# MiCollab Advanced Messaging 9.3
# Avaya AURA Communication Manager
# E1/T1 Q.SIG

## Integration Technical Note

For version 9.3 and above

1082-10430-10598
Rev 9.3.0.3.1 January 2022

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# Preface

This Integration Technical Note (ITN) is written for technicians 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 Avaya Communication Manager or Definity telephone systems.

This document describes how to integrate MiCollab AM with an Avaya Communication Manager or Definity telephone system using an E1 or T1 Q.sig interface. The document covers critical application considerations, as well as the installation and programming procedures necessary to integrate MiCollab AM with the Avaya telephone system.

The Q.sig integration is an outband digital integration. Each E1 or T1 PRI (ISDN) or T1 physical interface is a single high-speed digital link subdivided into channels. Table 1 shows the normal data rate for each type of interface in millions of bits per second (Mbps), the total number of channels available for each, and the number of those channels that can be used as digital trunks or voice channels.

Table 1. Bit rates and capacity for E1 and T1 interfaces

| Interface Type | Data Rate | Total channels | Digital Trunks or Voice Channels |
|---|---|---|---|
| E1 | 2.048 Mbps | 32 | 30 |
| T1 | 1.544 Mbps | 24 | 23 |

Q.sig is a signaling protocol that enables the interconnection of PBXs and other equipment that support it over a public or private network. In this integration, the telephone system deals with MiCollab AM as another PBX that is connected over a private network. End-to-end DTMF, message-waiting indicator (MWI) operation, and callouts are supported features of Q.sig.

The E1 or T1 Q.sig connection is established at the Call Server platform through an Aculab E1/T1 Digital Network Access card or 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 MiCollab AM platform. Aculab Prosody X linecards do not require Dialogic linecards as a media interface.

The PBX sends calls to MiCollab AM over the E1/T1 Q.sig link; MiCollab AM parses the accompanying calling party and called-party information and answers with the appropriate dialog. End-to-end DTMF, message-waiting indicator (MWI) operation, and callouts are supported features of Q.sig.

## 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 2. References

| Document Type | Document Title |
|---|---|
| Administration Documentation | *System Administration Guide* |

| | |
|---|---|
| Server Documentation | *System Installation and Configuration Guide* |
| Server Documentation | *Dialogic and Aculab System Administrator Guide* |
| Spare Parts Documentation | *Dialogic PCI Express and Euro PCI Express Linecards Installation and Replacement* |
| Spare Parts Documentation | *Dialogic PCI and Euro PCI Linecards Installation and Replacement* |
| Online help | MiCollab AM online help system |

# Features Supported by This Integration

The following tables list the features that the Avaya Q.sig integration supports.

Table 3. 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 4. Integration features supported for Avaya 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, inband/outband | Inband |
| 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 |

**NOTE** 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 Notes.

# 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.

- Path replacement is recommended when integrating MiCollab AM with a Q.sig interface. Because the Q.sig interface is an external trunk route, all transfer actions require an additional Q.sig channel to initiate and complete the call. When path replacement is enabled in the PBX, the additional channel releases after the transfer is completed or after a period of time set within the PBX. When path replacement is not used, this second channel is used for the duration of the transferred call. This feature must be purchased from Avaya and installed in the telephone system before it can be configured.
- The first Aculab PCI E1/T1 card is the master clock on the H.100 bus; 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, consult the *Aculab E1/T1 PCI Installation and Replacement* spare parts document.
- Aculab linecards 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/T1 interface. Alternatively, synchronization problems with the Q.sig interface can be corrected at the PBX by blocking traffic to the E1/T1 board, restarting the board, and then unblocking traffic.
- Aculab does not provide BNC connectors on their linecards; they are supplied with RJ45 connectors only. An Aculab RJ45 to BNC converter may be used to convert the connection to BNC.
- 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.
- 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 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 parameter, **Busy telephone line when closed** on the **Lines** tab of MiCollab AM Configuration is not applicable to this integration.
- 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.

- The Avaya Survivable Core Server (formerly called Enterprise Survivable Server [ESS]) for Secondary or tertiary failover server scenarios is not supported for this integration.

# 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

- Avaya Communication Manager version 8.1 or prior
- System 75 R1V1 or later; System 85 R2V1 or later; Definity G1, G2, G3i, G3r, G3sDV1 or later, S8800 with G650, G430 or G450
- Path Replacement feature (recommended)
- One Avaya TN464GP, TN464HP, or MM710B DS1/PRI Interface Card for each E1 or T1 span involved in the integration
- 75-Ohm cable with BNC connectors for the low-impedance connection to the Aculab card, or 120-Ohm cable with RJ45 connector for the high-impedance connection to the Aculab card

## MiCollab AM Requirements

- MiCollab AM version 9.3
- MiCollab AM software key diskette or feature file update with the Avaya Definity Q.sig integration enabled
- One or more Aculab Prosody X PCI Express single-port, dual-port, or quad-port linecards

# Programming the Telephone System

Follow the recommendations and programming examples in this section to program the Avaya PBX for integration with MiCollab AM. Programming examples show only the 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. Perform programming from the Avaya Site Administration program on the Avaya administration terminal. For detailed programming information on the telephone system, refer to the appropriate Avaya documentation.

## Installing the Interface Card

One TN464GP / TN464HP in G650 or MM710B in G430 / G450 Media Gateways DS1/PRI interface card must be installed in an appropriate card slot of the PBX for each E1 or T1 span involved in the integration. And all spans must be connected to both the PBX and the MiCollab AM platform, before PBX programming can begin.

Before installing each TN464GP card, make sure that its DIP switches are set for the appropriate number of channels to support the signal specifications of the selected interface as shown in the following image.

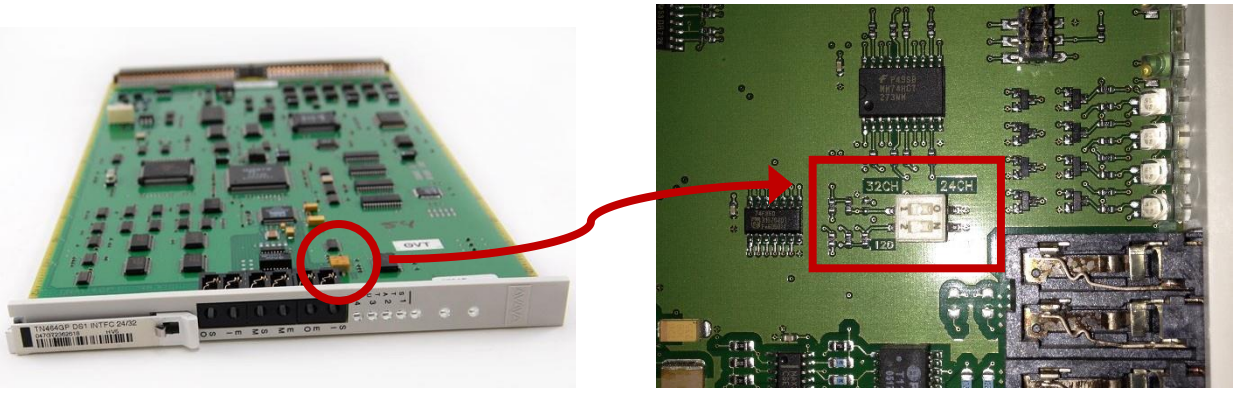



Figure 1. DIP Switch on TN464GP Card

## Setting Optional Features

Configure the customer options that are set on a system-wide level before you begin configuring the trunk or station ports. The following four examples display a typical customer option configuration. In each example, the settings related to this integration are shown in **boldface**.

To edit the customer options discussed in this section, type the command **display system-parameters customer-options** at the administration terminal and proceed to Page 4 of the **Optional Features** screen that appears.

The three **DCS** options are on Page 4. When the **DCS** options are activated, make certain the **DS1 MSP** option is deactivated.

```
display system-parameters customer-options                    Page   4 of  12
                              OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List?   y          Audible Message Waiting?  y
       Access Security Gateway (ASG)?    n              Authorization Codes?  y
       Analog Trunk Incoming Call ID?    y                     CAS Branch?  n
  A/D Grp/Sys List Dialing Start at 01?  y                       CAS Main?  n
 Answer Supervision by Call Classifier?  y               Change COR by FAC?  n
                                  ARS?  y  Computer Telephony Adjunct Links?  y
                 ARS/AAR Partitioning?   y   Cvg Of Calls Redirected Off-net?  y
            ARS/AAR Dialing without FAC?  n                     DCS (Basic)?  y
            ASAI Link Core Capabilities?  n               DCS Call Coverage?  y
            ASAI Link Plus Capabilities?  n               DCS with Rerouting?  y
          Async. Transfer Mode (ATM) PNC?  n
     Async. Transfer Mode (ATM) Trunking?  n    Digital Loss Plan Modification?  y
               ATM WAN Spare Processor?  n                          DS1 MSP?  y
                                 ATMS?  y           DS1 Echo Cancellation?  y
                  Attendant Vectoring?   y
```

**NOTES**

1. DCS is only required for networking.
2. Cvg of Calls Redirected Off-net (CCRON) must be set to y if you are using *Find Me*.

On Page 5 of the **Optional Features** screen, the **ISDN Feature Plus** and **ISDN-PRI** settings are active as shown in the following example.

```
display system-parameters customer-options                    Page   5 of  12
                              OPTIONAL FEATURES

    Emergency Access to Attendant?  y                        IP Stations?  y
             Enable 'dadmin' Login?  y
            Enhanced Conferencing?  y                  ISDN Feature Plus?  n
                   Enhanced EC500?  y      ISDN/SIP Network Call Redirection?  y
       Enterprise Survivable Server?  n                   ISDN-BRI Trunks?  y
          Enterprise Wide Licensing?  n                         ISDN-PRI?  y
               ESS Administration?  y            Local Survivable Processor?  n
            Extended Cvg/Fwd Admin?  y                  Malicious Call Trace?  n
         External Device Alarm Admin?  y              Media Encryption Over IP?  n
    Five Port Networks Max Per MCC?  n    Mode Code for Centralized Voice Mail?  n
                  Flexible Billing?  n
      Forced Entry of Account Codes?  y               Multifrequency Signaling?  y
         Global Call Classification?  y          Multimedia Call Handling (Basic)?  y
               Hospitality (Basic)?  y        Multimedia Call Handling (Enhanced)?  y
    Hospitality (G3V3 Enhancements)?  y               Multimedia IP SIP Trunking?  y
                        IP Trunks?  y

             IP Attendant Consoles?  y
```

Continue to Page 6, and then finish configuring the customer options for the system.

```
display system-parameters customer-options                    Page   6 of  12
                                OPTIONAL FEATURES

            Multinational Locations?    n            Station and Trunk MSP?   y
   Multiple Level Precedence Preemption?    n    Station as Virtual Extension?   y
                 Multiple Locations?    n
                                              System Management Data Transfer?   n
          Personal Station Access (PSA)?    y              Tenant Partitioning?   y
                     PNC Duplication?    n      Terminal Trans. Init. (TTI)?   y
                Port Network Support?    y              Time of Day Routing?   y
                     Posted Messages?    y     TN2501 VAL Maximum Capacity?   y
                                                          Uniform Dialing Plan?   y
                  Private Networking?    y    Usage Allocation Enhancements?   y
              Processor and System MSP?    y
                  Processor Ethernet?    y              Wideband Switching?   y
                                                                    Wireless?   n
                      Remote Office?    y
          Restrict Call Forward Off Net?    y
               Secondary Data Module?    y
```

Proceed to Page 9, titled **Q.sig Optional Features**. Enable the **Basic Call Setup**, **Basic Supplementary Services**, **Internetworking with DCS**, **Supplementary Services with Rerouting**, and **Transfer into Q.sig Voice Mail** options as shown in this example.

```
display system-parameters customer-options                    Page   9 of  12
                           QSIG OPTIONAL FEATURES

                                    Basic Call Setup?   y
                       Basic Supplementary Services?   y
                              Centralized Attendant?   y
                             Interworking with DCS?   y
               Supplementary Services with Rerouting?   y
                        Transfer into QSIG Voice Mail?   y
                                  Value-Added (VALU)?   y
```

**NOTE** Required when using DCS to network Avaya PBXs.

# Setting System Parameters

After you have configured the customer options for the system, you must set the following types of system parameters to support the integration:

- Feature-related parameters
- Parameters related to call coverage and call forwarding
- Feature access codes

To configure feature-related parameters, type the command **change system parameters features**, and then proceed to Page 8 of the **Feature-Related System Parameters** screen. The following illustration is an example of how to set the parameters on this page.

```
                                                              Page   8 of  19
                          FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS
                                                          PARAMETERS FOR CREATING
 Send Non-ISDN Trunk Group Name as Connected Name?   n    QSIG SELECTION NUMBERS
 Display Connected Name/Number for ISDN DCS Calls?   n      Network Level:
       Send ISDN Trunk Group Name on Tandem Calls?   n       Level 2 Code:
                 Send Custom Messages Through QSIG?  y       Level 1 Code:
                         QSIG/ETSI TSC Extension:    4099
 MWI - Number of Digits Per Voice Mail Subscriber:   4


                             National CPN Prefix:
                        International CPN Prefix:
                              Pass Prefixed CPN: ASAI?    n   VDN/Vector?   n
     Delay for USNI Calling Name for Analog Caller ID Phones (seconds):    0
   Unknown Numbers Considered Internal for AUDIX?    n
            USNI Calling Name for Outgoing Calls?    y
              Path Replacement with Measurements?    y
                 QSIG Path Replacement Extension:    4098
  Send QSIG Path Replacement Conf. Event to ASAI?    y
           Path Replace While in Queue/Vectoring?    n
```

**NOTE** This parameter must match the extension length/mailbox length. For multiple length extensions leave this field blank.

To configure the parameters that deal with call coverage and call forwarding type the command, **change system-parameters coverage-forwarding**. The following are two examples of appropriate settings.

```
                                                             Page   1 of   2
                   SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING
CALL COVERAGE/FORWARDING PARAMETERS
         Local Cvg Subsequent Redirection/CFWD No Ans Interval (rings):     2
       Off-Net Cvg Subsequent Redirection/CFWD No Ans Interval (rings):     2
                          Coverage - Caller Response Interval (seconds):    4
    Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls:     1
Location for Covered/Forwarded Calls:     called     VDN/Hunt Group Location:   all
                        PGN/TN/COR for Covered and Forwarded Calls:   caller
                          COR/FRL check for Covered and Forwarded Calls?   n
       QSIG/SIP Diverted Calls Follow Diverted to Party's Coverage Path?    n

COVERAGE
                            Criteria for Logged Off/PSA/TTI Stations?      n
                                     Keep Held SBA at Coverage Point?      n
       External Coverage Treatment for Transferred Incoming Trunk Calls?   n
        Immediate Redirection on Receipt of PROGRESS Inband Information?   y
                                               Maintain SBA At Principal?  n
             QSIG VALU Coverage Overrides QSIG Diversion with Rerouting?   n
                                            Station Hunt Before Coverage?  n
FORWARDING
Call Forward Override?    y                   Coverage After Forwarding?   y
```

**NOTE** Maintain SBA at principal set to n ensures privacy. Once the call covers to MiCollab AM, the appearance on the station is removed. This prevents someone from listening to the call as it is recorded by the voice messaging system.

```
                                                            Page   2 of   2
                     SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING

COVERAGE OF CALLS REDIRECTED OFF-NET (CCRON)

                        Coverage Of Calls Redirected Off-Net Enabled?     y
 Activate Answer Detection (Preserves SBA) On Final CCRON Cvg Point?      y
                                   Ignore Network Answer Supervision?     n
                     Disable call classifier for CCRON over ISDN trunks?  n
                      Disable call classifier for CCRON over SIP trunks?  n

CHAINED CALL FORWARDING
                              Maximum Number Of Call Forwarding Hops:     3
                     Station Coverage Path For Coverage After Forwarding: principal
```

**NOTE** Cvg of Calls Redirected Off-Net (CCRON) must be set to y if you are using Find Me.

To configure the feature access codes, type the command **change feature-access-codes**. On the **Feature Access Codes** screen, be sure to define an access code for **Auto Alternate Routing (AAR)**, as shown in the following example.

```
                                                            Page   1 of  10
                              FEATURE ACCESS CODE (FAC)
           Abbreviated Dialing List1       Access Code:  101
           Abbreviated Dialing List2       Access Code:  102
           Abbreviated Dialing List3       Access Code:  103
 Abbreviated Dial - Prgm Group List        Access Code:
                          Announcement     Access Code:  106
                           Answer Back     Access Code:  105
                              Attendant Access Code:
        Auto Alternate Routing (AAR)       Access Code:  107
       Auto Route Selection (ARS) -      Access Code 1:  9      Access Code 2:
                  Automatic Callback   Activation:       *05    Deactivation:   #05
 Call Forwarding Activation Busy/DA:      *09    All:    119    Deactivation:   #09
      Call Forwarding Enhanced     Status:          Act:        Deactivation:
                             Call Park     Access Code:  104
                           Call Pickup     Access Code:  *06
 CAS Remote Hold/Answer Hold-Unhold        Access Code:  #06
                      CDR Account Code     Access Code:
                            Change COR     Access Code:
                       Change Coverage     Access Code:  *85
              Conditional Call Extend  Activation:              Deactivation:
                      Contact Closure    Open Code:               Close Code:
```

# Creating the Trunk Group

Configure one or more trunk groups for the Q.sig channels by performing the following tasks for each E1 or T1 span used in the integration:

- Install the E1 or T1 circuit pack, and then configure it for the appropriate number of channels for the selected interface
- Configure a location on the telephone system for the DS1-level signal of each span
- Create a signaling group definition specifying ISDN PRI signaling on the D (data) channel of each span
- Create trunk groups that map the channels of each span to the appropriate signaling group definition

  **IMPORTANT** When numbering channels for the E1 circuit, you must allow for the synchronization and signaling channels 0 and 16. Do not program channels 0 or 16 as voice ports. Configuring channel 0 or 16 as a voice channel causes MiCollab AM ports to fail intermittently, i.e. dropped calls or out of service.

- Create a separate trunk group for the channels used to clear and set MWIs

The following example shows typical DS1 location configuration settings. Type the command, **add ds1 *number***, where *number* is the location number that the telephone system should assign to the DS1 signal (01A10 for E1, 01A09 for T1 in these examples).

**IMPORTANT** You must configure the Channel Numbering parameter as **timeslot**.

**E1 example of DS1 circuit pack programming**

DS1 CIRCUIT PACK

| | | | |
|---|---|---|---|
| Location: | 01A10 | Name: | E1 Qsig |
| Bit Rate: | 2.048 | Line Coding: | hdb3 |
| Signaling Mode: | isdn-pri | | |
| Connect: | pbx | Interface: | peer-master |
| TN-C7 Long Timers? | n | Peer Protocol: | Q-SIG |
| Interworking Message: | PROGress | Side: | a |
| Interface Companding: | alaw | CRC? | y |
| Idle Code: | 11111111 | Channel Numbering: | timeslot |
| | | DCP/Analog Bearer Capability: | 3.1kHz |
| | | T303 Timer(sec): | 4 |
| | | Disable Restarts? | n |
| Slip Detection? | n | Near-end CSU Type: | other |
| Echo Cancellation? | y | | |
| EC Direction: | inward | | |
| EC Configuration: | 4 | | |

**IMPORTANT** The **alaw** or **mulaw** format here must match with the Aculab Phone Line audio format.

**T1 example of DS1 circuit pack programming**

```
                                                  Page   2 of   2
                           DS1 CIRCUIT PACK

ESF DATA LINK OPTIONS

                   Network Management Protocol:   tabs
Send ANSI-T1.403 One-Second Performance Reports?  n
                           Far-end CSU Address:   b

INTEGRATED CSU OPTIONS
                                  Transmit LBO:   0db
                                  Receive ALBO:   26db
                                  Upon DTE LOS:   loopback


CPE LOOPBACK JACK OPTIONS
                 Supply CPE Loopback Jack Power?  n
```

The following example shows typical signaling group configuration settings for an E1 or T1 span such as the one configured in the previous example. Type the command; **add signaling-group *number***, where *number* is the number assigned to the new signaling group (10 for E1, 9 for T1 in this example).

**E1 example of Signaling Group programming**

```
                          SIGNALING GROUP

Group Number: 10             Group Type:  isdn-pri
                   Associated Signaling?  y          Max number of NCA TSC: 10
                       Primary D-Channel: 01A1016     Max number of CA TSC: 10
                                                     Trunk Group for NCA TSC: 3
     Trunk Group for Channel Selection:   3       X-Mobility/Wireless Type:  NONE
    TSC Supplementary Service Protocol:   b          Network Call Transfer?  n
```

**T1 example of Signaling Group programming**

```
                          SIGNALING GROUP

Group Number: 9              Group Type:  isdn-pri
                   Associated Signaling?  y          Max number of NCA TSC: 10
                       Primary D-Channel: 01A0924     Max number of CA TSC: 10
                                                     Trunk Group for NCA TSC: 5
     Trunk Group for Channel Selection:   5       X-Mobility/Wireless Type:  NONE
    TSC Supplementary Service Protocol:   b          Network Call Transfer?  n
```

**IMPORTANT** The Max number of NCA TSC (Non Carrier Associated Temporary Signaling Channels) should be 1 or higher. This allows a path (1 or more) for MWI to operate.

The following examples show typical trunk group configurations. Type the command; **change trunk-group *number***, where number is the number assigned to the newly created trunk group (3 in this example).

(Page 1)

```
trunk-group 3                                              Page   1 of  21
                              TRUNK GROUP

Group Number:  3                 Group Type:  isdn          CDR Reports:  y
  Group Name:  Qsig - E1                COR:  1       TN:  1       TAC:  210
   Direction:  two-way       Outgoing Display?   y       Carrier Medium:   PRI/BRI
 Dial Access?  n             Busy Threshold:  99   Night Service:
Queue Length:  0
Service Type:  tie                  Auth Code?  n           TestCall ITC:    rest
                          Far End Test Line No:
TestCall BCC:  4
```

(Page 2)

```
trunk-group 3                                              Page   2 of  21
   Group Type:  isdn

TRUNK PARAMETERS
         Codeset to Send Display:   6     Codeset to Send National IEs:    6
        Max Message Size to Send:   260   Charge Advice:   none
   Supplementary Service Protocol:  b     Digit Handling (in/out):     enbloc/enbloc

              Trunk Hunt:  cyclical
                                                 Digital Loss Group:    13
Incoming Calling Number - Delete:          Insert:             Format:  unk-unk
                 Bit Rate:  1200         Synchronization:    async     Duplex:  full
 Disconnect Supervision -     In?  y   Out?  n
 Answer Supervision Timeout:      0
           Administer Timers?    n        CONNECT Reliable When Call Leaves ISDN?     n
              XOIP Treatment:   auto     Delay Call Setup When Accessed Via IGAR?     n




 Caller ID for Service Link Call to H.323 1xC:         station-extension
```

(Page 3)

```
        trunk-group 3                                             Page   3 of  21
TRUNK FEATURES
          ACA Assignment?  n            Measured:  none      Wideband Support?   n
                                   Internal Alert?   n      Maintenance Tests?   y
                                 Data Restriction?   n    NCA-TSC Trunk Member:  29
                                       Send Name:  y       Send Calling Number:  y
            Used for DCS?  n             Hop Dgt?  n     Send EMU Visitor CPN?   n
     Suppress # Outpulsing?  n            Format:  unk-pvt
  Outgoing Channel ID Encoding:   exclusive      UUI IE Treatment:   service-provider

                                              Replace Restricted Numbers?    n
                                             Replace Unavailable Numbers?    n
                                                  Send Connected Number:  y
                                              Hold/Unhold Notifications?     y
             Send UUI IE?  n    Modify Tandem Calling Number:    no
               Send UCID?  y
  Send Codeset 6/7 LAI IE?   y                       Ds1 Echo Cancellation?    n

     Apply Local Ringback?   n
  Show ANSWERED BY on Display?  y
                               Network (Japan) Needs Connect Before Disconnect?     n
```

**NOTES**

1. If the numbering format is set to **unk-pvt** then the PBX looks to the **Private-Numbering Table** to build the number. The **Network Level** must not be left blank—in most cases this is set to **0**. (See Configuring the ISDN Private Numbering Format) or No number will be sent. This is how the PBX builds the called-party number for the integration. If it is set to **unknown**, the PBX looks at the Public-Unknown table where an entry is required to build the number. If there is no entry in this table to build the number, no number is sent.
2. When you set the numbering format to unk-pvt on Page 2 of the trunk group form which is for the MM Trunk Group, you must configure the *private-numbering format Page 1 of 2* so the CM knows how to build the private format number. Do not leave the form blank or the integration will fail.

In the following examples, assign the E1 trunk group 3 to signaling group 10. Assign the T1 trunk group 5 to signaling group 9. Type the command, **change trunk-group *number***, where number is the number assigned to the newly created trunk group.

**E1 example of Trunk Group programming** (Page 5)

trunk-group 3 Page 5 of 21

TRUNK GROUP

Administered Members (min/max): 1/ 30

GROUP MEMBER ASSIGNMENTS Total Administered Members: 30

| | Port | Code | Sfx | Name | Night | Sig Grp |
|---|---|---|---|---|---|---|
| 1: | 01A1001 | TN464 | H | | | 10 |
| 2: | 01A1002 | TN464 | H | | | 10 |
| 3: | 01A1003 | TN464 | H | | | 10 |
| 4: | 01A1004 | TN464 | H | | | 10 |
| 5: | 01A1005 | TN464 | H | | | 10 |
| 6: | 01A1006 | TN464 | H | | | 10 |
| 7: | 01A1007 | TN464 | H | | | 10 |
| 8: | 01A1008 | TN464 | H | | | 10 |
| 9: | 01A1009 | TN464 | H | | | 10 |
| 10: | 01A1010 | TN464 | H | | | 10 |
| 11: | 01A1011 | TN464 | H | | | 10 |
| 12: | 01A1012 | TN464 | H | | | 10 |
| 13: | 01A1013 | TN464 | H | | | 10 |
| 14: | 01A1014 | TN464 | H | | | 10 |
| 15: | 01A1015 | TN464 | H | | | 10 |

**T1 example of Trunk Group programming** (Page 5)

trunk-group 5 Page 5 of 21

TRUNK GROUP

Administered Members (min/max): 1/ 23

GROUP MEMBER ASSIGNMENTS Total Administered Members: 23

| | Port | Code | Sfx | Name | Night | Sig Grp |
|---|---|---|---|---|---|---|
| 1: | 01A0901 | TN464 | G | | | 9 |
| 2: | 01A0902 | TN464 | G | | | 9 |
| 3: | 01A0903 | TN464 | G | | | 9 |
| 4: | 01A0904 | TN464 | G | | | 9 |
| 5: | 01A0905 | TN464 | G | | | 9 |
| 6: | 01A0906 | TN464 | G | | | 9 |
| 7: | 01A0907 | TN464 | G | | | 9 |
| 8: | 01A0908 | TN464 | G | | | 9 |
| 9: | 01A0909 | TN464 | G | | | 9 |
| 10: | 01A0910 | TN464 | G | | | 9 |
| 11: | 01A0911 | TN464 | G | | | 9 |
| 12: | 01A0912 | TN464 | G | | | 9 |
| 13: | 01A0913 | TN464 | G | | | 9 |
| 14: | 01A0914 | TN464 | G | | | 9 |
| 15: | 01A0915 | TN464 | G | | | 9 |

The following examples show typical trunk group definition settings for channels involved in clearing and setting MWIs. Type the command, **change trunk-group *number***, where number is the number assigned to the trunk group (4 in this example).

(Page 1)

```
trunk-group 4                                              Page   1 of  21
                                  TRUNK GROUP

Group Number: 4                  Group Type: isdn          CDR Reports: y
  Group Name: MAS s3400 Qsig MWI          COR: 1        TN: 1        TAC: 211
   Direction:   two-way        Outgoing Display?   y        Carrier Medium:   PRI/BRI
 Dial Access?   y              Busy Threshold:   99   Night Service:
Queue Length:   0
Service Type:   tie                 Auth Code?  n           TestCall ITC:    rest
                         Far End Test Line No:
TestCall BCC:   4
```

(Page 2)

```
trunk-group 4                                              Page   2 of  21
     Group Type:  isdn

TRUNK PARAMETERS
         Codeset to Send Display:     6     Codeset to Send National IEs:     6
        Max Message Size to Send:   260     Charge Advice:   none
  Supplementary Service Protocol:     b     Digit Handling (in/out):     enbloc/enbloc

            Trunk Hunt:   cyclical
                                                      Digital Loss Group:    13
Incoming Calling Number - Delete:           Insert:                   Format:
              Bit Rate:   1200          Synchronization:     async     Duplex:  full
 Disconnect Supervision -      In?  y   Out?  n
 Answer Supervision Timeout:     0
          Administer Timers?     n        CONNECT Reliable When Call Leaves ISDN?     n
             XOIP Treatment:    auto     Delay Call Setup When Accessed Via IGAR?     n




 Caller ID for Service Link Call to H.323 1xC:        station-extension
```

(Page 3)

```
        trunk-group 4                                   Page   3 of  21
TRUNK FEATURES
          ACA Assignment?  n          Measured:  none      Wideband Support?  n
                                Internal Alert?    n      Maintenance Tests?  y
                              Data Restriction?    n    NCA-TSC Trunk Member:
                                     Send Name:  y      Send Calling Number:  y
            Used for DCS?  n           Hop Dgt?  n      Send EMU Visitor CPN?  n
    Suppress # Outpulsing?  n          Format:  unk-pvt
  Outgoing Channel ID Encoding:   exclusive     UUI IE Treatment:   service-provider

                                            Replace Restricted Numbers?   n
                                           Replace Unavailable Numbers?   n
                                                 Send Connected Number:   y
                                              Hold/Unhold Notifications?  y
              Send UUI IE?  y    Modify Tandem Calling Number:   no
               Send UCID?  n
  Send Codeset 6/7 LAI IE?  y                    Ds1 Echo Cancellation?   n

      Apply Local Ringback?  n
  Show ANSWERED BY on Display?  y
                           Network (Japan) Needs Connect Before Disconnect?   n
```

# Configuring the ISDN Private Numbering Format

Before you start configuring settings that affect how dialed numbers pass between the telephone system and the MiCollab AM server, you must configure the ISDN private numbering settings to prevent them from interfering with the number parsing that occurs between the two systems.

Type the command; **change private-numbering**, and then configure the settings on the ISDN Numbering-Private Format screen as shown in the following example.

```
change private-numbering 1                                    Page   1 of   2
                         NUMBERING - PRIVATE FORMAT

Ext  Ext            Trk        Private        Total
Len  Code           Grp(s)     Prefix         Len
 4   4                                        4     Total Administered:    6
 4   4              5                         4        Maximum Entries:  540
 4   5                                        4
 4   6                                        4
 4   7                                        4
 4   8                                        4
```

**NOTE** As of Avaya CM 4.0 and later, Network Levels and Level Codes are in system-parameters features under Parameters for Creating Q.sig Selection Numbers.

```
display system-parameters features                            Page   8 of  19
                         FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS
                                                        PARAMETERS FOR CREATING
 Send Non-ISDN Trunk Group Name as Connected Name?   n  QSIG SELECTION NUMBERS
 Display Connected Name/Number for ISDN DCS Calls?   n    Network Level:
        Send ISDN Trunk Group Name on Tandem Calls?  n     Level 2 Code:
                  Send Custom Messages Through QSIG? y     Level 1 Code:
                             QSIG/ETSI TSC Extension:  4099
 MWI - Number of Digits Per Voice Mail Subscriber:   4
```

# Defining Routing Patterns

Typically, this integration requires that a single call routing pattern definition be specified for all the trunk groups assigned to voice call traffic in the integration. In the following example, for instance, the routing pattern applies to trunk group 3.

For any incoming call on this trunk group that routes through this pattern, the pattern removes the first three digits. This reduces the hunt group's fully qualified voice mail number to the extension digits only.

To program the route pattern definition table type the command; **add route-pattern *number***, where *number* is the number assigned to the new routing pattern (10 in this example).

```
      route-pattern 10                                        Page   1 of   3
                      Pattern Number:   10     Pattern Name:  Qsig E-1
    SCCAN? n     Secure SIP?  n      Used for SIP stations?     n

   Grp  FRL NPA Pfx Hop Toll No.  Inserted                              DCS/ IXC
   No           Mrk Lmt List Del  Digits                                QSIG
                                 Dgts                                   Intw
 1: 3    0                       3                                       n   user
 2:                                                                      n   user
 3:                                                                      n   user
 4:                                                                      n   user
 5:                                                                      n   user
 6:                                                                      n   user

     BCC VALUE  TSC CA-TSC    ITC BCIE Service/Feature PARM Sub  Numbering LAR
    0 1 2 M 4 W     Request                                      Dgts Format
 1: y y y y y n  y  none      both ept                                     none
 2: y y y y y n  n            rest                                         none
 3: y y y y y n  n            rest                                         none
 4: y y y y y n  n            rest                                         none
 5: y y y y y n  n            rest                                         none
 6: y y y y y n  n            rest                                         none
```

# Configuring Digit Analysis

Configure AAR digit analysis and routing for the routing pattern you have just created, type the command; **change aar analysis <*number*>**, where **<*number*>** is the number assigned to the routing pattern.

In the following example, add an entry for the hunt group's voice mail number, so that calls to that number are modified and routed according to the instructions in the routing pattern.

change aar analysis 4 Page 1 of 2

AAR DIGIT ANALYSIS TABLE

Location: all Percent Full: 1

| Dialed String | Total Min | Total Max | Route Pattern | Call Type | Node Num | ANI Reqd |
|---|---|---|---|---|---|---|
| 4 | 7 | 7 | 999 | aar | | n |
| 4010 | 4 | 4 | 88 | unku | | n |
| 4011 | 4 | 4 | 88 | unku | | n |
| 4012 | 4 | 4 | 88 | unku | | n |
| 4013 | 4 | 4 | 88 | unku | | n |
| 4014 | 4 | 4 | 88 | unku | | n |
| 4015 | 4 | 4 | 88 | unku | | n |
| 4016 | 4 | 4 | 88 | unku | | n |
| 4017 | 4 | 4 | 88 | unku | | n |
| 4019 | 4 | 4 | 88 | unku | | n |
| 4020 | 4 | 4 | 88 | unku | | n |
| 4021 | 4 | 4 | 88 | unku | | n |
| 4200 | 4 | 4 | 10 | lev0 | | n |
| 4300 | 4 | 4 | 10 | lev0 | | n |
| 4400 | 4 | 4 | 9 | aar | | n |

Configure Automatic Route Selection (ARS) digit analysis and routing for all calls to the hunt group's voice mail number. Type the command, **change ars analysis <*number*> location** (where **<*number*>** is the number assigned to the dialed string) to display, and then edit the ARS Digit Analysis Table.

In the following example, add an entry for the voice mail number to the table as shown. Calls to the voice mail number route to the routing pattern you have defined for the integration.

change ars analysis 4 Page 1 of 2

ARS DIGIT ANALYSIS TABLE

Location: all Percent Full: 1

| Dialed String | Total Min | Total Max | Route Pattern | Call Type | Node Num | ANI Reqd |
|---|---|---|---|---|---|---|
| 4 | 7 | 7 | 2 | hnpa | | n |
| 411 | 3 | 3 | deny | svcl | | n |
| 4300 | 4 | 4 | 10 | pubu | | n |
| 4400 | 4 | 4 | 9 | pubu | | n |
| 4600 | 4 | 4 | 46 | pubu | | n |
| 49 | 4 | 4 | 1 | intl | | n |
| 5 | 7 | 7 | 2 | hnpa | | n |
| 555 | 7 | 7 | deny | hnpa | | n |
| 6 | 7 | 7 | 2 | hnpa | | n |
| 611 | 3 | 3 | 1 | svcl | | n |
| 7 | 7 | 7 | 2 | hnpa | | n |
| 8 | 7 | 7 | 2 | hnpa | | n |
| 811 | 3 | 3 | 1 | svcl | | n |
| 889 | 7 | 7 | 11 | natl | | n |
| 9 | 7 | 7 | 2 | hnpa | | n |

Type the command, **list aar digit-conversion**, to reach the AAR Digit Conversion table, and then make sure that all dialed calls starting with the digits 0 or 1 route through ARS, as shown in the following example.

7 Items

| | Matching Pattern | Min | Max | Del | Replacement | Net | Conv |
|---|---|---|---|---|---|---|---|
| ○ | 0 | 1 | 28 | 0 | | ars | y |
| ○ | 1 | 4 | 28 | 0 | | ars | y |
| ○ | 4 | 4 | 4 | 0 | | ext | y |
| ○ | 5 | 4 | 4 | 0 | | ext | y |
| ○ | 6 | 4 | 4 | 0 | | ext | n |
| ○ | 8 | 4 | 4 | 0 | | ext | n |
| ○ | x11 | 3 | 3 | 0 | | ars | y |

Select : None

# Defining the Hunt Group

Create a hunt group that MiCollab AM requires to connect to the telephone system. To program the Hunt Group type the command; **add hunt *number***, where *number* is the number assigned to this hunt group. The following example shows typical hunt group settings.

**IMPORTANT** Make note of the group and extension numbers you assign to the hunt group on this screen. You need to provide the Group Number when configuring subscriber stations and the Group Extension number when configuring MiCollab AM. Note also that the Voice Mail Number setting on Page 2 of the **Hunt Group** screen is the fully qualified version of this same extension, and configure the Routing Digits with the string you defined for Auto Alternate Routing (AAR).

(Page 1)

```
change hunt-group 3                                    Page   1 of   60
                              HUNT GROUP

           Group Number: 3                                  ACD? n
             Group Name: CallXpress QSIG E1               Queue? n
        Group Extension: 4300                            Vector? n
             Group Type: ucd-mia                   Coverage Path:
                     TN: 1           Night Service Destination:
                    COR: 1                     MM Early Answer? n
          Security Code:                 Local Agent Preference? n
 ISDN/SIP Caller Display: mbr-name
```

(Page 2)

```
change hunt-group 3                                   Page   2 of  60
                         HUNT GROUP

              LWC Reception: none       AUDIX Name:


             Message Center: qsig-mwi
          Send Reroute Request: y
          Voice Mail Number: 4300
Routing Digits (e.g. AAR/ARS Access Code): 107   Provide Ringback? n
       TSC per MWI Interrogation? n
```

# Programming Subscriber Extensions for Voice Mail

Programming subscriber extensions for voice mail involves the following three tasks:

- Setting up a call coverage path that forwards calls to the hunt group you have defined for this integration
- Defining subscriber extensions to use the new call coverage path
- Defining the trunk group set up for MWI support

The following is an example of the call coverage path configuration. Note that call coverage is set for busy, ring-no-answer (RNA), and do-not-disturb (DND) conditions on both trunk and station (inside and outside) calls.

To program call coverage type the command; **add coverage path <*number*>**, where **<*number*>** is the identifying number the telephone system assigns to the new coverage path.

```
add coverage path 100                                  Page   1 of   1
                        COVERAGE PATH

               Coverage Path Number: 100
     Cvg Enabled for VDN Route-To Party? n    Hunt after Coverage? n
                  Next Path Number:           Linkage

COVERAGE CRITERIA
    Station/Group Status    Inside Call    Outside Call
               Active?          n              n
                 Busy?          y              y
           Don't Answer?        y              y       Number of Rings: 2
                  All?          n              n
     DND/SAC/Goto Cover?        y              y
       Holiday Coverage?        n              n

COVERAGE POINTS
    Terminate to Coverage Pts. with Bridged Appearances? n
  Point1:                    Point2:
  Point3:                    Point4:
  Point5:                    Point6:
```

The following two examples pertain to station configuration. To program stations type the command; **add (or change) station *number***, where *number* is the extension number you want to configure.

(Page 1)

```
add station 5801                                              Page   1 of   4
                                      STATION

Extension:   5801                        Lock Messages? n               BCC: 0
     Type:   4602+                       Security Code: *                TN: 1
     Port:   IP                        Coverage Path 1:                 COR: 1
     Name:   BVT Station 01            Coverage Path 2:                 COS: 1
                                       Hunt-to Station:               Tests? y
STATION OPTIONS
                                         Time of Day Lock Table:
                  Loss Group: 19    Personalized Ringing Pattern: 1
                                               Message Lamp Ext: 5801
                Speakerphone: 1-way         Mute Button Enabled? y
            Display Language: english
     Survivable GK Node Name:
              Survivable COR: internal          Media Complex Ext:
       Survivable Trunk Dest? y                     IP SoftPhone? n

                                                        IP Video? n
                          Short/Prefixed Registration Allowed: default
```

(Page 2)

```
add station 5801                                              Page   2 of   4
                                      STATION
FEATURE OPTIONS
           LWC Reception: spe        Auto Select Any Idle Appearance? n
          LWC Activation? y                   Coverage Msg Retrieval? y
    LWC Log External Calls? n                            Auto Answer: none
              CDR Privacy? n                        Data Restriction? n
    Redirect Notification? y              Idle Appearance Preference? n
  Per Button Ring Control? n            Bridged Idle Line Preference? n
    Bridged Call Alerting? n                Restrict Last Appearance? n
   Active Station Ringing: single

        H.320 Conversion? n       Per Station CPN - Send Calling Number?
       Service Link Mode: as-needed                    EC500 State: enabled
         Multimedia Mode: enhanced            Audible Message Waiting? n
    MWI Served User Type: sip-adjunct       Display Client Redirection? n
                                            Select Last Used Appearance? n
                                              Coverage After Forwarding? s
                                                Multimedia Early Answer? n
                                           Direct IP-IP Audio Connections? y
  Emergency Location Ext: 5801      Always Use? n  IP Audio Hairpinning? n
```

# Completing the Telephone System Programming

Verify that the programming is correct by using the print command related to each executable command.

# 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 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:

- 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 exiting 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** drop-down list, select **Avaya**.
   - **d** From the **Model** drop-down list, select **Definity**.
   - **e** From the **Integration Type** drop-down 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, configure the values if necessary.

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 **Hunt Group Access Code** field, enter the hunt group extension configured previously in the section, Defining the Hunt Group. This is the pilot number that users dial to reach MiCollab AM.

   c 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

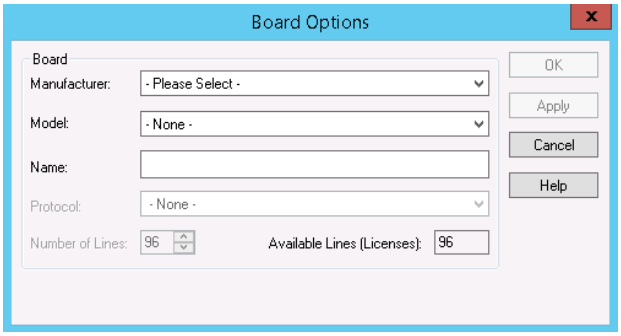
## To configure exiting MiCollab AM for the telephone integration:

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** drop-down list, select **Avaya**.

**b** From the **Model** drop-down list, select **Definity**.

**c** From the **Integration Type** drop-down 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, configure the values if necessary.

**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 **Hunt Group Access Code** field, enter the hunt group extension configured previously in the section, Defining the Hunt Group. This is the pilot number that users dial to reach MiCollab AM.

**c** 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.

# 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 automatically configured 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 is configured in the Aculab Configuration Tool and the linecard displays on the ACT Prosody X Page as In Service, and displays in the Card List, you can add it to the MiCollab AM **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 there are 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.

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 MiCollab AM online help system for more details about setting these parameters.