

MiCollab Advanced Messaging
Siemens HiPath 4000 D/42 or D/82
Digital Station Emulation
Integration Technical Note

For version 9.0 and above

Notice

The information contained in this document is believed to be accurate in all respects but is not warranted by Mitel Networks™ Corporation (MITEL®). Mitel makes no warranty of any kind with regards to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes.

No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

Trademarks

The trademarks, service marks, logos and graphics (collectively "Trademarks") appearing on Mitel's Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively "Mitel") or others. Use of the Trademarks is prohibited without the express consent from Mitel. Please contact our legal department at legal@mitel.com for additional information. For a list of the worldwide Mitel Networks Corporation registered trademarks, please refer to the website: <http://www.mitel.com/trademarks>.

© Copyright 2017, Mitel Networks Corporation

All rights reserved

Contents

Preface	4
References	4
Documentation	4
Documentation Updates	5
Help	5
Document Conventions	6
Features Supported by this Integration	7
Critical Application Considerations	9
Installation Requirements	10
Telephone System Requirements	10
MiCollab AM Requirements	10
Programming the Telephone System	11
Programming the Class of Service for the MiCollab AM Voice Ports	11
Programming the Key Layout for the MiCollab AM Voice Ports	12
Programming the MiCollab AM Voice Ports	13
Programming the ACD Group for MiCollab AM Voice Ports	14
Programming Analog Lines for the MWI Ports	17
Programming Subscriber Stations	18
Programming the Attendant Console	19
Installing the Dialogic D/82 Physical Interface	21
Programming the Dialogic Configuration Manager	23
Configuring MiCollab AM	24
Configuring MiCollab AM for the Integration During Initial Installation	24
Configuring Existing MiCollab AM for the Integration	25
Configuring MWI Switch Section	27
Appendix A –Troubleshooting	28

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. This document also assumes that you are familiar with the features and programming of the Siemens HiPath 4000 telephone system.

This document describes how to integrate MiCollab AM with a Siemens HiPath 4000 telephone system using a Dialogic D/42JCT-U or D/82JCT-U linecard. Additional instructions are also included for setting up D/41-JCT or D/120-JCT linecards to support message-waiting indicator (MWI) operations. This integration is a digital station-set emulation integration.

The Dialogic D/42 and D/82 linecards emulate Optiset E12 digital telephone stations; the D/42 linecard emulates four such stations, the D/82 emulates eight stations. (The term Optiset E12 as used in this document, refers to any Siemens Optiset E digital telephone with 12 or more programmable feature keys, typically an Optiset E Standard.)

These digital extensions provide DTMF signaling and voice communication between MiCollab AM and the telephone system.

The linecard reads the calling-party and called-party information that would appear on its LCD display if it were an actual Optiset E12 station and passes that information to the MiCollab AM server as ringing is sent to the port. The data is matched with the ringing extension and MiCollab AM answers with the appropriate dialog. MWI operation is performed through separate analog ports on a D/41-JCT or D/120-JCT linecard.

NOTE References in this document to the Dialogic D/82JCT-U card apply to the D/42 or D/82JCT-U-PCIU card, which can be installed in either 3.5-volt or 5-volt PCI slots and the Dialogic D/42 or D/82 JCT-U PCIe x1 linecards.

Use this document in conjunction with the *System Installation and Configuration Guide*, the *System Administration Guide*, and the MiCollab AM online help system.

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 documentation set for this MiCollab AM includes the following documents and resources:

- **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.

- **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.
- **Quick Reference Card (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
- **Server Documentation.** Available as a PDF only. Contains administrative guides for administrators about installing, configuring, and administering the messaging system, and user guides for subscribers about accessing the messaging system and checking and sending messages.
- **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.

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

Table 1. References

Document Type	Document Title
Server Documentation	System Administration Guide
Server Documentation	System Installation and Configuration 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

Documentation Updates

Documentation updates may be available from the following sources:

- Mitel certified technicians can view or download the latest/updated documents and program files from our partner web site: connect.mitel.com/connect

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** as follows:

- Click the **Help** button in the dialog box or window in which you are working
- Press the **F1** key at any time.

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.** *Italics* fonts can also signify the titles of other documents.

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

- **UI Element Names.** Names of UI elements such as dialog windows, screens, menu items, tabs, buttons, icons, etc. 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 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.

Features Supported by this Integration

The following tables list the features supported using the Siemens HiPath 4000 D82 Digital Station Emulation integration.

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
Do Not Disturb	Yes

Table 3. Integration features supported for Siemens HiPath 4000 digital station set

Feature	Supported	Notes
Automatic subscriber logon	Yes	
Announce Busy greeting on forwarded calls	Yes	
ANI/CLI	Yes	
Call screening	Yes	
Caller queuing	Yes	
DNIS	No	
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax ports	Yes	Note
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	Yes
Transfers, blind	Yes
Transfers, confirmed	Yes
Transfers, fully supervised	Yes
Transfers, monitored	Yes
Trunk ID for call routing	Yes

NOTE Requires separate industry-standard analog lines.

Critical Application Considerations

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

- All Dialogic D/42 and D/82 configurations have a twelve-card limitation per Call Server. The total quantity of ports that can be installed per server as a result of this limitation varies between 48 and 96; depending on how many of the Dialogic cards installed in the server platform are D/42 cards.
- The port connections on the D/42 and D/82 cards are polarity-sensitive. The Dialogic service may fail to initialize the ports on these cards if the polarities of the PBX connections are reversed. Terminate all station wiring as shown in the section, [Installing the Dialogic D/82 Physical Interface](#).
- The Dialogic Configuration Manager defaults the PBX switch type as Norstar. You must select the correct PBX switch type, Siemens Hicom, prior to starting the Dialogic service.
- The **Lines** tab must have the correct extension numbers specified in each line.
- Station numbers cannot use 0 as the leading digit. Non-numeric DTMF tones cannot be used as any character in a station number. The maximum length of a station number is ten digits. (Use the command DIS PERSI to display the setting of this field, or use the command AMO PERSI to change it.)
- If you plan to use supervised transfers (T-type), we recommend installing the Music on Hold (MOH) feature on the telephone system to assure callers of proper call handling and system operation. Otherwise, callers being transferred to a station by MiCollab AM will experience a period of silence and might misunderstand what is happening to their calls.
- A direct destination selection key must be defined on the telephone system's main attendant console to provide the operators or receptionists using the console with a way of transferring callers to MiCollab AM. For more information, refer to [Programming the Attendant Console](#).
- The digital D/42 and D/82 ports cannot set or clear Message Waiting Indicators. You must use analog ports to set and clear MWI.
- PBX stations that support PBX integration card ports on the MiCollab AM platform must be configured as automatic call distribution (ACD) stations. These stations must be configured as AGENT, AUTOLOG, CBSTMON, and VC, and assigned to an ACD group.
- The agent AUTOWK (auto work) parameter must be disabled or set to zero for the stations in the MiCollab AM ACD group. Otherwise, incoming calls on busy systems may be answered as though the MiCollab AM server and the telephone system were not integrated.

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 HiPath 4000 V1 SMR9 SMP4 or later
- One Optiset E12 (Optiset E Standard or better) station port for each integrated MiCollab AM port
- One analog port for each MWI port
- Support for automatic call distribution (ACD) station groups
- One ACD license for each MiCollab AM port that will be used for answering incoming calls (MiCollab AM ports that will be reserved for clearing and setting message-waiting indicators do not require ACD licenses)

MiCollab AM Requirements

- Properly configured system server platform running Windows Server 2008 R2 with Service Pack 1, Windows Server 2012 R2, or Windows Server 2016 (Server with Desktop Experience)
- MiCollab AM version 9.0 – consult the Mitel Connect web site for the current software patches and service pack information (see [References](#) earlier in this document).
- Mitel software key diskette or feature file with the Siemens HiPath 4000 D/82 digital set emulation integration enabled and one MWI port license for each PBX port involved in MWI operation
- One Dialogic D/42JCT-U or D/82 JCT-U port for each MiCollab AM voice port to be integrated
- One Dialogic D/82JCT-U specific PBX interface cable assembly for each Dialogic D/42JCT-U or D/82JCT-U card
- One Dialogic analog linecard port for each PBX port involved in MWI operation
- Uninterruptible power supply and surge protection device (recommended)

Programming the Telephone System

Follow the recommendations and programming examples in this section to program the HiPath 4000 telephone system for integration with MiCollab AM. Programming examples show commands and parameters that are necessary for integration; they do not represent PBX programming in its entirety.

The installing technician should be familiar with programming the telephone system. For detailed programming information on this PBX, refer to the appropriate Siemens documentation.

Programming the Class of Service for the MiCollab AM Voice Ports

Program a distinct class of service (COS) for the MiCollab AM ports. You must enable the voice options:

- MB
- VC
- TTT

The following is an example of COS programming; fields shown in **boldface** are critical to the integration.

```
<dis-cossu:cos,1;  
DIS-COSSU:cos,1;  
H500: AMO COSSU STARTED
```

COS	VOICE	FAX	DTE
1	>AC		
	TA	NOCO	NOCO
	TNOTCR	NOTIE	NOTIE
	PRISTN		BASIC
	CDRATN		DSM
	CDRSTN		MULTRA
	CDRINT		
	CDRC		
	MB		
	VCE		
	SPKR		
	RSVLN		
	TRACE		
	FWDNWK		
	MTRACE		
	ATRACE		
	CDRIND		
	MSN		

		MULTRA		
		FWDFAS		
		FWDBAS		
		FWDDIR		
		CW		
		FWDEXT		
		MCIDA		
		CTLS		
		SUTVA		
		TTT		
+-----+-----+-----+-----+				

AMO-COSSU-109 CLASSES OF SERVICE
 DISPLAY COMPLETED;

Programming the Key Layout for the MiCollab AM Voice Ports

Program a Key Layout table for the MiCollab AM voice ports. This table should be unique and separate from the tables programmed for all other stations. To ensure proper call transfer between the Call Server platform and the telephone system, you must program:

- The MB action on key 1
- The Consult action on key 7
- The Release action on key 8
- The Line appearance on key 12

IMPORTANT Program the key assignments as shown. Deviating from these assignments causes the integration to fail.

The following is an example of Key Layout table programming; fields shown in **boldface** are critical to the integration.

```

<dis-tapro:std,3,optit12;
DIS-TAPRO:STD,3,OPTIT12;
H500:  AMO TAPRO STARTED
AMO-TAPRO-109      PROGRAMMABLE KEY DEFINITION FOR DIGITAL TERMINALS
DISPLAY COMPLETED;
<dis-tapro:std,1,optit12;
DIS-TAPRO:STD,1,OPTIT12;
H500:  AMO TAPRO STARTED
+-----+-----+-----+-----+
| STD | DIGTYP | "SERVICE INFORMATION"          KEY LAYOUT
+-----+-----+-----+-----+
|   1 | OPTIT12 | "3 KEYS U.S. STD 0: CONNECT/XFER"

```

1	MB	2	VACA	3	VACA	4	VACA	5	VACA
6	VACA	7	CONS	8	RLS	9	VACA	10	VACA
11	VACA	12	LINE						

```

+-----+-----+-----+-----+-----+-----+
O-TAPRO-115      PROGRAMMABLE KEY DEFINITION FOR DIGITAL TERMINALS
DISPLAY COMPLETED;

```

Programming the MiCollab AM Voice Ports

Program the digital stations for MiCollab AM voice ports as Advanced Optiset E12 telephones.

To program each MiCollab AM voice port:

- 1 Assign the **COS** and the **Key Layout** table to each MiCollab AM port.
- 2 Set the special station number (SSTNO) parameter to **No**.
- 3 Set the DIGNODIS parameter to **Yes**. This enables disconnect supervision.
- 4 Set the OPT type to **OPTI**.
- 5 Set DNIDSP to **No** to disable the display of DNIS information. This feature is not compatible with the MiCollab AM integration through an ACD group.
- 6 To enable reception of DTMF tones from digital stations, set DTMFCTRD to **Yes**.
- 7 Set TEXTSEL to **AMERICAN**.
- 8 Set the subscriber attributes **AGENT**, **AUTOLOG**, **CBSTMON**, and **VC** for each port.

The Advanced Optiset E stations assigned to MiCollab AM are programmed as shown in the following example.

```

<dis-sbcsu:32001;
DIS-SBCSU:32001;
H500:  AMO SBCSU STARTED
----- USER DATA -----
STNO      =32001      OPT      =OPTI      COS1      =1          DPLN      =1
MAINO     =32001      CONN     =DIR        COS2      =1          ITR        =0
PEN       = 1- 1- 61- 0          LCOSV1     =1          COSX       =0
INS       =Y          ASYNCT   =500        LCOSV2     =1
                                PERMACT   =          LCOSD1     =2
SSTNO    =N          EXTBUS    =          LCOSD2     =2          CBKBMAX    =5
TRACE     =N                                RCBKB      =N
ALARMNO   =0          DFSVCANA=          SPDI       =10        RCBKNA     =N
HMMUSIC   =0          FLASH     =          SPDC1      =          CBKNAMB    =Y
PMIDX     =0                                SPDC2      =          COMGRP     =0

SECR      =N          DIGNODIS=Y          DSSTNA     =N
STD      =1          CALLOG    =NONE        DSSTNB     =Y      TEXTSEL =AMERICAN
REP       =0          OPTICOM   =N          OPTIUSB    :          VPI        =
IDCR      =N          OPTICA    =0          OPTIS0A    :1        VCI        =
OPTIDA    =1          OPTISPA   :0          PATTERN    =          OPTIABA    :0

```

```

DCFVWBUSY=N          HEADSET =NOIND          APICLASS=TS
DNIDSP  =N          HSKEY  =HSIND          ACFAPPL  =
DTMFBLK  =N          IPPASSW  =          DTMFCTRD=Y          BASICSVC=
DVCFIG   =OPTISET    TSI      =1          SPROT   =          SOPTIDX  =
          API          2          DPROT   =          DOPTIDX  =
          FPROT   =          FOPTIDX  =

----- ACTIVATION IDENTIFIERS FOR FEATURES -----
FWDS   :N          HTOS    :N          DND      :N
FWDD   :N          HTOD    :N          VCP       :Y          TWLOGIN  :N
FWDF   :N          HTOF    :N          CWT       :N

----- FEATURES AND GROUP MEMBERSHIPS -----
PUGR    :          ESSTN   :
KEYSYS  :Y          NOPTNO :
HUNT CD :N

----- SUBSCRIBER ATTRIBUTES (AMO SDAT) -----
AGENT  AUTOLOG  SUPER    CAF      CASTMON  CBSTMON  KNOVR  VC

-----
AMO-SBCSU-109          STATION AND S0-BUS CONFIGURATION OF SWITCHING UNIT
DISPLAY COMPLETED;

```

Programming the ACD Group for MiCollab AM Voice Ports

Program the MiCollab AM voice ports into an ACD group. The process of defining such a group involves the following major steps:

NOTE In the following list, and in the remainder of this section, the agents are fictitious entities. The telephone system does not direct any calls to an ACD port unless the port's configuration indicates that an agent is signed in and available there. As a result, it is necessary to define one agent for each ACD port you use to integrate the telephone system with MiCollab AM.

- Defining the group's directory number and display name
- Configuring the selection schemes that define the times of day and the days of the week when calls may be directed to the group
- Defining a routing table to direct incoming calls to the group
- Configure the group's main attributes, especially the number of agents it should contain and its status as a priapry ACD group
- Configuring the ID number and initial queue position for each agent

The following is an example of how the new ACD group's directory number (INTRTDN) and display name is configured. The RCG number of 50 is used to identify the group on the next several screens.

Note that the new ACD group is assigned a general priority of 64 and an overflow priority of zero. On your system, be sure to assign priorities that allow the integration to function properly without interfering with other active ACD groups.

```

<dis-dnit:dni,4390
DIS-DNIT:DNI,4390;

```

```

H500:  AMO DNIT  STARTED
+-----+
|  INTRTDN - 4390
|  SARULE - 0          DISPLAY - AVST          ROUTING - DRTD
|  RCG - 50           PRI - 64          OVRPRI - 0          AUDSRCID - 0
|  THRSILD - *        REVCHA - FORB
+-----+
AMO-DNIT -111          DIRECTORY NUMBER INFORMATION AND TRANSLATION

DISPLAY COMPLETED;

```

The following are examples of how selection schemes are defined for the new group. Because MiCollab AM should be available at all times, configure the group for all day, every day of the week.

```

<dis-acdrs:rs,50
dis-acdrs:rs,50

DIS-ACDRS:RS,50;
H500:  AMO ACDRS STARTED
+-----+-----+-----+-----+-----+-----+-----+
|  RCG |  SUN |  MON |  TUE |  WED |  THU |  FRI |  SAT
+-----+-----+-----+-----+-----+-----+-----+
|   50 |   50 |   50 |   50 |   50 |   50 |   50 |   50
+-----+-----+-----+-----+-----+-----+-----+
AMO-ACDRS-111          DEFINING ACD ROUTE SELECTION SCHEMES

DISPLAY COMPLETED;

```

```

<dis-acdrs:ds,50;
dis-acdrs:ds,50;

DIS-ACDRS:DS,50;
H500:  AMO ACDRS STARTED
+-----+-----+-----+-----+
| DSNUM | SHIFT | ART | EOS
+-----+-----+-----+-----+
|   50 | 23:59 |   50 | YES
+-----+-----+-----+-----+
AMO-ACDRS-111          DEFINING ACD ROUTE SELECTION SCHEMES

DISPLAY COMPLETED;

```

The following is an example of a routing table configured for an ACD group in support of MiCollab AM. The table is essentially a placeholder, since it is configured to direct all incoming traffic to the MiCollab AM group.

```

<dis-acdrt:50;
dis-acdrt:50;

DIS-ACDRT:50;

```

```

H500:  AMO ACDRT STARTED
+-----+-----+-----+-----+-----+-----+-----+-----+
| ART 50      MAXSTEP 5                                     ACDRS REFERENCES 1
+-----+-----+-----+-----+-----+-----+-----+-----+
| STEP|  ACTION |  PARAM |          VALUE          | DEST|TESTCOND|VALUE
+-----+-----+-----+-----+-----+-----+-----+-----+
|   1  RTGRP   ACDGRP   50
|   2  SKIP
|   3  SKIP
|   4  SKIP
|   5  SKIP
+-----+-----+-----+-----+-----+-----+-----+-----+
AMO-ACDRT-111      DEFINING ACD ROUTING TABLES

DISPLAY COMPLETED;

```

The following is an example of attribute programming for the MiCollab AM ACD group. When configuring the group's attributes, designate it as a primary group, and then assign as many agents as there are ports in the group.

```

<dis-acdgp:50;
dis-acdgp:50;

DIS-ACDGP:50;
H500:  AMO ACDGP STARTED
+-----+-----+-----+-----+-----+-----+-----+-----+
|ACDGRP | #AGTS | SUPEXT | SEARCH | PRIMARY |  ON  | FLASH | WINK
+-----+-----+-----+-----+-----+-----+-----+-----+
|   50  |    8  |  5071  |  FIFO  |   YES   |   0  |    0  |   0
+-----+-----+-----+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PMSAN:
+-----+-----+-----+-----+-----+-----+-----+-----+
AMO-ACDGP-111      DEFINING ACD GROUP ATTRIBUTES

DISPLAY COMPLETED;

```

The following is an example of agent configuration. Note that the AUTOWK parameter for each agent is set to zero, which is required for correct operation.

```

<dis-agent:,50
dis-agent:,50

AGTTYPE = ;

DIS-AGENT:,50,;
H500:  AMO AGENT STARTED
+-----+-----+-----+-----+-----+-----+-----+-----+
|          ACD AGENT'S DATA INFORMATION
+-----+-----+-----+-----+-----+-----+-----+-----+
| AGTID  | ACDGRP | AGTPOS | AUTOWK | AUTOEXT
+-----+-----+-----+-----+-----+-----+-----+-----+
| 115078 |   50   |    1   |    0   |  5078

```

```

+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115077 | 50 | 2 | 0 | 5077
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115076 | 50 | 3 | 0 | 5076
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115075 | 50 | 4 | 0 | 5075
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115074 | 50 | 5 | 0 | 5074
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115073 | 50 | 6 | 0 | 5073
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115072 | 50 | 7 | 0 | 5072
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
| 115071 | 50 | 8 | 0 | 5071
+-----+-----+-----+-----+-----+
| TYPE: NORMAL | PEN:           | BC:
+-----+-----+-----+-----+-----+
AMO-AGENT-111          DEFINING ACD AGENT ATTRIBUTES

DISPLAY COMPLETED;

```

Programming Analog Lines for the MWI Ports

Program an open numbered network of analog ports for MWI operation using the DIS-ZAND command, as shown in the following example.

```

<dis-zand:vmi;
DIS-ZAND:VMI;
H500:  AMO ZAND  STARTED
      VOICE MAIL INTERFACE
      =====

MWIOPEN  = YES ,      ALLEN      = 8 ,      BLEN      = 6 ,
DTMFCTRL = NO  ,      PICKUP     = NO  ,      NARELOUT = NO,
PIN       = NO  ;

AMO-ZAND -111          SYSTEM DATA
DISPLAY COMPLETED;

```

Using the WABE command, set the DAR codes MBON and MBOFF to specify the commands used to clear and set MWI through the analog ports.

IMPORTANT Do **not** set the MWACT and MWCANORI codes. These are used for digital MWI operation, which is not recommended because it limits MWI capacity to 99 active operations per port.

The following is an example of how to configure the MBON and MBOFF codes.

```
<dis-wabe:gen,*532&*530;
DIS-WABE:GEN,*532&*530;;
H500: AMO WABE STARTED
```

DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS	
CALL PROGRESS STATE	DIGIT	RESERVED/CONVERT	
CODE	1 11111 11112 22	ANALYSIS	DNI/ADD-INFO
0 12345 67890 12345 67890 12	RESULT	*=OWN NODE	
*532	MBON		
*530	MBOFF		

AMO-WABE -111 DIALLING PLANS, FEATURE ACCESS CODES

Select the analog ports to be used for MWI operation and configure them as non dial-able special subscriber configuration (SSC) ports using the DIS SSC:VMXMWI command as shown in the following example.

NOTE The DIS-SSC: VMXMWI command can configure up to ten ports. For information on configuring more MWI ports, contact Mitel Technical Support.

```
<DIS-SSC:VMXMWI
DIS-SSC:VMXMWI;
H500: AMO SSC STARTED
```

MSTNO	PEN	COFIDX	COS	LCOSV1	DPLN	IN SERVICE
0	1- 1- 73- 3	0	51	3	0	Y

AMO-SSC -111 SPECIAL SUBSCRIBER CONFIGURATION
DISPLAY COMPLETED;

Programming Subscriber Stations

Program subscriber stations to forward to the MiCollab AM pilot number under busy or ring-no-answer (RNA) conditions. Since the type of forwarding you set for each subscriber depends on that subscriber's needs, you should follow conditional guidelines for programming subscriber telephones to MiCollab AM.

Program a direct destination selection (NAME) key and assign it the MiCollab AM pilot number as the destination.

NOTE The NAME key is referred to as a Repdial key in some Siemens telephone system manuals.

The following is an example of subscriber station programming:

```
<dis-tapro:std,1,optit12;
DIS-TAPRO:STD,1,OPTIT12;
H500: AMO TAPRO STARTED
+-----+-----+-----+-----+-----+-----+
| STD | DIGTYP | "SERVICE INFORMATION" | KEY LAYOUT |
+-----+-----+-----+-----+-----+-----+
| 1 | OPTIT12 | "3 KEYS U.S. STD 0: CONNECT/XFER" |
| | | 1 MB 2 NAME 3 VACA 4 VACA 5 VACA |
| | | 6 VACA 7 CONS 8 CNCT 9 VACA 10 VACA |
| | | 11 VACA 12 LINE |
+-----+-----+-----+-----+-----+-----+
O-TAPRO-115 PROGRAMMABLE KEY DEFINITION FOR DIGITAL TERMINALS
DISPLAY COMPLETED;
```

Programming the Attendant Console

Program a direct destination selection (Repdial) key for MiCollab AM on the attendant console. This allows system operators or receptionists using the console to transfer callers to MiCollab AM when appropriate. The destination value assigned to the Repdial key should be the dialing code needed to connect the console to the first MiCollab AM port.

Table 4. Telephone System Programming Options

If you are programming the telephone system through...	Then...
A WABE terminal	Use the command <i>DAR DTMFCONV <code></i> , where <code> represents the proper dialing code.
An AC4 terminal	Set a REPD L to the dialing code.
An ACWIN terminal	Perform either one of the following steps: <ul style="list-style-type: none"> Set a REPD L to the dialing code. On the Options menu, click AC_WIN Settings. Type the dialing code in the Access codes box on the Call Control tab.

The following is an example of attendant console programming.

```
<REG-WABE:**2;
H500: AMO WABE STARTED
ADD-WABE: **2 , , , DTMFCONV, N,,,
```

```

, , , , ;
AMO-WABE -111      DIALLING PLANS, FEATURE ACCESS CODES
REGENERATE COMPLETED;
<dis-wabe:gen,**2,;
H500:  AMO WABE  STARTED
-----
|  DIGIT INTERPRETATION                                VALID FOR ALL DIAL PLANS
-----
|          |          CALL PROGRESS STATE          |  DIGIT  |  RESERVED/CONVERT
|  CODE   |          1 11111 11112 22| ANALYSIS |  DNI/ADD-INFO
|          |          0 12345 67890 12345 67890 12|  RESULT  |  *=OWN NODE
-----
|  **2          |. ****. .... .... ..| DTMFCONV |
-----
AMO-WABE -111      DIALLING PLANS, FEATURE ACCESS CODES
DISPLAY COMPLETED;

```

After you have programmed the key on the attendant console, ask a caller to make a test call to the attendant console. Answer the call, and then press the programmed key and enter any digits normally associated with a transfer to MiCollab AM. If the caller can leave a message, the attendant console programming is working properly.

Installing the Dialogic D/82 Physical Interface

Each PBX integration card connects to the PBX with a Dialogic D/82-U PBX interface cable assembly. One end of the cable is a 25-pair male RJ-21 connector; the other end is a Dialogic mini-D 36-pin connector that plugs into the connector on the end plate of the linecard. [Table 5. Dialogic D/82 wire cut down](#) shows the wiring connections for the Optiset E digital stations. The stations connect to the even-numbered pairs only. For additional information about installing a linecard, refer to the spare parts document shipped with that linecard.

Table 5. Dialogic D/82 wire cut down

Pair	Color	OPTI E stations	Usage
1	White/Blue		
	Blue/White		
2	White/Orange	T (Port 1)	D/42 or D/82
	Orange/White	R (Port 1)	D/42 or D/82
3	White/Green		
	Green/White		
4	White/Brown	T (Port 2)	D/42 or D/82
	Brown/White	R (Port 2)	D/42 or D/82
5	White/Slate		
	Slate/White		
6	Red/Blue	T (Port 3)	D/42 or D/82
	Blue/Red	R (Port 3)	D/42 or D/82
7	Red/Orange		
	Orange/Red		
8	Red/Green	T (Port 4)	D/42 or D/82
	Green/Red	R (Port 4)	D/42 or D/82

9	Red/Brown		
	Brown/Red		
10	Red/Slate	T (Port 5)	D/82 only
	Slate/Red	R (Port 5)	D/82 only
11	Black/Blue		
	Blue/Black		
12	Black/Orange	T (Port 6)	D/82 only
	Orange/Black	R (Port 6)	D/82 only
13	Black/Green		
	Green/Black		
14	Black/Brown	T (Port 7)	D/82 only
	Brown/Black	R (Port 7)	D/82 only
15	Black/Slate		
	Slate/Black		
16	Yellow/Blue	T (Port 8)	D/82 only
	Blue/Yellow	R (Port 8)	D/82 only

Programming the Dialogic Configuration Manager

By default, the Dialogic System Release 6.0 PCI Update 241 Configuration Manager program sets the parameter PBXSwitch to Nortel_Norstar. You must change this parameter to the appropriate PBX type you are integrating with MiCollab AM.

IMPORTANT If this is an existing MiCollab AM system with a previous version of Dialogic software installed, you must remove it and any Dialogic point release software before you install MiCollab AM version 9.0 and Dialogic System Release 6.0 update 241 on the Call Server platform. If the MiCollab AM version 9.0 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 related Spare Parts Document for the linecard with which you are working.

To program the Dialogic Configuration Manager:

- 1 On the Start menu at the MiCollab AM platform, go to **Programs > Dialogic System Release > Configuration Manager-DCM**.
- 2 Stop the Dialogic service if it is running.
- 3 Double-click the first installed D/42 or D/82 linecard to open the Properties sheet.
- 4 On the Miscellaneous tab, select the **PBXSwitch** parameter.
- 5 In the Values box, choose **Siemens_Hicom** as the PBX type.
- 6 On the Telephony Bus tab, verify that the correct PCM encoding scheme is selected. The default value is **automatic** or **U-Law**; you must change this value to **A-Law** outside of the U.S. and Japan.
- 7 Click **OK** to close the Properties sheet.
- 8 Repeat steps 3 through 7 for each D/42 or D/82 linecard that is installed.
- 9 Restart the Dialogic service and close Dialogic Configuration Manager.

Configuring MiCollab AM

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

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

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

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

Configuring MiCollab AM for the Integration During Initial Installation

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

- 1 In the **Database Initialization Parameters** dialog box, configure the following options:
 - a In the **Mailbox Length** box, enter the mailbox length in digits.
 - b In the **First Extension** box, enter first extension number for the first line. You can also leave the **First Extension** box empty.
 - c From the **Manufacturer** dropdown list, select **Siemens**.
 - d From the **Model** dropdown list, select **HiPath 4000**.
 - e From the **Integration Type** dropdown list, select **Dialogic D/82 OPTIset set emulation**.
- 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 ACD group directory number you configured previously in the [Programming the Telephone System](#) section. This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box appears. Click **OK**.
- 11 If **MiCollab AM Configuration** does not open automatically after the configuration completes, open **MiCollab AM Configuration**, and select the **Lines** tab.
- 12 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 13 Click **OK** to save all changes.

After MiCollab AM Setup is complete, you must configure a separate switch section and integration definition for the analog lines used to clear and set MWIs. Also, you must configure the line ports that the integration will use. Refer to the [Configuring MWI Switch Section](#) section for more instruction.

IMPORTANT Analog lines used for MWI purposes must not be configured for the D/82 OPTiset emulation integration or the overall integration will fail. Analog lines must be defined in a separate integration and switch section.

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 **Board** tab, and then click the **Add** button. The **Board** 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 **Switch** 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 **HiPath 4000**.
 - c From the **Integration Type** dropdown list, select **Dialogic D/82 OPTiset set emulation**.
- 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 ACD group directory number you configured previously in the [Programming the Telephone System](#) section. This is the pilot number 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.

After MiCollab AM Setup is complete, you must configure a separate switch section and integration definition for the analog lines used to clear and set MWIs. Also, you must configure the line ports that the integration will use. Refer to the [Configuring MWI Switch Section](#) section for more instruction.

IMPORTANT Analog lines used for MWI purposes must not be configured for the D/82 OPTIset emulation integration or the overall integration will fail. Analog lines must be defined in a separate integration and switch section.

Configuring MWI Switch Section

To configure the MWI Switch Section for the integration:

- 1 Open the **MiCollab AM Configuration** utility, and select the **Switch Sections** tab.
- 2 Add a second switch section for the **HiPath 4000** telephone system. Assign the new switch section a distinctive name, such as *Analog MWI Section*, to avoid confusion.
- 3 Select the **Integrations** tab and add a new integration for the **HiPath 4000** telephone system. Set the **Switch Integration Type** to **Non Integrated**.
- 4 From the **View** list, select **Message Waiting Settings**.
- 5 Configure the **Set MWI Dialing Template** and **Clear MWI Dialing Template** values with the digit strings you specified in the section [Programming Analog Lines for the MWI Ports](#), appending the letter X and the # symbol to the end of each.

For example:

If you have configured *532 to set MWI, type *532X# in the Set MWI Dialing Template field.

NOTE You may want to verify that the digit strings provided in the integration for setting and clearing MWI are appropriate to the current configuration of the telephone system.

- 6 Select the **Lines** tab.
- 7 Configure all analog lines to use the new non-integrated **HiPath 4000** integration and switch section, and allow **callouts**.
- 8 Select the **Switch Sections** tab again, and select the section you have defined for analog MWI, and then click **Edit**.
- 9 Select **Incoming Call Settings** from the View list and set the **Incoming Line Reserve value** to zero.
- 10 Select **Callout Limit Settings** from the View list. Set the **Maximum Callouts** and **Maximum MWI Callouts** values to the total number of analog ports used for MWI operations.
- 11 Click **OK**.
- 12 Select the **HiPath 4000** switch section that is not used for MWI operations, and click **Edit**.
- 13 Select **Callout Limit Settings** from the **View** list.
- 14 Set the **Maximum MWI Callouts** value to zero.
- 15 Click **OK** to save the change.

Appendix A –Troubleshooting

This section documents solutions to problems that you may encounter during or after MiCollab AM installation. If you encounter a problem that is not present in this section, please call Mitel Technical Support for further assistance.

Table 6. Troubleshooting

Symptoms	Solution
MWI Lights Never Turn Off	
MWI lights stay lit, even when no messages remain The telephone system reports that the callback buffer is full	The digital ports are handling MWI instead of the analog ports. Refer to the instructions in Configuring MiCollab AM to configure your digital ports correctly.
MWI Lights Turn Off Too Soon	
MWI lights turn off even when messages remain Subscribers (or other applications) use the Set Messaging feature	The digital ports are handling MWI instead of the analog ports. Refer to the instructions in Configuring MiCollab AM to configure your digital ports correctly.