM bus in Dialogic Configuration Manager. For information about configuring the Aculab card, see the *Aculab E1/T1 PCI Installation and Replacement* spare parts document.
- The Aculab card can be restarted only by restarting the Call Server. This may be required following a loss of synchronization or clock with the PBX over the E1 interface. Alternatively, synchronization problems with the Q.sig interface can be corrected at the PBX by blocking traffic to the E1 board, restarting the board, and then unblocking traffic.
- Aculab does not provide BNC connectors on their PCI type boards. These boards are supplied with RJ45 connectors only. An Aculab RJ45 to BNC converter may be used to convert the connection to BNC.
- The MiCollab AM parameter, **Phone Line Default audio format** in the **Integration Specific Parameters** view of this integration applies only to Aculab Prosody X linecards. The parameter has no effect on legacy Aculab PCI Digital Access linecards. To change the A-Law/mu-Law audio format of an Aculab High Capacity Digital Access PCI linecard you must change the value of the media card inside the Dialogic Configuration Manager utility.
- The E1 DS1 interface is a 32-channel interface that supports 30 voice channels. Channels 0 and 16 are used for synchronization and signaling on each E1 interface. Do not program channel 0 or 16 as voice channels. Configuring channel 0 or 16 as a voice channel causes MiCollab AM ports to fail intermittently, i.e., dropped calls or out of service.
- The parameter **Busy telephone line when closed** on the **Lines** tab of MiCollab AM Configuration is not applicable to this integration.
- There is a maximum *rings to wait* value of four rings on a supervised (T type) transfer. MiCollab AM is unable to monitor call progress during a transfer because the digital Q.sig trunk does not provide an audio path until a connection is made to the called party. MiCollab AM assumes a six-second ring cycle during transfer.
- The Siemens Q.sig interface does not have the capability to set and clear message waiting indicators (MWI) over the E1 interface. MWI operation must be performed over analog lines using the feature access codes of the PBX to set and clear indicators. A separate analog Dialogic card must be used

for MWI operation. Additional port licenses must include all ports of the digital interface plus the analog ports.

For example:

A 30 port digital interface and 4 port analog card would require a port license count of 36 ports. The additional two port licenses are required to ignore or *hop over* the two D channels of the 32 channel E1 interface.

- Analog lines used for MWI purposes and D-Channel lines must not be configured for the Q.sig integration. Analog lines and D-channel lines must be defined in a separate integration and switch section. On the **Lines** tab, change the integration type to non-integrated on all unused (D-channels) and analog lines.
- 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.

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 MiCollab AM.

Telephone System Requirements

- Siemens Hicom 300 with system software version 1.0-07 Rev 10 or later
- Consult the PBX maintainer for software requirements on earlier versions.
- E1 Interface Card: Model DIUS2, P/N S30810-Q2096-X200 or equivalent
- Protocol: Q-SIG ECMA1

MiCollab AM Requirements

- MiCollab AM version 9.3
- MiCollab AM software key diskette or feature file with the Siemens Hicom Q.sig integration enabled
- One analog Dialogic port for each MiCollab AM port designated for MWI operations (Use Dialogic D/41or D/120 linecards)
- One or more Aculab Prosody X PCI Express single-port, dual-port, or quad-port linecards
Or use
- One or more Aculab PCI Digital Network Interface single-port, dual-port, or quad-port Card cards and one digital Dialogic port for each MiCollab AM voice port to be integrated (Use Dialogic D/160JCT-U or D/320JCT-U media resource cards)

Programming the Telephone System

Follow the recommendations and programming examples in this section to program the PBX for integration with MiCollab AM. Programming examples show commands and parameters of version 1.0 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. Programming is done from the PBX-programming terminal. For detailed programming information on this software version or other Siemens software versions, refer to the appropriate Siemens documentation.

IMPORTANT In the programming examples shown in this section, the boldfaced settings are the ones that are most crucial to the success of this integration. Configure all boldfaced settings exactly as they are shown in this document.

Adding a Bundle for the MiCollab AM Trunk Group

Add a bundle for the MiCollab AM trunk group as shown in the following example.

```
ADD-BUEND: 111,"S2 CALLXPRESS=111 ",8,N,0,*,2,NEUTRAL;
```

Programming the Reference Clock Table for the MiCollab AM E1 Interface

The E1 Q.sig interface to MiCollab AM does not provide the master clock source for the PBX. In Reference Clock Table (AMO REFTA) set parameter **PRI to 0**. The following programming example shows the of the clock source type for the MiCollab AM E1 interface.

```
DIS-REFTA:CIRCUIT,1-3-49-0;
```

```
H500: AMO REFTA STARTED
```

| R E F E R E N C E C L O C K C I R C U I T S | | | | | | | |
|---|--------|--------|-----|-------|-------|-------|-------|
| PEN | MODULE | DEVICE | PRI | ERROR | BLOCK | SUPP. | READY |
| | | | | | | | BUT |
| | | | | | | | ASYN. |
| 1-3-49-0 | DIUS2 | S2CONN | 0 | 65535 | N | | N |

Programming the E1 Interface (S2 Trunk) for MiCollab AM Ports

Program the digital trunks for MiCollab AM ports in **AMO TDCSU**. Set the Country (**ISDNCC**), the Area (**ISDNAC**), and the load code (**ISDNLC**), according to local codes and requirements. Define the number of B-channels used with the **BCHAN** parameter. The following example shows the digital trunk interface programming for eight MiCollab AM ports.

```
DISP-TDCSU:1-3-49-0;
H500:  AMO TDCSU STARTED
```

| ----- DIGITAL TRUNK (FORMAT=L) ----- | | | | | |
|--------------------------------------|-----------------------|------------------|----------------|---------------|----------------|
| DEV = S2CONN | | PEN = 1-03-049-0 | | | |
| COTNO | = 116 | COPNO | = 50 | DPLN | = 7 |
| ITR | = 0 | COS | = 1 | LCOSV | = 30 |
| LCOSD | = 30 | CCT | = TEST 2 Q.sig | DESTNO | = 0 |
| PROTVAR | = ECMA1 | SEGMENT | = 1 | TCHARG | = N |
| SUPPRESS | = 0 | DGTPR | = | CHIMAP | = N |
| ISDNCC | = 49 | ISDNAC | = 211 | ISDNLC | = 25006 |
| ISDNIP | = 00 | ISDNNP | = 0 | | |
| PNPL2C | = | PNPL1C | = | PNPLC | = |
| PNPL2P | = | PNPL1P | = | PNPAC | = |
| TRACOUNT | = 31 | SATCOUNT | = MANY | NNO | = 1-1-111 |
| ALARMNO | = 2 | FIDX | = 1 | CARRIER | = 1 |
| ZONE | = EMPTY | COTX | = 116 | FWDX | = 8 |
| DOMTYPE | = | DOMAINNO | = | TPROFNO | = |
| INIGHT | = | | | | |
| CCHDL | = | UUSCCX | = 16 | UUSCCY | = 8 |
| TGRP | = 111 | SRCHMODE | = CIR | BCNEG | = Y |
| BCGR | = 1 | INS | = Y | LWPAR | = 1 |
| BCHAN | 1 && 8 | | | | |

Configuring the Loadware Parameter

Configure the Loadware (LWPAR) parameters for the MiCollab AM ports previously programmed in the TDCSU record. Configure the PBX as Master Layer 1 and 2. The following example shows the Loadware parameters for the MiCollab AM trunks.

```
DIS-LWPAR:, L,,DIUS2,1;
H500:  AMO LWPAR STARTED
```

| ----- | | | | | |
|---------------------|----------|---------------------|-----------|-----------|-----------|
| LOADWARE PARAMETERS | | CIRCUIT TYPE: DIUS2 | | SOURCE:DB | |
| | | | | BLOCK: 1 | |
| LNTYPE | = COPPER | VERSION | = S2 | QUAL | = ON |
| MASTER | = Y | DCHAN1 | = 16 | DCHAN2 | = 0 |
| PATTERN | = D5H | QUAL1 | = 10 SEC. | QUAL2 | = 10 MIN. |

| | | | | | |
|----------|----------|--------------|-----------------------------|--------|-------|
| SMD | = Y | PERMACT | = Y | FCBAB | = DFH |
| CDG | = N | FIXEDTEI | = 0 | CNTRNR | = 255 |
| TEIVERIF | = N | CRC4REP | = N | | |
| DEV | = INDEP | | | | |
| INFO | = KUPFER | - HA TAKT -> | LTG. GEBEN (UNSTRUKTURIERT) | | |

Programming the Class of Parameters for the MiCollab AM Ports

Program the Class of Parameters for MiCollab AM ports to allow trunk access. The following example shows Class of Parameters programming for the MiCollab AM ports.

```

DISP-COP:50;
H500: AMO COP   STARTED

COP: 50 INFO:
DEVICE: S2CONN      SOURCE: DB
PARAMETER:

    CO TRUNK ACCESS:
        TRUNK ACCESS                                TA

    TOLL ACCESS:
        TRUNK ACCESS                                TA

```

Programming the MiCollab AM Class of Trunk Parameters

Program the Class of Trunk parameters (COT) for the MiCollab AM ports. Set the following parameters as shown.

SEND NO NODE NUMBER TO PARTNER LWNC

Do not send a node number to MiCollab AM (Required for open numbering)

CONNECTION TO ROUTE OPTIMIZATION NODE ROPT

Required for Route Optimization

INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR NLCR

MiCollab AM cannot send a LCR authorization and cannot initiate an internal connection inside the Hicom. This parameter also sets the service tag *Voice* for the trunk to MiCollab AM.

USE DEFAULT NODE NUMBER OF LINE DFNN

The predefined node number of the trunk is used. This is required for open/hidden numbering.

INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA) NLRD

Set for service tag *Data*.

The following example shows the COT programming for the MiCollab AM ports.

```
DISP-COT:116;
H500: AMO COT STARTED

COT: 116 INFO: 116: CallXpress 2: Q.sig
DEVICE: S2CONN SOURCE: DB
PARAMETER:
TRUNK SIGNALING ANSWER ANS
CALL EXTEND FOR BUSY, RING OR CALL STATE CEBC
NETWORKWIDE AUTOMATIC CALLBACK ON BUSY CBBN
NETWORKWIDE AUTOMATIC CALLBACK ON FREE CBFN
REGENERATED CO DIALTONE ON OUTGOING SEIZURE COTN
DON'T RELEASE CALL TO BUSY HUNT GROUP BSHT
SEND NO NODE NUMBER TO PARTNER LWNC
ACTIVATE TRANSIT COUNTER ADMINISTRATION FOR S0/S2 LINE ATRS
CONNECTION TO ROUTE OPTIMIZATION NODE ROPT
INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR NLCR
TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY) TSCS
USE DEFAULT NODE NUMBER OF LINE DFNN
INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA) NLRD
LINE WITH IMPLICIT NUMBERS LINO
NO TONE NTON
```

Programming Dialing Plans, Feature Access Codes and Hidden Numbering

Program the Hidden Numbering and Feature Access Codes to enable end-to-end DTMF when MiCollab AM calls a subscriber's telephone. When a subscriber receives a call from MiCollab AM, the user has to dial a feature code in order to turn DTMF on for that session. This feature code is defined in the Hicom to any key combination. Alternatively, configure a programmable key on the telephone to turn on DTMF tones.

In this example of commands and in the display of WABE the parameter **NETZRTG=002** (defined in AMO WABE) appears in AMO RICHT as the parameter **KZ=002**. The telephone's DTMF dialing capability for outbound traffic has to be defined in AMO RICHT as well (CHANGE-RICHT:CD). The parameter **DNNO=111** (defined in AMO RICHT) corresponds with the hidden number **DNNO=111** in AMO WABE.

```
ADD-WABE: 002,,,NETRTE,N,,,,,;
ADD-RICHT:CD,111,002,,,0,ALL,"CALLXPRESS 111",,111,,111,,1-1-111,YES,,NEUTRAL;
CHANGE-RICHT:CD,002,,,0,VCE,DTMF,FIX,DIGITS,"MFV-WAHL",,PP300;
ADD-WABE: 111&&119,,,STN,N,,,,,;
CHANGE-WABE:111&&119,111,,;
```

```
DISPLAY-WABE:GEN,002;
H500: AMO WABE STARTED
```


| CODE | NAME, CQMAX, | TGRP P | DTMF | | | | LRTE CPAR U F |
|---|-------------------|-----------|---------------------------|-------|----------|-------|---------------|
| | DESTNO AND CPS | CCNO L | +-----+-----+-----+-----+ | | | | N W |
| | 1 11111 | B CNV DSP | TEXT | PULS | | | I D |
| | 12345 67890 12345 | | | PAUSE | | | T B |
| -----+-----+-----+-----+-----+-----+-----+----- | | | | | | | |
| 002 | | 111 | F | 6 | MFV-WAHL | PP300 | 111 |
| NEUTRAL | TEST KNOTEN 111 | 113 | | | | | |
| | DNNO: 1 -1 -111 | 112 | | | | | |
| | DESTNO : 111 | | | | | | |
| | ROUTOPT : YES | | | | | | |
| | REROUT : YES | | | | | | |
| -----+-----+-----+-----+-----+-----+-----+----- | | | | | | | |

Configuring the Class of Trunk (COT) Parameters for Route Optimization

Enable the following COT parameter for route optimization.

CONNECTION TO ROUTE OPTIMIZATION NODE **ROPT**

Disable the following COT parameters for route optimization.

NETWORKWIDE CALL FORWARDING PERMITTED **FWDN**

NETWORKWIDE FORWARDING NO-ANSWER **FNAN**

AOC PER CALL MAND. CORNET-NQ **AOCC**

CALL CHARGE DISPLAY **CDRD**

Configuring Route Optimization for the First Path Only

Configure route optimization to use the first path only. Set parameter **ROUTOPTP=NO** and parameter **ROUTOPTD=NO** in the AMO ZAND record. The following example shows the programming for AMO ZAND.

```
DISP-ZAND:ALLDATA;
H500: AMO ZAND STARTED
```

```
GENERAL SYSTEM DATA:
=====
```

```
TRANSFER = EXTEND , ALERTN = NO ,
AUTHUP = TA ,
RNGBKTN = NO , TRANSINH = NO , INIGHT = NO ,
NIGHT = TA ,
ITRFWD = NO , HOLDTN = MUSIC ,
ANATESIG = TONE , DSSLT = 35, CODTN = YES ,
CONFSUB = NO , CONANS = NO , DATEDIS = DDMM,
CNTRYCD = 0 , RCLLT = NO , MELODY = 1,
TRCD = , CPBLOWL = 80 , CPBUPPL = 100,
CUTHRU1A = NO , PREDIA = NO , SIUANN = 1,
CO = YES , COEXN = 0 , CBKNO = 20,
SEVDIG = NO , NNO = 1 -1 -101,
```

```

DISPMODE = MODE1,      NODECD   = ##*101,
ROUTOPTP = NO  ,      ROUTOPTD = NO  ,      CALLOFF  = NO  ,
PARARING = YES  ,
DSSDEST  = NO  ,      ONEPARTY = YES  ,      MSGDELAY = NO  ,
COBUSY   = NO  ,      EXCOCO   = NO  ,      TRDGTPR  = NO  ,
COANN    = YES  ,      HOTDIAL  = NO  ,      TRANSTOG = NO  ,
NOCFW    = NO  ,      HOLDHUNT = NO  ,      POSTDDL  = NO  ,
EXBUSYOV = NO  ,      OVRMST   = NO  ,      OVRHUNT  = NO  ,
CONITPRO = YES  ,      RECHUNT  = NO  ,      CALLACMP = NO  ,
NETTEAM  = YES  ,      CFWLOOP  = NO  ;

```

Programming Call Diversion for Subscriber Stations

Define the appropriate services tags for call diversion to MiCollab AM during ring-no-answer (RNA) and busy conditions in the user's Class of Service (COS). Activate Diversion to the target number (MiCollab AM) at the station. The user can change the target number, but not the COS. Immediate diversion (All Call Forward) is activated by the user at the telephone through a function key, a menu option on a digital station set, or a feature access code dialed on an analog telephone.

Determine the Class of Service (COS1 and COS2) of the user's station.

DISP-SBSCU: XXXX (where XXXX is the station number)

In the COSSU record add the parameters **NOANSA** (diversion on RNA) and **FWDBSY** (diversion on busy).

The following example shows the added Class of Service features for diversion on RNA and busy conditions.

```
DIS-COSSU: COS, 233;
```

```
H500: AMO COSSU STARTED
```

| COS | VOICE | FAX | TTX | VTX | DTE |
|-----|-------------------------------------|--------|--------|--------|--------|
| 233 | >OPTI, SET500/700 - MIT RWS & RWBES | | | | AULEXT |
| | TA | TA | TA | TA | TA |
| | TNOTCR | TNOTCR | TNOTCR | TNOTCR | TNOTCR |
| | CDRSTN | FAX | TTX | BASIC | BASIC |
| | CDRC | BASIC | BASIC | VSM | INTWOR |
| | MB | INTWOR | INTWOR | MSN | DSM |
| | COSXCD | MSN | MSN | MULTRA | MSN |
| | VCE | MULTRA | MULTRA | | MULTRA |
| | DATA | | | | |
| | NOANSA | | | | |
| | FWDNWK | | | | |
| | MSN | | | | |
| | FWDBSY | | | | |
| | FWDECA | | | | |
| | FWDFAS | | | | |
| | FWDBAS | | | | |

Installing the Aculab and Dialogic Software Support Components

The Aculab and Dialogic software support components are installed in conjunction with the MiCollab AM Server software when you select the components as part of the installation package. If you have previously installed MiCollab AM software, you must re-install it to install the Aculab and Dialogic software support components. Be sure to exit any running Windows programs before starting the Setup program.

IMPORTANT If this is an existing MiCollab AM system with a previous version of Dialogic or Aculab software installed, you must remove it and any Dialogic point release software before you install MiCollab AM Server software and the Dialogic and Aculab Software Support Components on the Call Server platform.

If the MiCollab AM InstallShield Wizard detects an existing version of Dialogic software during the setup process, the installation is aborted and a message displays to un-install all Dialogic software first.

For more information on removing previous versions of Dialogic software, refer to the MiCollab AM online help or the *Dialogic and Aculab System Administrator Guide*.

About Aculab Cards

MiCollab AM supports several types of Aculab linecards. This section briefly describes the three types.

Installing the Aculab PCI Digital Access Card

The Aculab PCI E1/T1 Digital Access card provides the network CAS interface between the PBX E1 or T1 network card and MiCollab AM. The Aculab PCI Digital Access card interfaces to MiCollab AM through an H.100 bus connected to one or more Dialogic cards that supply the media component for each MiCollab AM line. A single-port E1 Aculab card supports 30 voice channels, a dual-port E1 Aculab card supports 60 voice channels, and a quad-port E1 Aculab card supports 120 voice channels.

For detailed instructions on the installation of the Aculab card, refer to the *Aculab E1 PCI Installation and Replacement* spare parts document.

Installing the Aculab Prosody X PCI Express Card

The Aculab Prosody X PCI Express E1/T1 linecard is a full media TDM telephony linecard with on-board DSP that provides call and signaling control of an E1 or T1 telephony interface. The Prosody X PCI Express E1/T1 linecard integrates MiCollab AM with a telephone system using the CAS or the Q.SIG signaling protocols. An Aculab Prosody X PCI Express linecard supports 1-4 ports, 30 voice channels per port. The Aculab Prosody X card has an H.100 (CTbus) connector that cables to the H.100 connector of any other telephony linecard in the system with an H.100 ribbon cable.

For detailed instructions on the installation of the Aculab Prosody X PCI Express linecard, refer to the *Aculab Prosody X PCIe Installation and Replacement* spare parts document.

Adding the Aculab Card to MiCollab AM

The Aculab Digital Network Access linecard and the Aculab Prosody X PCI Express linecard must be configured in MiCollab AM before they can be used in the Call Server. The cards are configured quite differently—each card type requires a unique set of steps to configure and add it to MiCollab AM. Refer to the spare parts document for the type of Aculab card you are installing.

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:

- **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: 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 **Siemens**.
 - d From the **Model** dropdown list, select **Hicom 300e**.
 - e From the **Integration Type** dropdown list, select **Q-SIG**.
- 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, make any changes to the default settings your site requires.
- 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, enter the hunt group extension you configured previously in the section, [Programming the Hunt Group in Open Numbering](#). This is the pilot number or destination code 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 **Siemens**.
 - b** From the **Model** dropdown list, select **Hicom 300e**.
 - c** From the **Integration Type** dropdown list, select **Q-SIG**.
- 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, make any changes to the default settings your site requires.
- 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, enter the hunt group extension you configured previously in the section, [Programming the Hunt Group in Open Numbering](#). This is the pilot number or destination code that users dial to reach MiCollab AM.
 - d** Click **OK**.
- 11** In **MiCollab AM Configuration**, verify 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.

Adding the Aculab PCI and Dialogic Linecard to the Boards Tab

The first Aculab PCI telephony interface linecard is the clock source for all Dialogic cards installed in the Call Server, so all of the Aculab and Dialogic cards installed in the system must be connected to the same

H.100 bus. Before the Dialogic service can be started, the Aculab card must be installed, configured, and running in the system. Once the Aculab software is installed the Aculab card is configured automatically in the Call Server. You must configure the correct integration in the **Integrations** tab and run the Auto Detect wizard in the **Boards** tab of the MiCollab AM Configuration.

To Auto-Detect the Aculab PCI and Dialogic Linecards in the Boards tab:

- 1 Click the **Boards** tab, and then click the **Auto Detect** button.
- 2 The Auto-Detect wizard starts, and then finds each Aculab and Dialogic linecard that is installed.
- 3 The wizard prompts you to select the type of interface. Click **Yes** if you are connecting to a T1 interface. Click **No** if you are connecting to an E1 interface.
- 4 The system adds any new boards not previously found and automatically configures the Aculab card in the Dialogic Configuration Manager with the correct settings.
- 5 Click **OK** when you are finished.

Adding the Aculab Prosody X PCI Express Linecard to the Boards Tab

Once the Prosody X linecard has been successfully configured in the Aculab Configuration Tool and the linecard displays on the ACT Prosody X Page as *In Service*, and also displays in the Card List, you can add it to the CX **Boards** tab using the Auto-Detect wizard.

To Auto-Detect the Prosody X PCI Linecard:

- 1 Click the **Boards** tab, and then click the **Auto Detect** button.
- 2 The Auto-Detect wizard starts, and then finds each Prosody X linecard that is installed, and *In Service*.
- 3 The wizard prompts you to select the type of interface. Click **Yes** if you are connecting to a T1 interface. Click **No** if you are connecting to an E1 interface.
- 4 The Prosody X PCI Express linecard is added to the Boards list. If other boards assigned previously, the Prosody X cards are assigned line numbers based on existing boards in the system.
- 5 In the Integration Specific Parameters view of the **Integration Options** dialog box, select the **Phone Line Default audio format**; ALaw or MuLaw. Select the format used on the PBX. The default setting is ALaw.

NOTE This parameter has no effect when using an Aculab PCI E1/T1 card.

- 6 Click **OK** when you are finished.

Adding Analog Lines to MiCollab AM for Message Waiting Functionality

The Siemens Q.sig interface does not have the capability to set and clear message waiting indicators (MWI) over the E1 interface. MWI indicators must be set and cleared over analog lines using the feature access codes of the PBX. Once you have completed the setup program, you can add analog lines to set and clear message waiting indicators (MWI) for subscriber stations. Follow these steps to configure MWI ports.

IMPORTANT You must install an analog Dialogic linecard prior to configuring the MWI ports. Refer to the spare parts document for the type of Dialogic card you are installing.

To Configure MWI ports:

- 1 In the **Switch Sections** tab, create a new switch section for the analog ports. Use a distinct name for this switch section to avoid confusion.
- 2 In the **Integrations** tab, create a new integration. Select **Siemens Hicom 300e** as the switch name and **Non-Integrated** as the integration type. Determine the MWI set (MWACT) and MWI clear (MWCANORI) codes found in the PBX Feature Access Code Report, and then enter these codes in the Message Waiting settings parameters, **Set MWI Dialing Template** and **Clear MWI Dialing Template**.
- 3 In the **Lines** tab, change all analog lines and unused (D-channel) lines to the new *non-integrated* integration and change the Switch Section to the new switch section defined for the analog ports. Enable callouts for each analog port used for MWI purposes.
- 4 In the **Switch Sections** tab, enter a zero in the **Incoming Line Reserve** field of the Incoming Call Settings parameters.
- 5 In the **Callout Limit Settings** parameters, enter the number of MWI ports used in both the **Maximum Callouts** field and the **Maximum MWI Callouts** field.

IMPORTANT Analog lines used for MWI purposes and D-Channel lines must not be configured for the Q.sig integration or the integration will fail. Analog lines and D-channel lines must be defined in a separate integration and switch section. In the Lines tab, change the integration type to non-integrated on all unused digital (D-channel) and analog lines.

The settings related to the telephone system in the **Switch Options** dialog box are filled in correctly when you select the correct telephone system during setup. You may need to customize other settings in the **Switch Sections** and **Integration Options** dialog boxes to suit the requirements of each application. See the *System Installation and Configuration Guide* or the online help system for more details about setting these parameters.