

MiCollab Advanced Messaging 9.4 ATOS Unify OpenScape 4000 SIP Trunk Integration Technical Notes

For version 9.4 and later

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 2022, Mitel Networks Corporation

All rights reserved

Contents

Preface	5
References	5
Documentation	5
Documentation Updates	6
Help	6
Document Conventions	6
Features supported by this integration	7
Critical application considerations	10
Installation requirements	12
Telephone system	12
MiCollab AM requirements	12
Programming the telephone system	13
Creating a function block for the HG3550	13
Configuring mounting locations for HG3550 in the SWU	13
Configuring IP attributes for the HG3550 board	14
Configuring the pilot number for MiCollab AM	17
Configuring class of service for MiCollab AM	18
Configuring least call routing class of service voice for MiCollab AM	19
Configuring class of parameters for MiCollab AM	19
Configuring class of trunks for MiCollab AM	20
Configuring the call back feature	20
Configuring trunk group for MiCollab AM	21
Configuring trunk for MiCollab AM	21
Configuring trunk routing for MiCollab AM	22
Configuring LCR out-dial rule for the MiCollab AM route	23
Configuring trunk least cost routing	24
Configuring LCR dialing plan for the MiCollab AM pilot number	24
Programming subscriber stations	25
Configuring call forwarding for subscriber stations	26
Activating call forwarding for subscriber stations	27

Configuring the SIP trunk profile	28
Configuring MiCollab AM	32
Configuring MiCollab AM for the integration during initial installation	32
Configuring existing MiCollab AM for the integration	37
Configuring MiCollab AM for SIP failover	41
Changing the network binding order on the MiCollab AM platform	44
Windows server 2012 R2	44
Windows server 2016 / 2019	44
Configuring quality of service (QoS)	46

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. This document also assumes that you are familiar with the features and programming of the ATOS Unify OpenScape 4000 telephone system, referred to throughout this document as OpenScape 4000.

This document describes how to integrate MiCollab AM with OpenScape 4000 telephone system, using the Session Initiation Protocol (SIP) integration. This integration operates exclusively over a TCP/IP-based network; it uses no analog or digital voice telephony ports but passes voice communication and signaling information over the network.

MiCollab AM uses SIP Trunks to integrate with OpenScape 4000. The private branch exchange (PBX) routes calls to MiCollab AM using a static SIP Endpoint which is associated with a route pointing towards MiCollab AM. Message Waiting Indicator (MWI) operations are performed using unsolicited NOTIFY requests.

This ITN documents the procedure for setting up the integration. The process consists of programming the telephone system and configuring MiCollab AM. Critical application considerations are also documented.

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 additional details, see the following table for related documentation:

Table 1. References

Document type	Document title
Administration documentation	<i>System Administration Guide</i>
Server documentation	<i>System Installation and Configuration Guide</i>
Online help	MiCollab AM online help system

Features supported by this integration

This section lists the features that are supported using the OpenScape 4000 integration.

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

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

Divert to MiCollab AM on	Supported
Do Not Disturb	No

Table 3. Integration features supported for OpenScape 4000 SIP Trunk

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

Feature	Supported	Notes
Transfers, blind	Yes	
Transfers, confirmed	Yes	Note 3
Transfers, fully supervised	Yes	Note 3
Transfers, monitored	Yes	
Trunk ID for call routing	No	

NOTES

1. Only available using supervised transfers
2. 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, see the [Critical application considerations](#) section of this document for limitations on these features.
3. See the [Critical application considerations](#) section of this document for limitations on these features.

Critical application considerations

This section lists known limitations or conditions within the telephone system and MiCollab AM that affect the integration performance. General recommendations are provided when ways to avoid these limitations exist.

- You must configure the Incoming Hunt Mode in the **Switch Section Options** dialog box. This integration supports terminal, circular, reverse terminal and reverse circular hunt modes only. The default mode is Terminal.
- You must configure the Hunt Group Access Code in the **Switch Section Options** dialog box.
- If a caller is transferred into MiCollab AM and the transferring party completes the call transfer after MiCollab AM answers the call, the PBX does not generate a ring update. In this case, the envelope information (calling party information) will be incorrect. Note that for a call scenario where the call transfer is completed before the call is forwarded into MiCollab AM, this is not an issue.
- On a MiCollab AM server with two or more Network Interface Cards (NIC), the NIC that supports this integration must not occupy first place in the operating system's binding order. The primary (public) NIC must be the first network connection in the network binding order. MiCollab AM binds and communicates to other servers and subscribers on this network connection. For more information, refer to [Changing the network binding order on the MiCollab AM platform](#).
- MiCollab AM supports G.729a with support for annex b on the incoming audio stream only. MiCollab AM does not transmit annex b packets.
- When codec negotiation takes place between MiCollab AM and the PBX, MiCollab AM always offers the G.729a audio format as an option. You may configure G.729a as the preferred codec in MiCollab AM; however, the decision whether to use G.729a is always made by the PBX.
- The **Call Queuing** feature does not transcend the call server. While calls can be queued on multiple call servers for the same subscriber, call servers do not have knowledge of calls in the queue on other call servers within the system. For example, callers can 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 MiCollab AM **Integration Options** parameter, **Validate Remote Hosts for Media**, validates each incoming audio packet and accepts it only if the packet was sent from a valid endpoint. The **Validate Remote Hosts for Media** parameter is disabled by default. Enabling this parameter causes MiCollab AM to reject RTP packets from invalid endpoints, rejects MWI packets that timeout after a specified number of times, and overcomes port lockups when callers hang up while MiCollab AM is performing a blind transfer.

IMPORTANT Enabling the **Validate Remote Hosts for Media** parameter causes processing overhead and should only be enabled when necessary.

- MiCollab AM 9.4 supports up to 10 integration types (specifically, licensed integrations) in total per system. However, the following limitations apply to each call server:
 - Limited to 3 integration types per call server.

- The 3 integration types can be any mix of TDM and SIP (for example, 1 TDM and 2 SIP).
- Limited to 1 Cisco UCM SCCP IP integration. Can be mixed with TDM, but not with SIP.
- Connect up to 10 telephone systems total per call server (e.g., 2 Avaya Communication Manager systems using SIP + 5 Avaya IP Office systems using SIP + 3 Siemens HiPath 4000 systems using Station Set Emulation)
- SIP timers for Aastra EETS integrations are incompatible with other SIP integrations. Thus, it is not possible to have an EETS integration with any other SIP integration on the call server.

Installation requirements

To successfully install this integration, you must meet the installation requirements for both the telephone system and MiCollab AM. Review the following information before performing any of the procedures in this document.

Telephone system

- ATOS Unify OpenScape 4000 V10 and later.

MiCollab AM requirements

- MiCollab AM software key diskette or feature file with the Siemens OpenScape Voice integration enabled and one Virtual SIP and RTP license enabled for each port involved in the integration.
- One or two 10 MB, 100 MB, or 1000 MB (gigabit) network interface cards with cables.

Programming the telephone system

Follow the recommendations and programming examples in this section to program the 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, see the appropriate OpenScape 4000 documentation.

In this configuration example, we will use the Man Machine Language (MML) interface, its Administration and Maintenance Order (AMO) configuration dialog and the Web Based Management (WBM) for accessing and modifying the OpenScape 4000 device.

Creating a function block for the HG3550

Create a function block for the HG3550 using AMO **BFDAT**.

```
ADD-BFDAT:16,HG3550,BCHL60&BCHL120,SOCO;  
CHA-BFDAT:CONT,16,HG3550,2,3,;  
CHA-BFDAT:OK,16,YES;
```

Display the BFDAT:

```
DIS-BFDAT:16;  
H500: AMO BFDAT STARTED
```

```
-----  
| FCTBLK = 16      BRDBCHL : BCHL60 & BCHL120      STATUS=      OK      SOCO      |  
-----  
| 1. FUNCT : HG3550      2 LINES      UNITS 3 BCHLCNT 30 TOTAL BCHAN 60      |  
-----
```

```
AMO-BFDAT-111      CONFIGURATION OF FUNCTIONAL BLOCKS FOR CGW BOARDS  
DISPLAY COMPLETED;
```

Configuring mounting locations for HG3550 in the SWU

The AMO **BCSU** (Board Configuration in the Switching Unit) shows that for this example a Q2330-X module type vHG3500 with the related IP address 10.46.11.15 is used as LTU (Line Trunk Unit). Also note that a STMIX pca can be used for the HG3550 (STMIX board is module Q2343-X).

```
ADD-BCSU:IPGW,1,19,10,"Q2330-X" ,1,0,16,,,,60,,,0,IPV4,NO,NO;
```

Display the BCSU:

```
DIS-BCSU:TBL,1,19,10;
H500: AMO BCSU STARTED
```

```

LTG 1   LTU 19  SRCGRP 1      ALARMNO-LTU 0      SOFTGATE1000      242 PORTS USED
-----+-----+-----+-----+-----+-----+-----+-----+
|          |          |          | S | H | A | L - | N |          |          |          |
| ASSIGNED | MODULE | FCT | E | W | A | R | M | P | INSERTED | HW- | MODULE |
PEN | MODULE | TYPE | ID | C | Y | N | O | R | MODULE | STATE INFO | STATUS |
-----+-----+-----+-----+-----+-----+-----+
10 | Q2330-X | vHG3500 | 1 | 0 | | Q2330-X | | 1 -07 - | READY |
+-----+-----+-----+-----+-----+-----+-----+
| IP ADDRESS : 10. 46. 11. 15 | B-CHANNELS : 60 | BCHLCNT : 60 | |
| IP MODE : IPV4 | DHCP V4 : NO | DHCP V6 : NO |
| BLOCK NO : 16 | PRERESERVED LINES ASSIGNED : NO |
| 1. FUNCT : HG3550 | 2 LINES | B-CHANNELS : 60 | BCHLCNT : 60 |
+-----+-----+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+-----+-----+-----+-----+
| NO SECURITY STATUS AVAILABLE, SINCE FEATURE SPE IS NOT ACTIVATED |
+-----+-----+-----+-----+-----+-----+-----+
AMO-BCSU -111          BOARD CONFIGURATION, SWITCHING UNIT
DISPLAY COMPLETED;

```

Configuring IP attributes for the HG3550 board

Configure IP attributes for the HG3550 board using AMO **CGWB**.

```

ADD-CGWB:19,10,NORMAL,10.46.11.15,255.255.252.0;
CHANGE-
CGWB:CGW,19,10,GLOBIF,,,255,NO,0,10.46.10.1,,,60,0,0,0,4061,0.0.0.0,0.0.0.0,NO,0.0.0.
0,5060,5061;
CHANGE-CGWB:CGW,19,10,SERVIF,"TRM","HICOM";
CHANGE-CGWB:CGW,19,10,ASC,29100,30099,184,104,YES,YES,YES,YES,PRI01,G711U,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI02,G729A,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI03,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI04,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI05,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI06,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI07,G729AB,YES,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI08,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,ASC,,,,,,,,,PRI09,NONE,NO,20;
CHANGE-CGWB:CGW,19,10,MGNTDATA,,8000,,443,CLASSIC;
CHANGE-CGWB:CGW,19,10,DMCDATA,50,YES,NO;
CHANGE-CGWB:CGW,19,10,WBMDATA,"HP4K-DEVEL",,ENGR;
CHANGE-CGWB:CGW,19,10,WBMDATA,"HP4K-SU",,SU;
CHANGE-CGWB:CGW,19,10,WBMDATA,"HP4K-ADMIN",,ADMIN;
CHANGE-CGWB:CGW,19,10,WBMDATA,"HP4K-READER",,READONLY;
CHANGE-CGWB:CGW,19,10,GWDATA,"PRIMARYRASMANAGERID",;
CHANGE-CGWB:CGW,19,10,SIPTRERH,NO,,,;
CHANGE-CGWB:CGW,19,10,SIPTRSSA,NO,0.0.0.0,5060,5061,300,0.0.0.0,5060,5061;

```

```

CHANGE-CGWB:CGW,19,10,DLSDATA,,18443,NO;
CHANGE-CGWB:CGW,19,10,JB,40,120,20,4,60,200,2;
CHANGE-CGWB:CGW,19,10,IPCONF,IPV4,NO,NO;
CHANGE-CGWB:CGW,19,10,MANLANIF,0.0.0.0,0.0.0.0,NO,0,0.0.0.0;

```

Display CGWB:

```

DIS-CGWB:19,10;
H500: AMO CGWB STARTED

```

```

-----
|  CGW BOARD DATA                                     |
-----
|  HG3550                                              |
-----
|  LTU = 19      SLOT = 10      SMODE = NORMAL      POOLNO: 0      |
-----

```

GLOBAL DATA AND ETHERNET INTERFACE DATA - CONFIGURABLE VALUES:

```

-----
IPADR      = 10 .46 .11 .15      TCP      =      (4060)
NETMASK    = 255.255.252.0      VLAN      = NO      (NO)
DEFRT      = 10 .46 .10 .1      (0.0.0.0 = NOT CONFIGURED)
BITRATE    =      (CHECK OS)    VLANID   = 0      (0)
PATTERN    = 255 (213)          TLSP      = 4061   (4061)
TRPRSIP    = 60 (0)            TRPRH323  = 0      (0)
TRPRSIPQ   = 0 (0)            TPRH323A   = 0      (0)
DNSIPADR   = 0 .0 .0 .0        SIPTCPP    = 5060   (5060)
DNSIPADR2  = 0 .0 .0 .0        SIPTLSP    = 5061   (5061)
USEWANIF   = NO (NO)
WPUBIP     = 0 .0 .0 .0

```

GLOBAL DATA - CONSTANT VALUES:

```

-----
AMO INTERFACE VERSION: 0      OPMODE: 1      DATA_VALID: YES

```

SERVICE INTERFACE

```

-----
LOGINTRM   = "TRM" (TRM)
PASSW      = *****

```

ASC DATA - CONFIGURABLE VALUES:

```

-----
TOSPL      = 184 (184)      TOSSIGNL   = 104 (104)
UDPPRTLO   = 29100 (29100) UDPPRTHI    = 30099 (30099)
T38FAX     = YES (YES)     REDRFCTN   = YES (YES)
RFCFMOIP   = YES (NO)      RFCDTMF    = YES (YES)

PRI01 : CODEC = G711U      VAD = NO      RTP-SIZE = 20
PRI02 : CODEC = G729A      VAD = NO      RTP-SIZE = 20
PRI03 : CODEC = NONE       VAD = NO      RTP-SIZE = 20
PRI04 : CODEC = NONE       VAD = NO      RTP-SIZE = 20

```

PRI05 : CODEC = NONE VAD = NO RTP-SIZE = 20
PRI06 : CODEC = NONE VAD = NO RTP-SIZE = 20
PRI07 : CODEC = G729AB VAD = YES RTP-SIZE = 20
PRI08 : CODEC = NONE VAD = NO RTP-SIZE = 20
PRI09 : CODEC = NONE VAD = NO RTP-SIZE = 20

MANAGEMENT STATION AND BACK-UP SERVER

MGNTIP = (0.0.0.0)
MGNTPN = 8000 (8000)
BUSIP = (0.0.0.0)
BUSPN = 443 (443)
UIMODE = CLASSIC (CLASSIC)

DMC DATA

DMCCONN = 50 (0)
SMP = YES (YES)
SMP4OSV = NO (NO)

WBM LOGIN DATA

LOGINWBM = HP4K-DEVEL ROLE = ENGR (ADMIN)
LOGINWBM = HP4K-SU ROLE = SU (ADMIN)
LOGINWBM = HP4K-ADMIN ROLE = ADMIN (ADMIN)
LOGINWBM = HP4K-READER ROLE = READONLY (ADMIN)

GATEWAY DATA

GWID1 = PRIMARYRASMANAGERID
GWID2 =

LEGK DATA

GWNO = (0)
GWDIRNO =
REGEXTGK = NO (NO)

SIP TRUNKING DATA FOR ERH

GWAUTREQ = NO (NO)
GWSECRET = *****
GWUSERID =
GWREALM =

SIP TRUNKING DATA FOR SSA

```

-----
SIPREG      = NO      (NO)
REGIP1      = 0.0.0.0 (0.0.0.0)
PORTTCP1    = 5060 (5060)
PORTTLS1    = 5061 (5061)
REGIP2      = 0.0.0.0 (0.0.0.0)
PORTTCP2    = 5060 (5060)
PORTTLS2    = 5061 (5061)
REGTIME     = 300 (300)

```

DLS DATA

```

-----
DLSIPADR    =
DLSPORT     = 18443
DLSACPAS    = NO

```

JB DATA - CONFIGURABLE VALUES:

```

-----
JBMODE      = 2
AVGDLYV     = 40 (40)
MAXDLYV     = 120 (120) MINDLYV = 20 (20)
PACKLOSS    = 4 (4)
AVGDLYD     = 60 (60) MAXDLYD = 200 (200)

```

IP CONFIGURATION

```

-----
IPMODE      = IPV4 (IPV4)
DHCPV4      = NO (NO)
DHCPV6      = NO (NO)

```

MANAGEMENT LAN INTERFACE DATA - CONFIGURABLE VALUES:

```

-----
MIPADR      = 0 .0 .0 .0          MNETMASK = 0 .0 .0 .0
MVLAN       = NO (NO)            MVLANID  = 0 (0)
MDEFRT      = 0 .0 .0 .0          (0.0.0.0 = NOT CONFIGURED)

```

```

AMO-CGWB -111      CONFIGURATION OF HG3500 BOARD
DISPLAY COMPLETED;

```

Configuring the pilot number for MiCollab AM

Configure the pilot number for MiCollab AM using AMO **WABE**.

```

ADD-WABE:4648,,,TIE,N,,,,,,,,;

```

Display WABE:

DIS-WABE:GEN,4648;

H500: AMO WABE STARTED

DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS		
CODE		CALL PROGRESS STATE	NODE/DIGIT	RESERVED/CONVERT
		1 1111 11112 22	ANALYSIS	DNI/ADD-INFO/UFIP
		0 12345 67890 12345 67890 12	RESULT	*=OWN NODE
4648		. .**** *... ..*	TIE	

AMO-WABE -111 DIALLING PLANS, FEATURE ACCESS CODES

DISPLAY COMPLETED;

Configuring class of service for MiCollab AM

Configure the class of service for MiCollab AM using AMO **COSSU**

```
ADD-COSSU:,9,,,,,,,,,"SIP-AVST";
CHA-COSSU: COS,9,TA&TNOTCR&CDRATN&CDRS&CDRINT&MB&CFNR&TTT;
CHA-COSSU: COS,9,CFB&FWDECA&FWDEXT;
CHA-COSSU: COS,9,,NOCO&NOTIE;
CHA-COSSU: COS,9,,NOCO&NOTIE;
```

Display the COS:

DIS-COSSU: COS,9;

H500: AMO COSSU STARTED

+-----+-----+-----+-----+					
COS		VOICE		FAX	
+-----+-----+					
9		>SIP-AVST			
		TA		NOCO	
		TNOTCR		NOTIE	
		CDRATN			
		CDRS			
		CDRINT			
		MB			
		CFNR			
		TTT			
		CFB			
		FWDECA			
		FWDEXT			
+-----+-----+					

AMO-COSSU-111 CLASSES OF SERVICE

DISPLAY COMPLETED;

Configuring least call routing class of service voice for MiCollab AM

Configure least call routing class of service voice for MiCollab AM using AMO **LCOSV**.

```
CHA-COSSU:LCOSV,20,1&&64;  
CHA-COSSU:LCOSV,20,,,,,0;
```

Display the LCOSV:

```
DIS-COSSU:LCOSV,20;  
H500: AMO COSSU STARTED
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
|LCOS|                                     LAUTH                                     |COPIN|  
| V |           1           2           3           4           5           6           |   |  
|   | 1234567890123456789012345678901234567890123456789012345678901234 |   |  
|   | >SERVICE INFORMATION                                     |   |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
| 20|XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX| 0 |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

```
AMO-COSSU-111          CLASSES OF SERVICE  
DISPLAY COMPLETED;
```

Configuring class of parameters for MiCollab AM

Configure the class of parameters for MiCollab AM using AMO **COP**.

```
ADD-COP:10,IMEX,TA,TA;  
CHANGE-COP:10,COPADD,,,,INDEP,"SIP-AVST";
```

Display the COP:

```
DIS-COP:10;  
H500: AMO COP STARTED
```

```
COP: 10 INFO: SIP-AVST  
DEVICE: INDEP          SOURCE: DB  
PARAMETER:  
    CONVERSION IMPLICIT TO EXPLICIT NUMBER WITH DSS1          IMEX  
  
CO TRUNK ACCESS:  
    TRUNK ACCESS          TA  
  
TOLL ACCESS:  
    TRUNK ACCESS          TA
```

```
AMO-COP -111          CLASS OF PARAMETER FOR DEVICE HANDLER  
DISPLAY COMPLETED;
```

Configuring class of trunks for MiCollab AM

Configure the class of trunks for MiCollab AM using AMO **COT**.

```
ADD-
COT:10,PRI&RCL&XFER&ANS&CHRT&CEBC&BSHT&BLOC&LWNC&NLCR&TSCS&DFNN&NLRD&LINO&NOFT&AMFC&I
BBA&NOCT&NTON;
CHANGE-COT:10,COTADD,,INDEP,"AVST";

Display the COT:

DIS-COT:10;
H500:  AMO COT   STARTED

COT:  10  INFO: AVST
DEVICE: INDEP          SOURCE: DB
PARAMETER:
    PRIORITY FOR AC WILL BE DETERMINED FROM MESSAGE          PRI
    RECALL IF USER HANGS UP IN CONSULTATION CALL             RCL
    TRUNK CALL TRANSFER                                       XFER
    TRUNK SIGNALING ANSWER                                    ANS
    CHANGEOVER FROM HOLD TO RING TONE                         CHRT
    CALL EXTEND FOR BUSY, RING OR CALL STATE                  CEBC
    DON'T RELEASE CALL TO BUSY HUNT GROUP                     BSHT
    END-OF-DIAL FOR BLOCK IS SET                              BLOC
    SEND NO NODE NUMBER TO PARTNER                            LWNC
    INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR                  NLCR
    TSC-SIGNALING FOR NETWORKWIDE FEATURES (MANDATORY)       TSCS
    USE DEFAULT NODE NUMBER OF LINE                           DFNN
    INCOMING CIRCUIT FROM SYSTEM WITHOUT LCR (DATA)          NLRD
    LINE WITH IMPLICIT NUMBERS                                LINO
    NO FLAG TRACE                                              NOFT
    AUTOM.DTMF CONVERSION ON INCOM.CALL WHILE IN TALK STATE  AMFC
    SEND DIGITS VIA IN.BAND DTMF BEFORE ANSWER               IBBA
    NO OUTGOING CALLTRANSFER INFOS ( REMOTE HOLD/ECT)        NOCT
    NO TONE                                                    NTON

AMO-COT  -111          CLASS OF TRUNK FOR CALL PROCESSING
DISPLAY COMPLETED;
```

Configuring the call back feature

Configure the call back feature using AMO **RIGHT**.

```
ADD-RIGHT:PM,2,,,4648,"AVST",OTHER;

Display RIGHT:PM:

DIS-RIGHT:PM;
H500:  AMO RIGHT STARTED
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

IDX	SAN	NAME	TYPE
1	6002	XPRESSIONS	XPRESION
2	4648	AVST	OTHER

H23: SVC FAX IS NOT USED FOR RICHT BRANCH CD. VOICE IS USED
FOR G3 FAX AND DATA FOR G4 FAX.

AMO-RICHT-111 TRUNK ROUTING
DISPLAY COMPLETED;

Configuring trunk group for MiCollab AM

Configure trunk group for MiCollab AM using the AMO **BUEND**.

```
ADD-BUEND:10,"SIP-AVST          ",5,5,* ,1,ON,0,0,NEUTRAL;
```

Display the AVST trunk group:

```
DIS-BUEND:10,;
```

H500: AMO BUEND STARTED

```

+----- FORMAT = L -----+
| TGRP NUMBER :    10   TGRP NAME   : SIP-AVST           MAXIMUM NO.   :    5 |
|              CHARCON   : NEUTRAL                        |
| SUBGROUP NO.:     4   DEVICE TYPE : HG3550IP           TRACENO      :    5 |
| SEARCH MODE : CIRCULAR                        ACD THRESHOLD :    * |
| NUMBER OF ASSOCIATED ROUTES : 1                     PRIORITY     :    1 |
| TDDRFLAG    :    ON   TDDRTHRESHOLD: 1                 SOURCEGROUPIDX :    1 |
| GDTRRULE    :     0   ACDPMGRP   : 0                     |
| THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED: |
+-----+-----+-----+
| 1-19- 10-0          1 | 1-19- 10-0          2 | 1-19- 10-0          3 |
+-----+-----+-----+

```

AMO-BUEND-111 TRUNK GROUP
DISPLAY COMPLETED;

Configuring trunk for MiCollab AM

Configure trunk for MiCollab AM using AMO **TDCSU**

```
ADD-TDCSU:NEW,1-19-010-0,10,10,0,0,9,20,1,"AVST
",0,ECMAV2,8,,NONE,,,GDTR,N,TIE,NONE,N,0,,,,,10,MANY,10,0,1,1,EMPTY,10,5,N,,,,,16
,8,1,10,,EC&G711&G729AOPT,,10,CIR,Y,SECURE,0,60,60,HG3550IP,1&&3,N,1,,0,0,0,0,0,N,,NO
NE;
```

Display the AVST trunks:

DIS-TDCSU:1-19-10-0;

H500: AMO TDCSU STARTED

```
+-----+-----+-----+-----+
| DEV      = HG3550IP      PEN      = 1-19-010-0      TGRP      = 10      |
+-----+-----+-----+-----+
| PROTVAR  = ECMAV2        INS       = Y              SRCHMODE = CIR      |
| COTNO    = 10            COPNO    = 10              DPLN      = 0      |
| ITR      = 0             COS      = 9              LCOSV     = 20      |
| LCOSD    = 1            CCT       = AVST            DESTNO    = 0      |
| SEGMENT  = 8            DEDSCC    =                DEDSVC    = NONE     |
| FACILITY =              DITIDX    =                SRTIDX    =         |
| TRTBL    = GDTR          SIDANI    = N              ATNTYP    = TIE     |
| CBMATR   = NONE          NWMUXTIM = 10             TCHARG    = N      |
| SUPPRESS = 0            DGTPR     =                CHIMAP    = N      |
| ISDNIP   =              ISDNNP    =                PNPAC     =         |
| PNPL2P   =              PNPL1P    =                NNO       = 10      |
| TRACOUNT = 10            SATCOUNT = MANY           CARRIER  = 1      |
| ALARMNO  = 0            FIDX      = 1              FWDX      = 5      |
| ZONE     = EMPTY        COTX      = 10             TPROFNO  =         |
| DOMTYPE  =              DOMAINNO =                CCHDL     =         |
| INIGHT   =              UUSCCY    = 8              FNIDX     = 1      |
| UUSCCX   = 16           & G711    & G729AOPT        SRCGRP    = ( )     |
| CLASSMRK = EC           TCCID     =                SECLEVEL  = SECURE   |
| HMUSIC   = 0            CALLTIM   = 60             WARNTIM   = 60      |
+-----+-----+-----+-----+
| BCNEG    = N            BCGR      = 1              LWPAR     =         |
| LWPP     = 0            LWLT      = 0              LWPS      = 0      |
| LWR1     = 0            LWR2      = 0              GWPROT    = NONE     |
| DMCALLWD = N           |
| SVCDOM   =             |
| BCHAN    = 1 && 3       |
|          |             |
+-----+-----+-----+-----+
```

AMOUNT OF B-CHANNELS IN THIS DISPLAY-OUTPUT: 3

AMO-TDCSU-111 DIGITAL TRUNKS

DISPLAY COMPLETED;

Configuring trunk routing for MiCollab AM

Configure trunk routing for MiCollab AM using the AMO **RICHT**.

```
ADD-RICHT:LRTENEW,10,ALL,"AVST",10,10,YE,,FIX,,,PP80,NO,,10,,NO,NO,"SIP-
AVST",10,NEUTRAL,NO,NO,NO,NO,NO,NO,NO,NO;
```

Display RICHT:

```
DIS-RICHT:LRTE,10;
```

H500: AMO RICHT STARTED

```
+-----+
```

```

| LRTE = 10      NAME = AVST              (NEUTRAL)  LSVC = ALL      |
| DNNO =        10  PDNNO =              10  DESTNO = 10          |
| ROUTOPT = YES   REROUT = YES   PLB = NO    FWDBL = NO          |
| DTMFCNV = FIX   DTMFDSP = WITHOUT DTMFTEXT =                  |
| DTMFPULS = PP80 BUGS = LIN   ROUTATT = NO    MAINGRP =   13    |
| EMCYRTT = NO    CONFTONE = NO   RERINGRP = NO   RTENO =   13  |
| INFO = SIP-AVST                                     |
| NOPRCFWD = NO                                       |
| NITO = NO                                           |
| CLNAMEDL = NO                                       |
| FWDSWTCN = NO                                       |
| LINFEMER = NO                                       |
| NOINTRTE = NO                                       |
+-----+
| TGRP =   10  LDAT  SIP-AVST              (NEUTRAL)  SUBGROUP =   4  |
+-----+
H23:  SVC FAX IS NOT USED FOR RICHT BRANCH CD.  VOICE IS USED
      FOR G3 FAX AND DATA FOR G4 FAX.

AMO-RICHT-111      TRUNK ROUTING
DISPLAY COMPLETED;

```

Configuring LCR out-dial rule for the MiCollab AM route

Configure LCR out-dial rule for the MiCollab AM route using AMO **LODR**.

```

ADD-LODR:12,,,ECHO,1;
ADD-LODR:12,,,ECHOALL;
ADD-LODR:12,,,END;
ADD-LODR:12,,"AVST",;

```

Display the LODR:

```

DIS-LODR:12;
H500:  AMO LODR  STARTED

```

```

+-----+
|  ODR      POSITION  CMD      PARAMETER      |
+-----+
|   12      |      1   ECHO      1          |
|           |      2   ECHOALL          |
|           |      3   END              |
+-----+
| INFO:AVST                                     |
+-----+

```

H03: THE NEXT FREE ODR IS 13

```

AMO-LODR -111      ADMINISTRATION OF LCR OUTDIAL RULES
DISPLAY COMPLETED;

```

Configuring trunk least cost routing

Configure trunk least call routing using AMO **LDAT**.

```
ADD-LDAT:10,ALL,1,,10,12,1,,1,EMPTY,PUBNUM,25,4,,,,,,,,10,,,,;
```

Display LDAT for route 10:

```
DIS-LDAT:LCR,10;
```

```
H500: AMO LDAT STARTED
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| LROUTE = 10   LDPLN           NAME = AVST                               SERVICE = ALL |
| TYPE = LCR                                         DNNO OF ROUTE =      10   |
| SERVICE INFO = SIP-AVST                           |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|          |          |          |          | SCHEDULE | CARRIER |          |          |          |
| LRTEL | LVAL|TGRP | ODR|LAUTH| ABCDEFGH |          | ZONE|          | LDSRT|COTIDX |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|      1|      1|     10|    12|    1|  ***** |    1  | EMPTY|    PUBNUM |          |    10  |
|          | DNNO =           25                                     |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

```
AMO-LDAT -111          LCR-DIRECTIONS
```

```
DISPLAY COMPLETED;
```

Configuring LCR dialing plan for the MiCollab AM pilot number

Configure LCR dialing plan for the MiCollab AM pilot number using AMO **LDPLN**.

```
ADD-LDPLN:LCRPATT,0,4648,0&1&2&3&4&5&6&7&8&9&10&11&12&13&14&15,10,,,1,4,,,N;
```

Display LDPLN:

```
DIS-LDPLN:LDP,0,,4648;
```

```
H500: AMO LDPLN STARTED
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|          |          |          |          |          |          |          |          |          |
| DIPLNUM:   0|          |          |          |          |          |          |          |
| LDPNO   :28 | LDP   : 4648         |          |          |          |          |          |
|          | SPC   : 4           |          |          |          |          |          |
|          | FDSFIELD : 0   SDSFIELD : 0   PINDP : N         |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| DPLN | LROUTE| LAUTH |          |          |          |          |          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|  0  |    10 |    1  |          |          |          |          |          |
|  1  |    10 |    1  |          |          |          |          |          |
|  2  |    10 |    1  |          |          |          |          |          |
|  3  |    10 |    1  |          |          |          |          |          |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

	4		10		1	
	5		10		1	
	6		10		1	
	7		10		1	
	8		10		1	
	9		10		1	
	10		10		1	
	11		10		1	
	12		10		1	
	13		10		1	
	14		10		1	
	15		10		1	

+-----+-----+-----+-----+-----+

```
AMO-LDPLN-111      ADMINISTRATION LCR DIALPLAN
DISPLAY COMPLETED;
```

Programming subscriber stations

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

```
CHANGE-
TAPRO:, 69, CP600, , , , , , LINE, LINE, PHML, ACDLOG, ACDNAV, ACDWORK, ACDNAV, NAME, , , , , NAME,
NAME, NAME, NAME, NAME, NAME, NAME, NAME, NAME, "69-CP600";
CHANGE-TAPRO:, 69, OPTIA1, NAME, PU, NAME, NAME, NAME, NAME, NAME, NAME, NAME, NAME, LINE, NAME;
CHANGE-
TAPRO:, 69, OPTIA2, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACAN
T, VACANT, VACANT;
CHANGE-
TAPRO:, 69, OPTIA3, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACAN
T, VACANT, VACANT;
CHANGE-
TAPRO:, 69, OPTIA4, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACANT, VACAN
T, VACANT, VACANT;
CHANGE-TAPRO:4644, , STDDEV, , , , , , , MB;
```

Display the TAPRO:

```
DIS-TAPRO:STD, 69;
H500:  AMO TAPRO STARTED
```

STD	DIGTYP	"SERVICE INFORMATION"	KEY LAYOUT
69	CP600	"69-CP600	"
		1 SPKR-FIX	2 HS-FIX
		3 MUTE-FIX	4 FIX
		5 FIX	6 FIX
		7 CH-FIX	8 FIX
		9 LINE	10 LINE
		11 PHML	12 ACDLOG
		13 ACDNAV	14 ACDWORK
		15 ACDNAV	16 NAME
		17 FIX	18 FIX
		19 FWD-FIX	20 FIX
		21 FIX	22 FIX
		23 FIX	24 FIX
		25 NAME	26 NAME
		27 NAME	28 NAME
		29 NAME	30 NAME
		31 NAME	32 NAME


```
DIS-ZIEL:FWD,4644;
H500: AMO ZIEL STARTED
```

FWD

SOURCE	SERVICE	DTYPE	ITYPE	CFVAR	DESTINATION
4644	VCE	CFB	EXT	SYSTEM	4648
NAME :	VCE	CFB	INT	SYSTEM	4648
NAME :	VCE	CFNR	INT	SYSTEM	4648
NAME :	VCE	CFNR	EXT	SYSTEM	4648

```
AMO-ZIEL -111 DESTINATIONS FOR VARIOUS STATION FEATURES
DISPLAY COMPLETED;
```

Activating call forwarding for subscriber stations

Activate call forwarding for subscriber stations using AMO **ACTDA**.

```
ADD-ACTDA:STN,4644,FWD,SYSTEM,,,VCE;;
ADD-ACTDA:STN,4644,VCR;
```

Display ACTDA:

```
DIS-ACTDA:STN,4644;
H500: AMO ACTDA STARTED
```

STATION NUMBER 4644						
DIVERSION:						
DESTINATION NUMBER	CFVAR	DTYPE	ITYPE	SI		
4648	SYSTEM	CFB	INT	VCE		
4648	SYSTEM	CFB	EXT	VCE		
4648	SYSTEM	CFNR	INT	VCE		
4648	SYSTEM	CFNR	EXT	VCE		
DO NOT	VOICE CALL	RING	REP.	REMIND	RINGER-	CALL
DISTURB	REJECT	XFER	SECR.	HH:MM	CUTOFF	WAITING
	X					
VARIABLE RING TIME: 0						

```

| INDIVIDUAL TIMERS FOR CIRCUIT AND OSMO USERS
| FORWARD TO VOICE MAIL : 0
| CLIENT RING DURATION : 0
| DESK RING DURATION : 0
| CELL RING DURATION : 0
+-----+
| INDIVIDUAL SETTINGS FOR OPTISET AND OPTIPOINT500:
| RINGVOL : 4 RINGSOUN: 2 ALERTVOL: 2 CALLVOL: 1
| SPKRVOL : 4 ROOMCHAR: NORMAL DISPCONT: 2 ROLLVOL: 3
| SLKCONT : 2
+-----+

```

AMO-ACTDA-111 SUBSCRIBER FEATURES
DISPLAY COMPLETED;

Configuring the SIP trunk profile

To configure the SIP trunk profile, login into OpenScape 4000 Assistant and perform the following:

- 1 In the navigation menu, go to **Expert Mode > Gateway Dashboard**.

Assistant V10 Welcome to OpenScape 4000 Assistant **UNIFY**

User Info		License Management	
User name	enrg (enrg)	System number	L3191020314U
Client IP	10.6.74.115	Flex and TDM licenses	39 / 70
Last successful login	2022-02-24 12:13	SLES update protection	4 / 6
Last unsuccessful login	10.6.74.172	Update protection validity	until 2027-01-13
from		Advanced Locking ID	WM7J5-L5S#7C:49*RVFNIV
Number of failed attempts	0	Support contract	167 days

Status Board		Configuration Management	
System Time	2022-02-25 11:31 CST	Upload Status	SYNCHRONOUS
TimeZone and Synchronization Status	OK	Stations	SYNCHRONOUS
Platform Deployment HW	Simplex / ECOSERVER	LCR	SYNCHRONOUS
Last Data Backup	OK	System Data	SYNCHRONOUS
Last Logical Backup	OK	HIM Data	SYNCHRONOUS
APE Mode	Not configured in RMX	HIM SIVU	SYNCHRONOUS
APE Sync Status	Not configured in RMX	HIM ADP	SYNCHRONOUS

Component	System Start date/time	Version	Access (Use ComWin 5.0.127 or higher)
Assistant	2022-02-22 13:29	V10 R0 28.9	[File Transfer]
CSTA	2022-02-22 13:29	V10 R0 28.7	
Platform	2022-02-22 13:29	V10 R0 28.6	
RMX	2022-02-22 13:31	V10 R0 28.33	[ComWin] [File Transfer]
RMX Loadware		V10 R0 28.0*	
OpenScape SBC		0	[SBC]

Important Hints ⓘ

Copyright (C) 2020 Unify Software and Solutions GmbH & Co. KG 2020. All Rights Reserved.
Manufactured by Unify Software and Solutions GmbH & Co. KG

- Click on the **WBM** link for the HG3550 board for PEN number 1-19-10 in this example.

OpenScape 4000 Assistant V10
Expert Mode

Gateway Dashboard

PEN	Board Type	Functionality	IP Address	Board status	Secure mode	Remote access	Detail
AP 1-18 AP18 (002)							
<input type="checkbox"/> 1-18-1	STMIX	HG3550, HG3530, SIP	10.46.11.18	Ready	CLASSIC	[WBM-Hfal [WBM-sip] [SSH] [SETIP]	more
<input type="checkbox"/> 1-18-2	SLMO24			Ready			more
<input type="checkbox"/> 1-18-3	DIUT2-T1			Ready			more
<input type="checkbox"/> 1-18-6	NCUI4		10.46.11.25	Ready	CLASSIC	[WBM] [SSH]	more
<input type="checkbox"/> 1-18-7	STMIX	HG3550, HG3530, SIP	192.168.37.11	Ready	CLASSIC	[WBM-Hfal [WBM-sip] [SSH] [SETIP]	more
<input type="checkbox"/> 1-18-8	SLMA24			Ready			more
AP 1-19 AP19 (003) OS uptime: 0 days 23:27							
<input type="checkbox"/> 1-19-1	SLMAE8			Ready			more
<input type="checkbox"/> 1-19-6	Standalone SoftGate		10.46.11.27	Ready	CLASSIC	[WBM] [SSH] [SETIP]	more
<input type="checkbox"/> 1-19-7	vHG3500	SIP	10.46.11.28	Ready	CLASSIC	[WBM]	more
<input type="checkbox"/> 1-19-10	vHG3500	HG3550	10.46.11.15	Ready	CLASSIC	[WBM]	more
AP 1-20 AP20 (004)							
<input type="checkbox"/> 1-20-6	NCUI4		10.46.11.16	Ready	CLASSIC	[WBM] [SSH]	more
<input type="checkbox"/> 1-20-7	STMIX	SIP, HG3530	10.46.11.19	Not loaded	CLASSIC		more

Restart Select/deselect all boards The last update operation completed successfully
Maintenance Update Board List Last updated on: 24.02.2022 09:01
Security Change configuration

- To open the SIP trunk profile, go to **Configuration > Voice Gateway > SIP Trunk Group > NatTrkWithoutRegistration**, and then select **Display/Modify Profile Defaults** to edit settings.

Unify OpenScape 4000 vHG 3500

Configuration Maintenance Help Logout

Configuration

- Basic Settings
- Security
- Network & Routing
- Voice Gateway

- Genesys
- HL komm
- HiPath MobileConnect
- Huawei
- IP Austria
- InnoMedia ESBC
- KEVAG Telekom
- KPN VoipConnect
- MS Teams
- Magyar Telekom
- MediatrxGateway
- Microsoft-Lync
- Mobistar
- NatTrkEnterprise
- NatTrkWithRegistration
- NatTrkWithRegistrationMultiNum
- NatTrkWithoutRegistration**
- NatTrkWithoutRegistrationMultiNum
- NeoTel
- O2 Czech
- OpenScapeUC
- Orange
- PortaSIP
- Rete Telematica RTRT
- Russmedia IT
- SIPQTrkWithRegistration
- SIPQTrkWithoutRegistration
- Saudi Telecom Company
- Skype
- Skype for Business
- Sonera Business Voice Access
- Spectrum
- Sunrise
- Swisscom
- Swisscom E-SIP
- Salescom E-SIP BL O

Additional Mediasec Parameters Supported: Not supported

Registrar

Use Registrar: ☐

IP Address / Host name:

Specify Port: ☐

Reregistration Interval (sec):

Proxy

IP Address / Host name:

Specify Port: ☒

TCP/UDP Port:

TLS Port:

Outbound Proxy

Use Outbound Proxy: ☐

IP Address / Host name:

Specify Port: ☒

Port:

Inbound Proxy

Use Inbound Proxy: ☐

IP Address / Host name:

Specify Port: ☐

Miscellaneous (modified from default, but it is not possible to display which parameters were modified - Profile must be deactivated to modify further or reset defaults)

Display/Modify Profile Defaults

Apply Undo Delete

V10 R0 HP4K-DEVEL SoftGate-SIP 25.02.2022 11:57:05
1-19-10 pzksqw50.A9.111 AP19 2d 22h 41m

4 Configure the following options in the SIP Trunk profile:

Field	Value
IP Transport Protocol	Select TCP as the transport protocol.
IP Address/Host Name	Enter the IP address of the MiCollab AM server.
TCP/UDP Port	Enter the listen port configured on the MiCollab AM server.

NOTE: Make sure that you “Activate” this trunk profile. After doing so, view the list of available trunk profiles and ensure that “NatTrkWithoutRegistration” is marked active with a green dot.

The screenshot shows the 'SIP Trunk Profile' configuration page for the profile 'NatTrkWithoutRegistration' (marked as modified from default). The left sidebar lists various configuration categories, and the main area displays settings for Security, Registrar, Proxy, Outbound Proxy, and Inbound Proxy. Red boxes highlight the following fields:

- IP Transport Protocol:** Set to 'TCP' (used for O/G call establishment).
- Default PAI:** (for outgoing "Anonymous" and CLIP "default PAI" profiles).
- IP Address / Host name:** Set to '10.0.50.101'.
- TCP/UDP Port:** Set to '5060'.
- TLS Port:** Set to '0'.

Other visible settings include: Profile Name: NatTrkWithoutRegistration, User Notes: OpenText CKE Vocemail Integration, Activate Trunk Profile: [checked], Account/Authentication Required: [unchecked], Released Security Level: Signaling and Payload Security, TLS used: No, RTP Security Mode: Secure Payload (SDS) with fallback to insecure, Payload Encr. used: No, Additional Mediasac Parameters Supported: Not supported, Use Registrar: [unchecked], Specify Port: [unchecked], Reregistration Interval (sec): 120, Use Outbound Proxy: [unchecked], IP Address / Host name: 10.0.50.101, Specify Port: [checked], Port: 5060, Use Inbound Proxy: [unchecked], IP Address / Host name: [empty], Specify Port: [unchecked].

Programming the telephone system **31**

Configuring MiCollab AM

After the telephone system is programmed, you must configure MiCollab AM for the integration. There are two ways you can configure MiCollab AM:

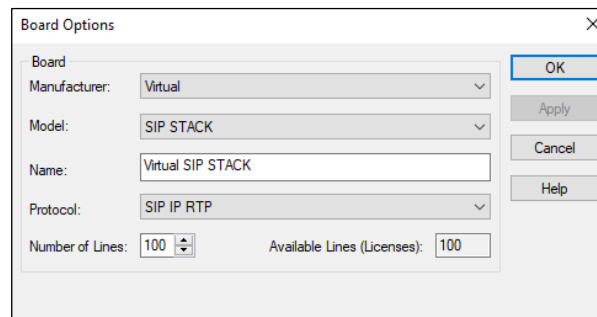
- [Configuring MiCollab AM for the integration during initial installation](#): Integrate the telephone system while you install MiCollab AM for the first time.
- [Configuring existing MiCollab AM for the integration](#): Integrate a new telephone system on your exiting MiCollab AM system.

NOTE For general information on integrations, see the **Integrating MiCollab AM with the Telephone System** chapter in the *System Installation and Configuration Guide*, and the **Integrating MiCollab AM with the Telephone System** topic 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 In the **Manufacturer** list, select **Siemens**.
 - d In the **Model** list, select **OpenScape Voice**.
 - e In the **Integration Type** list, select **SIP Trunk**.
- 2 Click **Next**. The **Board Options** dialog box appears.



- 3 In the **Board Options** dialog box, configure the following options:
 - a In the **Manufacturer** list, select **Virtual**.
 - b In the **Model** list, select **SIP STACK**.

- c In the **Name** field, the name for this board is automatically generated. Enter a new name if needed.
- d In the **Protocol** list, select **SIP IP RTP**.
- e In the **Number of Lines** field, enter the number of lines this board uses. The total number of lines is limited by the capacity of the board and the number of **Available Line Licenses**.

4 Click **OK**. The **Switch Options** dialog box appears.

Switch Options

Manufacturer: Siemens **OK**

Model: OpenScape Voice **Apply**

System Switch: - Create New - **Cancel**

System Switch Settings

Switch Name: Siemens OpenScape Voice

Transfer Support: ☒ Extension to Extension ☒ Trunk to Extension
☐ Extension to Trunk ☐ Trunk to Trunk

MWI Settings

Refresh Trigger: None Refresh Type: Set

Refresh Interval: 14400 Initialize Mode: None

Refresh Time of Day: 12:00 AM Set Preference: First

Inter-Switch Connectivity Group Assignments

Name	Type	Member
Incoming 1	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Incoming 2	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 1	Inter-Switch Outgoing Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 2	Inter-Switch Outgoing Uniform Numbering Plan	<input type="checkbox"/>

Local Switch Settings

View: All Settings **Set Defaults**

Name	Value
Disconnect Loop Current Length (ms)	750
Flash Hook Time (ms)	500
T1 Protocol	E&M
T1 Signaling	Wink

5 If needed, 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.

Name	Value
SIP Server Address	
SIP Server Port	5060
Transport for outgoing SIP messages	TCP
Local IP Address to bind on	- Please Select -
SIP Local Connection Port	5060
SIP parser qualifier string	

- 7 In the **Integration Options** dialog box, configure the following options:

- a In the **Local Integration Settings** section, from the **View** drop down list, select the **Required Parameters**. Then, configure the following options:

Table 4. Integrations Options-Required Parameters

Field	Value
SIP Server Address	Enter the OpenScape 4000 gateway IP address.
SIP Server Port	Enter the listen port configured on the OpenScape 4000 gateway. The default port number is 5060 .
Transport for outgoing SIP messages	Depending on the telephone system's configuration, enter UDP or TCP.
Local IP Address to bind on	Enter the IP address of the NIC on the MiCollab AM platform that connects to the OpenScape 4000 gateway.
SIP Local Connection Port	Enter the TCP port MiCollab AM listens for incoming SIP messages. The default port is 5060 .

Field	Value
SIP parser qualifier string	<p>In cases of a single SIP integration on the call server, enter the local IP address to which the integration is bound. This field is used by MiCollab AM to match SIP packets to the appropriate SIP integration.</p> <p>In cases where there are multiple SIP integrations on the call server, use a string that is unique to each SIP integration.</p> <p>For example:</p> <p>The extension that will be used as the hunt number on the PBX followed by the @ symbol and the IP of the call server, such as 5000@172.16.4.202. The hunt number must be unique across all IP integrations.</p> <p>The Fully Qualified Domain Name (FQDN) of the switch, such as pbx1.sipdomain.com.</p> <p>NOTE This setting must match a string in the SIP header that is unique to this particular integration.</p>

- b** In the **Local Integration Settings** section, from the **View** drop down list, select **Integration Specific Parameters**. Then, configure the following options:
- Set the **Type of Call Progress to use for External Calls** value. This setting depends on the gateway used for the integration.
 - **Digital**—Select **Digital** if the gateway supports call progress through to the endpoint.
 - **Media**—Select **Media** if the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing.
 - Select the **Populate User-Agent Header** box.

- 8 Click **OK**. The **Switch Section Options** dialog box appears.

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	

- 9 In the **Switch Section Options** dialog box, configure the following options:

- a In the **Local Integration Settings** section, in the **View** drop down list, select the **Required Parameters**.
- b For the **Incoming Hunt Mode** value, select the mode for this integration.

NOTE This integration supports **terminal**, **circular**, **reverse terminal**, and **reverse circular** hunt modes only.

- c In the **Hunt Group Access Code** field, enter the pilot number or destination code that users dial to reach MiCollab AM.
 - d Click **OK**.
- 10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box appears. Click **OK**.
- 11 If **MiCollab AM Configuration** does not open automatically after the configuration completes, open **MiCollab AM Configuration**, and select the **Lines** tab.
- 12 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 13 Click **OK** to save all changes.

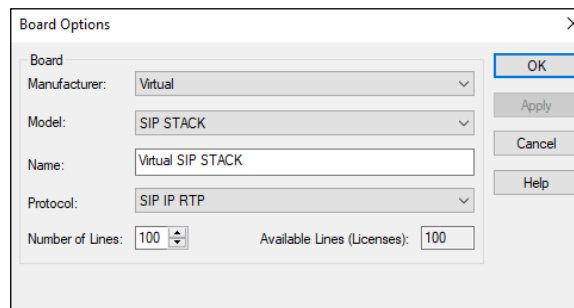
Configuring existing MiCollab AM for the integration

To configure existing MiCollab AM for the telephone integration:

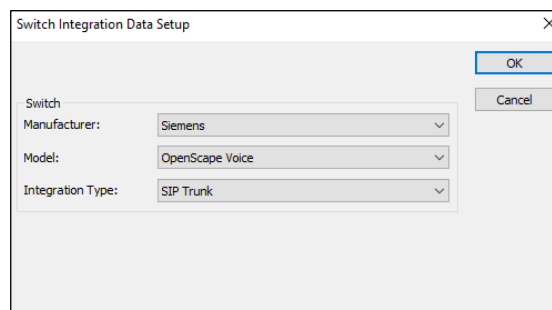
- 1 Open **MiCollab AM Configuration**, and go to the **Main** tab.
- 2 In the **Main** tab, click **Shutdown** to stop the system. Wait until the **Current Status** shows **Stopped**.

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.

The 'Board Options' dialog box is shown. It contains the following fields: 'Board' (set to 'Virtual'), 'Manufacturer' (set to 'Virtual'), 'Model' (set to 'SIP STACK'), 'Name' (set to 'Virtual SIP STACK'), 'Protocol' (set to 'SIP IP RTP'), 'Number of Lines' (set to '100'), and 'Available Lines (Licenses)' (set to '100'). On the right side, there are four buttons: 'OK', 'Apply', 'Cancel', and 'Help'.

- a In the **Manufacturer** list, select **Virtual**.
 - b In the **Model** list, select **SIP STACK**.
 - c In the **Name** field, the name for this board is automatically generated. Enter a new name if needed.
 - d In the **Protocol** list, select **SIP IP RTP**.
 - e In the **Number of Lines** field, enter the number of lines this board uses. The total number of lines is limited by the capacity of the board and the number of **Available Line Licenses**.
 - f Click **OK**.
- 4 Select the **Switches** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box appears.

The 'Switch Integration Data Setup' dialog box is shown. It contains the following fields: 'Switch' (set to 'Siemens'), 'Manufacturer' (set to 'Siemens'), 'Model' (set to 'OpenScope Voice'), and 'Integration Type' (set to 'SIP Trunk'). On the right side, there are two buttons: 'OK' and 'Cancel'.

- a In the **Manufacturer** list, select **Siemens**.
- b In the **Model** list, select **OpenScope Voice**.
- c In the **Integration Type** list, select **SIP Trunk**.

- 5 Click **OK**. The **Switch Options** dialog box appears.

Switch Options

Manufacturer: Siemens
Model: OpenScape Voice
System Switch: - Create New -

OK Apply Cancel Help

System Switch Settings

Switch Name: Siemens OpenScape Voice

Transfer Support: ☒ Extension to Extension ☒ Trunk to Extension
☐ Extension to Trunk ☐ Trunk to Trunk

MWI Settings

Refresh Trigger: None Refresh Type: Set
Refresh Interval: 14400 Initialize Mode: None
Refresh Time of Day: 12:00 AM Set Preference: First

Inter-Switch Connectivity Group Assignments

Name	Type	Member
Incoming 1	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Incoming 2	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 1	Inter-Switch Outgoing Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 2	Inter-Switch Outgoing Uniform Numbering Plan	<input type="checkbox"/>

Local Switch Settings

View: All Settings Set Defaults

Name	Value
Disconnect Loop Current Length (ms)	750
Flash Hook Time (ms)	500
T1 Protocol	E&M
T1 Signaling	Wink

- 6 If needed, 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 following options:

- a In the **Local Integration Settings** section, from the **View** list, select the **Required Parameters**. Then, configure the following options:

Table 5. Integrations Options-Required Parameters

Field	Value
SIP Server Address	Enter the OpenScape 4000 gateway IP address.
SIP Server Port	Enter the listen port configured on the OpenScape 4000 gateway. The default port number is 5060.
Transport for outgoing SIP messages	Depending on the telephone system's configuration, enter UDP or TCP.
Local IP Address to bind on	Enter the IP address of the NIC on the MiCollab AM platform that connects to the OpenScape 4000 gateway and the Siemens call server.
SIP Local Connection Port	Enter the TCP port MiCollab AM listens for incoming SIP messages. The default port is 5060.

Field	Value
SIP parser qualifier string	<p>In cases of a single SIP integration on the call server, enter the local IP address to which the integration is bound. This field is used by MiCollab AM to match SIP packets to the appropriate SIP integration.</p> <p>In cases where there are multiple SIP integrations on the call server, use a string that is unique to each SIP integration.</p> <p>For example:</p> <p>The extension that will be used as the hunt number on the PBX followed by the @ symbol and the IP of the call server, such as 5000@172.16.4.202. The hunt number must be unique across all IP integrations.</p> <p>The Fully Qualified Domain Name (FQDN) of the switch, such as pbx1.sipdomain.com.</p> <p>NOTE This setting must match a string in the SIP header that is unique to this particular integration.</p>

b In the **Local Integration Settings** section, from the **View** list, select the **Integration Specific Parameters**. Then, configure the following option:

- Set the **Type of Call Progress to use for External Calls** value. How this should be set depends on the gateway used for the integration as follows:
 - **Digital:** Select Digital if the gateway supports call progress through to the endpoint.
 - **Media:** Select Media if the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing.
- Select the **Populate User-Agent Header** box.

9 Click **OK**. The **Switch Section Options** dialog box appears.

10 In the **Switch Section Options** dialog box, configure the following options:

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	

a In the **Local Integration Settings** section, from the **View** list, select the **Required Parameters**.

b For the **Incoming Hunt Mode** value, select the mode for this integration.

NOTE This integration supports **terminal**, **circular**, **reverse terminal**, and **reverse circular** hunt modes only.

c In the **Hunt Group Access Code** field, type the pilot number or destination code that users dial to reach MiCollab AM.

d Click **OK**.

11 In **MiCollab AM Configuration**, verify that that the telephone system is properly added and configured in the **Switches**, **Switch Sections**, and **Integrations** tabs.

12 Select the **Lines** tab.

13 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.

14 Click **OK** to save all changes.

Configuring MiCollab AM for SIP failover

MiCollab AM can be configured for automatic failover to the secondary SIP server in the event of the primary/host SIP server failure. Use the instructions provided in this section to add or remove secondary SIP server(s) for failover.

To add a SIP failover server:

- 1 From **MiCollab AM Configuration**, click the **Integrations** tab.
- 2 From the **Integrations** list, select your integration, and then click **Edit**.
- 3 In the **Integration Options** dialog box, go to the **Local Integration Settings** section.
- 4 In the **View** list, select **Failover Server Settings**.
- 5 Click the **Add Failover Server** button. Two new rows are added to configure the secondary SIP server.
- 6 In the **Secondary SIP Server Address** and **Secondary SIP Server Port** rows, enter the appropriate value as follows:

Table 6. Secondary SIP Server Address and the Secondary SIP Server Port example

Field	Value
Secondary SIP Server Address	<p>Enter the TCP/IP address or an FQDN of the secondary node.</p> <p>For example: The IP address 123.45.6.789 as displayed on the Review/Modify SIP Gateway screen.</p> <p>NOTE This integration requires the machine name to be a fully qualified domain name. Therefore, use the Machine Name field as displayed on the Review/Modify SIP Gateway screen during the integration process.</p> <p>IMPORTANT This value must match the configuration on the Gateway of the secondary node.</p>
Secondary SIP Server Port	<p>Enter the port number of the secondary node. The default value is 5060.</p>

- 7 From the **View** list, select **Integration Specific Parameters**. The **Integration Specific Parameters** view appears.
- 8 In the **Integration Specific Parameters** list, enter the information as shown in the following table:

NOTE The parameters in the following table is listed in alphabetical order. The actual Integration Specific Parameters on your system might not be listed in the same order presented in the table below.

Table 7. Integration Specific Parameters

Field	Value
Enable SIP server failover	Select this check box to allow for failover and to enable the failover server setting changes.

Field	Value
Delay (in ms) between Failover attempts	The delay in milliseconds before MiCollab AM attempts to register its port with the SIP server. The default is 1000 ms.
Incoming off hook delay	800
Outgoing off hook delay	0
On hook delay	300
Type of Call Progress to use for External Calls	<p>How this should be set depends on the gateway used for the integration.</p> <ul style="list-style-type: none"> • If the gateway supports call progress through to the endpoint, set to Digital. • If the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing, set to Media.

- 9 Click **Apply** to save the changes.
- 10 To add another failover server, repeat **steps 4-9**.
- 11 Click **OK** to close the **Integration Options** dialog box.

To remove a SIP failover server:

- 1 From **MiCollab AM Configuration**, click the **Integrations** tab.
- 2 From the **Integrations** list, select your integration, and then click **Edit**.
- 3 In the **Integration Options** dialog box, go to the **Local Integration Settings** section.
- 4 From the **View** list, select **Failover Server Settings**.
- 5 In the **Failover Server Settings** view, click the **Remove Failover Server** button.
- 6 At the confirmation prompt, click **Yes** to confirm the deletion.

NOTE If multiple servers are listed, the last server address and port pair on the list is deleted first.

- 7 Click **Apply** to save the changes, and then click **OK** to close the **Integration Options** dialog box.

Changing the network binding order on the MiCollab AM platform

MiCollab AM uses the primary (public) network interface card (NIC) in the platform. It must be the first network connection in the network binding order. If your MiCollab AM server platform is a component of two or more local or wide area networks (LANs or WANs), you must make sure that this integration does not interfere with the normal network operation of the server.

NOTE The operating system gives precedence to the first network connection in the list followed by the remaining connections based on their position in the list.

The instructions in this section ensure that the binding order is correct when you set up the integration. If you replace a NIC on the MiCollab AM server platform later, the platform's operating system registers the new adapter at the bottom of its binding order. Restoring the original binding order should correct any problems caused by the change.

IMPORTANT The following procedure shifts the binding order of the network interface cards. To determine which NIC is associated with a specific network connection, right-click the connection in the **Network Connections** window, and then select **Properties**.

Windows server 2012 R2

To change the binding order of multiple NICs:

- 1 From the taskbar, go to **Start > Control Panel**.
- 2 In the **Control Panel**, click **Network and Internet > Network and Sharing Center**.
- 3 In the navigation pane, select **Change Adapter Settings**.
- 4 Press **Alt** to display the menu bar.
- 5 On the menu bar, select **Advanced**, and then click **Advanced Settings**.
- 6 On the **Adapters and Bindings** tab of **Advanced Settings**, click the network connection that serves MiCollab AM.
- 7 Click the up arrow button adjacent to the **Connections** list as needed to move the connection to the top of the list.
- 8 Click **OK**, and then close the **Network Connections** window and the **Control Panel**.

Windows server 2016 / 2019

To change the binding order of multiple NICs:

- 1 From the taskbar, go to **Start > Control Panel**.

- 2 In the **Control Panel**, click **Network and Internet** > **Network and Sharing Center**.
- 3 In the navigation pane, select **Change Adapter Settings**.
- 4 Right-click the network connection that serves MiCollab AM and then select **Properties**.
- 5 On the **Networking** tab of the **Local Area Connection Properties** dialog box, select **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
- 6 On the **General** tab of the **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box, click the **Advanced** button.
- 7 On the **IP Settings** tab of the **Advanced TCP/IP Settings** dialog box, clear the **Automatic metric** check box and then type in a low value in the **Interface metric** field. The lower the value, the higher the priority.

NOTE For all Windows systems, the value 1 is reserved for the loopback adapter. It is recommended to use a value of 2 or higher for the network connection that serves MiCollab AM.

- 8 Click **OK** on all of the dialog boxes to save the settings, and then close the **Local Area Connection Properties** dialog box.
- 9 Repeat **steps 4-8** to assign an Interface metric value to all other network adapters.

Configuring quality of service (QoS)

As of version 6.0, MiCollab AM has no internal support for QoS. QoS must be implemented externally via group policies as Policy-Based QoS. Refer to your operating system's documentation for details.

Table 8. QoS Configuration

Field	Setting
Application Name	At_TelephonyServer.exe
Protocol	Match the setting used for the integration UDP or TCP
Source Port	<p>MiCollab AM requires a range of ports for audio support. The MiCollab AM audio ports start at the Local Media Base UDP Port configured in the Server tab. Each MiCollab AM line reserves 10 ports. Hence, the port range starts from the number configured there, and goes to the last port of the last line. The formula for calculating the highest port number in the range is as follows:</p> $\text{BasePortNumber} + (\text{NumberOfCXPorts} * 10) - 1.$ <p>Hence, if the base port is 10000, and MiCollab AM has 8 lines, then the port range to use would be:</p> <p>10000:10079</p>
DSCP Value	46