

# MiCollab Advanced Messaging MiVoice Office 400 SIP Station Integration Technical Note

For version 6.1 and above

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# Preface

This Integration Technical Note (ITN) is written for dealers who are experienced with MiCollab Advanced Messaging (MiCollab AM) and who are familiar with its procedures and terminology. It also assumes that you are familiar with the features and functionality of MiVoice Office 400.

This document describes how to integrate MiCollab AM with a MiVoice Office 400 system using the Session Initiation Protocol (SIP) integration. The MiVoice Office 400 integration is a SIP Station 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.

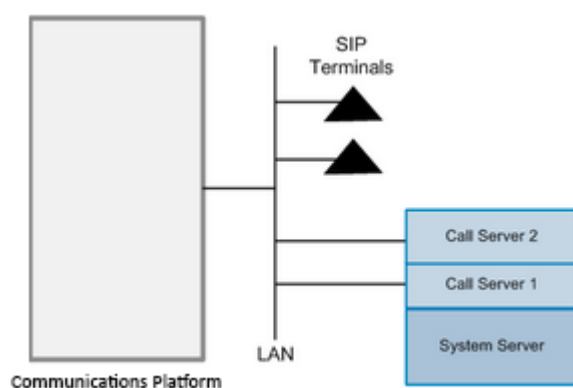


Figure 1. MiCollab AM Integration Diagram

MiCollab AM registers its SIP ports as terminals or endpoints. MiVoice Office 400 provides the hunting. MiVoice Office 400 routes all incoming calls for MiCollab AM to the hunt-group pilot number. MiCollab AM sets and clears message-waiting indicators (MWIs) by dialing PBX feature access codes on lines configured to do MWI callouts.

This ITN documents the procedures for setting up the MiVoice Office 400 integration. The process consists of programming MiVoice Office 400, installing MiCollab AM software, and configuring MiCollab AM. This document also describes the critical application considerations with which you should be familiar before you begin work on the integration.

Use this document in conjunction with *System Installation Guide* and *System Administration Guide* and the MiCollab AM online help system. For specific information about MiVoice Office 400 system, please refer to the *MiVoice Office 400* documentation

## 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.

## 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](http://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: Refer to *System Installation 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 MiVoice Office 400 SIP Station integration.

Table 1. 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
Do Not Disturb/Deflect/Reject	Yes

Table 2. Integration features supported for MiVoice Office 400 SIP Station

Feature	Supported	Notes
Automatic subscriber logon	Yes	
ANI/CLI	Yes	
<i>Announce Busy</i> greeting on forward busy calls	Yes	
Call screening	Yes	Note 1
Caller queuing	Yes	Note 2
DNIS	Yes	
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax 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	
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	No	Note 3
Transfers, confirmed	Yes	
Transfers, supervised	Yes	
Transfers, monitored	Yes	Note 3

Trunk ID for call routing	Yes	
Multiple Integrations	Yes	Note 4

#### NOTES

1. Available only when 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, refer to [Critical Application Considerations](#).
3. Refer to the Telephone System Considerations section of the Critical Application Considerations section.
4. See [Critical Application Considerations](#).



# Critical Application Considerations

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

- You must populate Line extension numbers on the Lines tab before starting MiCollab AM or the integration will fail. The extension numbers are registered as SIP stations with the IP PBX during system startup.
- You must configure the MiCollab AM Incoming Hunt Mode in the Switch Section Options dialog box. The hunt mode must match the type of hunting provided by the IP PBX. This helps to alleviate any *glare* conditions between the IP PBX and the Call Server. The default mode is Terminal.
- You must configure the Hunt Group Access Code in the Switch Section Options dialog box. This code cannot conflict with extensions. For example, you can use 6000 for the Hunt Group Access Code and start MiCollab AM extensions with 6001.
- The Windows quality of service (QoS) packet scheduler must be installed and operational on the network connection serving MiCollab AM and the telephone system. For more information about installing and configuring the QoS packet scheduler, refer to Windows Help.
- The primary (public) network interface card (NIC) must be the first network connection in the network binding order. On a MiCollab AM server with two or more NICs, the NIC that supports this integration must not occupy first place in the operating system's 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](#) later in this document.
- 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 SIP IP address in the Integration Options dialog box must match the SIP IP address configured in the telephone system.
- The Call Queuing feature does not transcend the Call Server. Calls may be queued on multiple Call Servers for the same subscriber but Call Servers do not have knowledge of calls in the queue on other Call Servers within the system. Callers may be prompted with specific information about their place in the queue; however, the information pertains only to the specific Call Server on which their call is queued.
- MiCollab AM 6.1 supports up to 10 integration types (i.e. 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 (e.g. 1 TDM and 2 SIP)

- Limited to 1 Mitel MiTAI or 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 the Mitel TSW IP integrations are incompatible with other SIP integrations. Thus, it is not possible to have a Mitel TSW IP integration with any other SIP integration on the Call Server.

## Telephone System Considerations

- Transfers to internal stations are disconnected on busy conditions if Call Forward Busy is not enabled.
- Transfers to external stations are disconnected on busy conditions
- MiVoice Office 400 Digital Set Restrictions
  - One call forwarding type can be active at a time. The call forwarding features on digital sets can be set to CFU (FWDALL), CFB (FWDBSY), or CFNR (FWDRNA), however only one forwarding type can be active at a time. Setting one forwarding type automatically clears any other forwarding type set previously.
  - Multi-hop CFNA and CFB forwarded calls from digital stations to MiCollab AM fail to reach MiCollab AM; the caller hears RNA or Busy. For example, digital set subscriber A forwards calls to digital station B, and station B is CFNA or CFB to MiCollab AM. If digital station C calls digital station A, the call is not forwarded, resulting in an RNA or Busy condition. In the same scenario, if digital station B is CFU to MiCollab AM, the caller is greeted with the correct messaging options and the envelope information is correct.
  - Subscribers or operators transferring callers to other subscribers whose stations are set to CFNA to MiCollab AM must remain on the line until MiCollab AM answers in order for the caller to hear the correct subscribers messaging options. Failure to do so results in the caller hearing the messaging options of the transferring party.
  - Blind transfers to CFNA stations fail, in that MiCollab AM answers with the answer mode greeting rather than the personal greeting of the called (target) party. For this reason, do not configure MiCollab AM to use blind transfers.

# 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

- MiVoice Office 415, MiVoice Office 430, or MiVoice Office 470 Communications Platform
- Software Release version 1.1
- One SIP Subscriber License for each integrated MiCollab AM port

You can find more information about these products in the MiVoice Office 400 documentation.

## MiCollab AM Requirements

- MiCollab AM software version 6.1 or later
- At least one 100 MB or 1000 MB network interface card and cable
- MiCollab AM software key diskette or feature file with the MiVoice Office 400 SIP integration enabled and one RADVISION® SIP and RTP license enabled for each port involved in the integration

# 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.

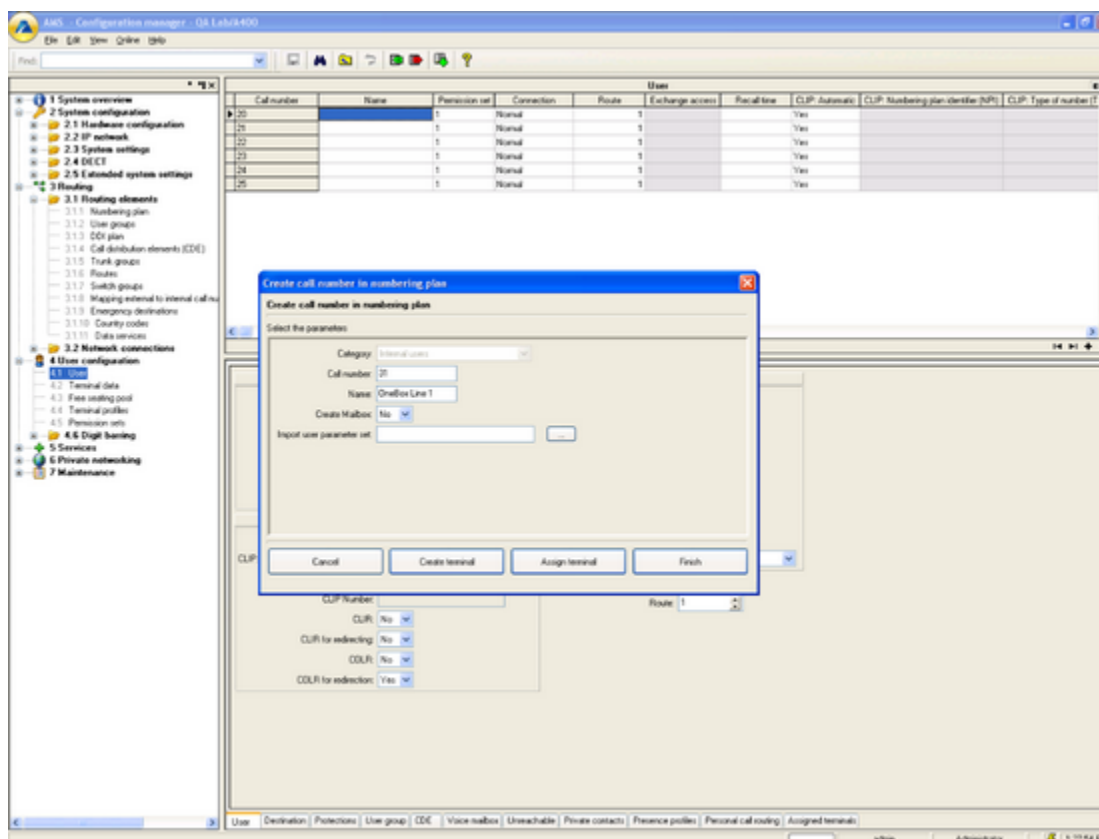
The installing technician should be familiar with programming the MiVoice Office 400 system. Refer to the *MiVoice Office 400* documentation or the online help for specific information on programming the telephone system.

## Creating Users and Terminals for the Integration

Add a new User and Terminal for each MiCollab AM SIP port. Start with Call number 31 (on MiVoice Office 430). The terminals easily created and configured during the user creation process.

To create users and terminals for the integration:

- 1 In the Configuration Manager, click **User Configuration**, and then click **Users**. The Select Parameters dialog box displays.



- 2 Type a description in the Name field.
- 3 Leave the Create Mailbox field set at **No**.
- 4 Click **Create Terminal**. The Create Terminal dialog box displays.

The screenshot shows a dialog box titled "Create call number in numbering plan" with a sub-tab "Create terminal". Under "Select the parameters", there are four fields: "Description" with the value "OneBox Line 1", "Terminal ID" with a dropdown showing "7", "Terminal interface" with a dropdown showing "Standard SIP", and "Import terminal parameter set" with an empty text box and a browse button "...". At the bottom are four buttons: "Cancel", "Back", "Next", and "Finish".

- 5 Select **Standard SIP** as the Terminal interface type, and then click **Next**.

The screenshot shows the same dialog box, but the "Terminal interface" dropdown is now set to "Standard SIP". The "Bandwidth area" dropdown is set to "Default Area". The "Import terminal profile parameter set" field is empty. The "Next" button is now highlighted, indicating it is the active step.

- 6 Leave the Bandwidth area set at Default Area.
- 7 Click **Finish**
- 8 Repeat steps one through seven for each MiCollab AM SIP port.

## Configuring the Voicemail User Group for the Integration

Configure the MiCollab AM SIP ports in the Voicemail User Group. Assign a SIP terminal and extension number for each MiCollab AM port in user group programming.

**NOTE** Use User Group 17 for the MiVoice Office 415 and MiVoice Office 430 and use User Group 25 for the MiVoice Office 470.

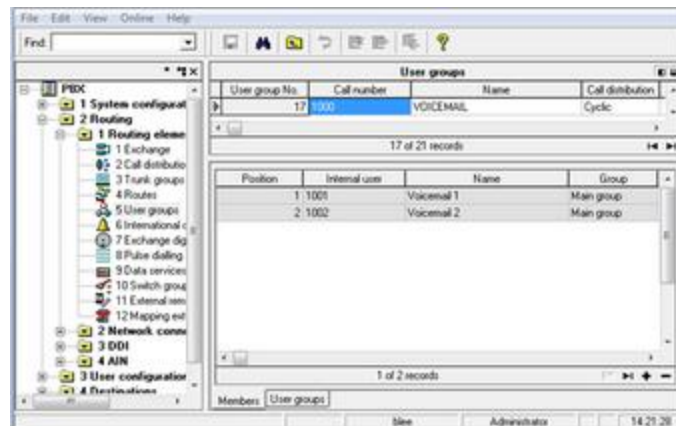


Figure 2. Voicemail User Group

## Assigning a Password to each MiCollab AM SIP Terminal

Assign the same password to each SIP terminal in Terminal Data programming. MiCollab AM uses one password for all of the SIP terminals.

**IMPORTANT** You must assign the same password to each MiCollab AM SIP Terminal or the integration will fail.

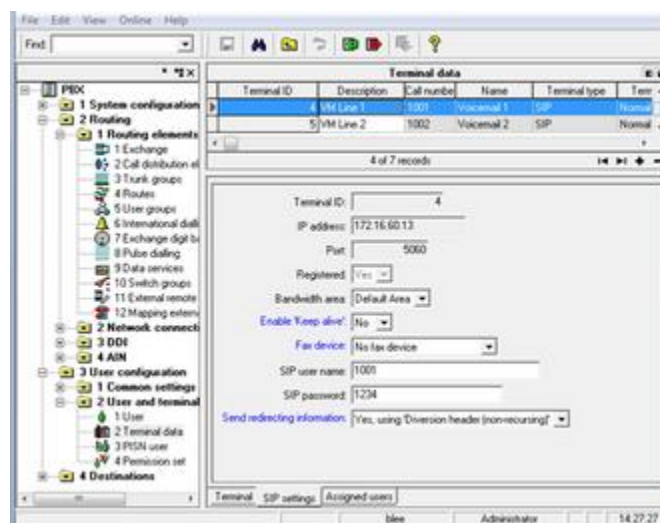


Figure 3. Terminal Data

# Configuring Call Distribution Elements

Depending on the Switch positions, when a DDI is set for different routing to MiCollab AM, the DDI CDE cannot be named and the Common settings of the CDE must be set as follows:

- Force showing DDI number=**No**
- Show forwarding information instead of CDE name=**Yes**
- Show CDE name at first position=**No**



Figure 4. Call Distribution Elements

# 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:

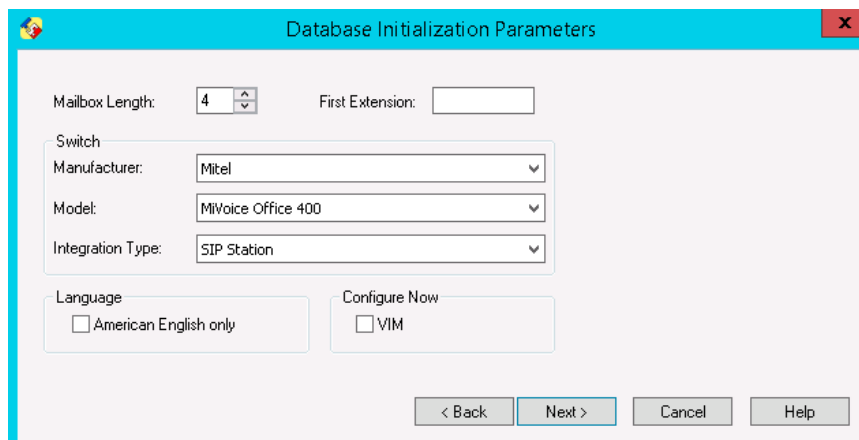
- [Configuring MiCollab AM for the Integration During Initial Installation](#): Integrate the telephone system while you install MiCollab AM for the first time.
- [Configuring Existing MiCollab AM for the Integration](#): Integrate a new telephone system on your existing MiCollab AM system.

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

## Configuring MiCollab AM for the Integration During Initial Installation

To configure MiCollab AM with the integration for the first time:

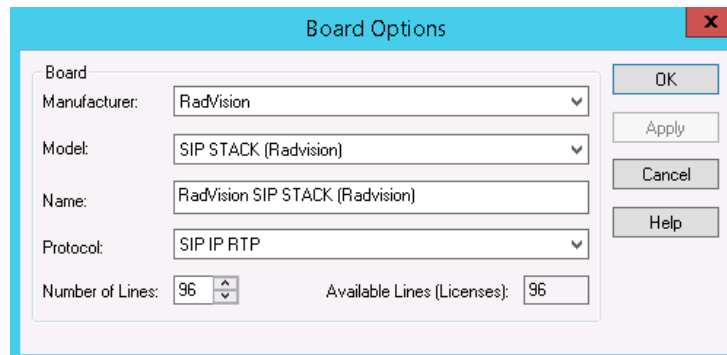
- 1 In the **Database Initialization Parameters** dialog box, configure the following options:



- 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 **Mitel**.



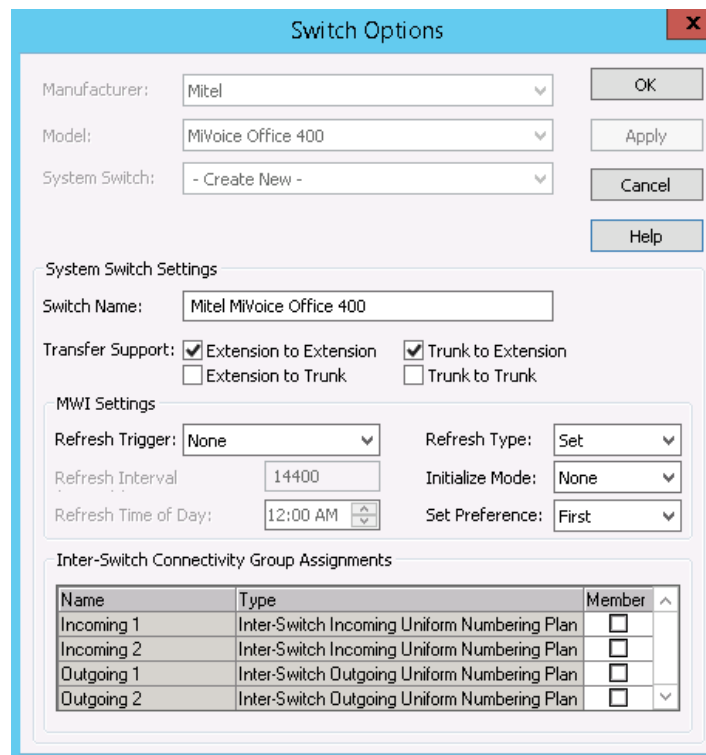
- d From the **Model** dropdown list, select **MiVoice Office 400**.
  - e From the **Integration Type** dropdown list, select **SIP Station**.
- 2 Click **Next**. The **Board Options** dialog box displays for the virtual board configuration.



The **Board Options** dialog box is shown with the following fields and values:

- Board** (Section Header)
- Manufacturer:** RadVision
- Model:** SIP STACK (Radvision)
- Name:** RadVision SIP STACK (Radvision)
- Protocol:** SIP IP RTP
- Number of Lines:** 96
- Available Lines (Licenses):** 96
- Buttons: OK, Apply, Cancel, Help

- 3 In the **Board Options** dialog box, configure the following options:
- a From the **Manufacturer** dropdown list, select **RadVision**.
  - b From the **Model** dropdown list, select **SIP STACK**.
  - c In the **Name** field, the name for this board is automatically generated. Enter a new name if necessary.
  - d From the **Protocol** dropdown 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 displays.



The **Switch Options** dialog box is shown with the following fields and values:

- Manufacturer:** Mitel
- Model:** MiVoice Office 400
- System Switch:** - Create New -
- Buttons: OK, Apply, Cancel, Help
- System Switch Settings** (Section Header)
  - Switch Name:** Mitel MiVoice Office 400
  - Transfer Support:**
    - ☒ Extension to Extension
    - ☒ Trunk to Extension
    - ☐ Extension to Trunk
    - ☐ Trunk to Trunk
  - MWI Settings** (Section Header)
    - Refresh Trigger:** None
    - Refresh Interval:** 14400
    - Refresh Time of Day:** 12:00 AM
    - Refresh Type:** Set
    - Initialize Mode:** None
    - Set Preference:** First
  - Inter-Switch Connectivity Group Assignments** (Section Header)
 

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"/>

- 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 guide, *System Installation Guide*.

- 6 Click **OK**. The **Integration Options** dialog box displays.

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

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

- a In the **Local Integration Settings** section, select the **Required Parameters** View and configure the following options:

Table 3. Required Parameter Settings – Integration Options

Field	Value
SIP Server Address	Enter the IP address of MiVoice Office 400.
	<b>IMPORTANT</b> This value must match the configuration of MiVoice Office 400.
SIP Server Port	Enter the port on which listens MiCollab AM for incoming SIP messages.
	The default value is <b>5060</b> .
	<b>IMPORTANT</b> This value must match the configuration of MiVoice Office 400.
Transport for outgoing SIP Messages	Select the transport protocol used for sending out SIP messages.
	The default value is <b>UDP</b> .

Local IP Address to bind on	Select the local IP address of the MiCollab AM server platform that communicates with MiVoice Office 400. The dropdown box displays all available local IP addresses.
SIP Local Connection Port	Enter the port MiCollab AM listens on for incoming SIP messages. The default value is <b>5060</b> .
SIP parser qualifier string	<ul style="list-style-type: none"> <li>• <b>Single SIP integration on the call server:</b> 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.</li> <li>• <b>Multiple SIP integrations on the call server:</b> Use a string that is unique to each SIP integration.</li> </ul> <p><b>For example:</b> The Fully Qualified Domain Name (FQDN) of the switch, such as <b>pbx1.sipdomain.com</b>.</p> <p><b>NOTE</b> This setting must match a string in the SIP header that is unique to this particular integration</p>
PBX Password	Enter the password programmed in the MiVoice Office 400 Terminal Data programming.
	<b>IMPORTANT</b> This password must match the password of all SIP terminals on MiVoice Office 400.
Registration Period in seconds	Enter the time in seconds, for the SIP port registration period. The default value is <b>800</b> .
Media packet size (milliseconds)	MiCollab AM sends/receives packets containing the number of milliseconds worth of audio data set here. The default value is <b>20</b> .

**b** In the **Local Integration Settings** section, select the **Integration Specific Parameters** View.

Name	Value
Base ASR Sensitivity (Internal)	5
Base ASR Sensitivity (External)	5
Use Single Channel on Blind Transfers	<input checked="" type="checkbox"/>
Use Single Channel for Monitor Transfers	<input checked="" type="checkbox"/>
Type of call progress to use for external calls	Digital
Enable SIP server failover	<input type="checkbox"/>
Delay (in MS) between Failover attempts	1000
Enable fallback to primary SIP server	<input type="checkbox"/>
Rehome to Primary server timer (in MS)	90000

- Find **Type of Call Progress to use for External Calls** and set the value as how the gateway is used for the integration.
  - **Digital:** Select if the gateway supports call progress through to the endpoint.

- **Media:** Select if the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing.

8 Click **OK**. The **Switch Section Options** dialog box displays.

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	

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

- In the **Local Switch Settings** section, select **Required Parameters** view.
- In the **Incoming Hunt Mode** field, select the mode appropriate for your configuration.
- In the **Hunt Group Access Code** field, type the pilot number or destination code that users dial to reach MiCollab AM.

**NOTE** Select the hunt mode that matches the hunt mode type in IP PBX programming.

- Click **OK**.

10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box displays. 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, enter the extension number of each integrated line on the Call Server.

**IMPORTANT** You must enter the PBX extension numbers that the Call Server is configured to answer or the integration will fail. The extension numbers are registered as SIP stations with the IP PBX during system startup.

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

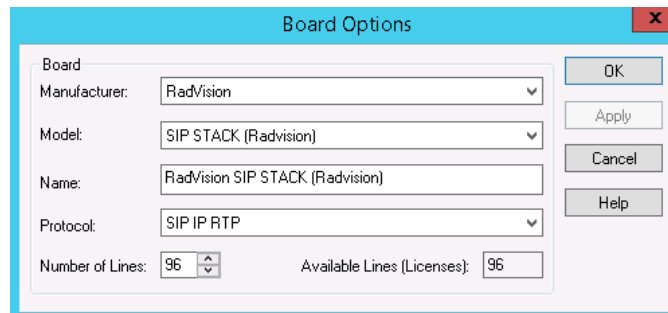
# Configuring Existing MiCollab AM for the Integration

To configure existing MiCollab AM for the telephone integration:

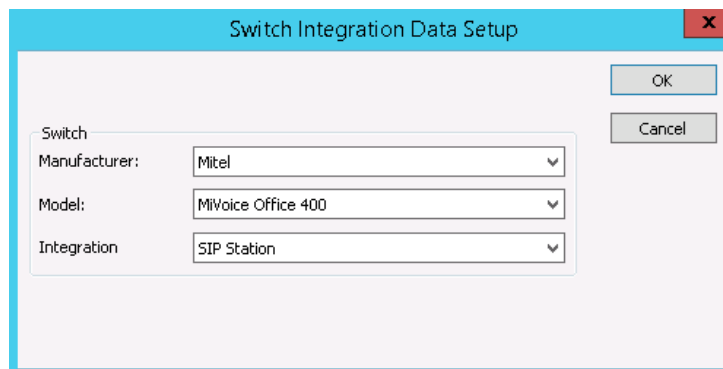
- 1 Open **MiCollab AM Configuration**, and go to the **Main** tab.
- 2 In the **Main** tab, click **Shutdown** to stop the system. Wait until the **Current Status** shows **Stopped**.

**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 **Board** tab, and then click the **Add** button. The **Board** dialog box displays.

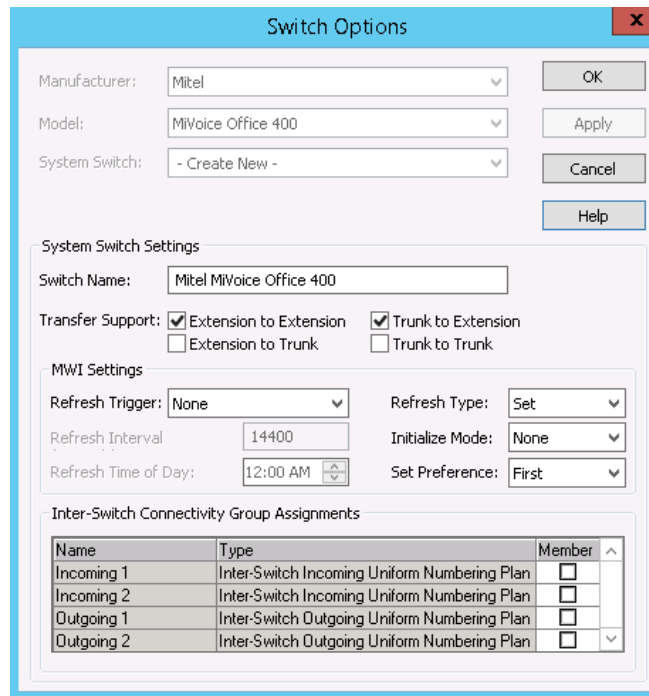
The 'Board Options' dialog box is shown with a light blue title bar and a red close button. It contains several fields: 'Manufacturer' (RadVision), 'Model' (SIP STACK (Radvision)), 'Name' (RadVision SIP STACK (Radvision)), 'Protocol' (SIP IP RTP), 'Number of Lines' (96), and 'Available Lines (Licenses)' (96). There are buttons for 'OK', 'Apply', 'Cancel', and 'Help' on the right side.

- a From the **Manufacturer** dropdown list, select **RadVision**.
  - b From the **Model** dropdown list, select **SIP STACK**.
  - c In the **Name** field, the name for this board is automatically generated. Enter a new name if necessary.
  - d From the **Protocol** dropdown 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 **Switch** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box displays.

The 'Switch Integration Data Setup' dialog box is shown with a light blue title bar and a red close button. It contains three dropdown fields: 'Manufacturer' (Mitel), 'Model' (MiVoice Office 400), and 'Integration' (SIP Station). There are buttons for 'OK' and 'Cancel' on the right side.

- a From the **Manufacturer** dropdown list, select **Mitel**.
- b From the **Model** dropdown list, select **MiVoice Office 400**.
- c From the **Integration Type** dropdown list, select **SIP Station**.

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



The **Switch Options** dialog box is shown. It contains the following fields and sections:

- Manufacturer:** Mitel (dropdown)
- Model:** MiVoice Office 400 (dropdown)
- System Switch:** - Create New - (dropdown)
- System Switch Settings:**
  - Switch Name:** Mitel MiVoice Office 400 (text field)
  - Transfer Support:**
    - ☒ Extension to Extension
    - ☒ Trunk to Extension
    - ☐ Extension to Trunk
    - ☐ Trunk to Trunk
- MWI Settings:**
  - Refresh Trigger:** None (dropdown)
  - Refresh Interval:** 14400 (text field)
  - Refresh Time of Day:** 12:00 AM (time picker)
  - Refresh Type:** Set (dropdown)
  - Initialize Mode:** None (dropdown)
  - Set Preference:** First (dropdown)
- Inter-Switch Connectivity Group Assignments:**

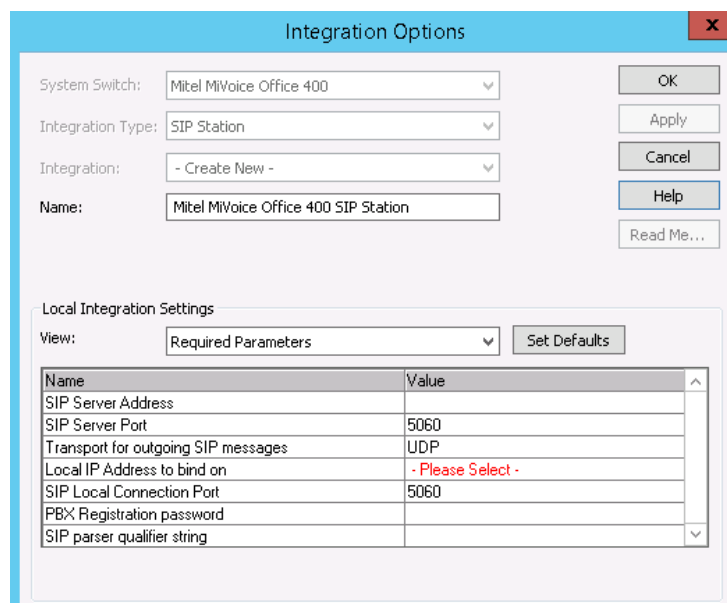
Name	Type	Member
Incoming 1	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Incoming 2	Inter-Switch Incoming Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 1	Inter-Switch Outgoing Uniform Numbering Plan	<input type="checkbox"/>
Outgoing 2	Inter-Switch Outgoing Uniform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

- 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 guide, *System Installation Guide*.

- 7 Click **OK**. The **Integration Options** dialog box displays.



The **Integration Options** dialog box is shown. It contains the following fields and sections:

- System Switch:** Mitel MiVoice Office 400 (dropdown)
- Integration Type:** SIP Station (dropdown)
- Integration:** - Create New - (dropdown)
- Name:** Mitel MiVoice Office 400 SIP Station (text field)
- Local Integration Settings:**
  - View:** Required Parameters (dropdown)
  - Set Defaults** (button)
  - | Name                                | Value             |
|-------------------------------------|-------------------|
| SIP Server Address                  |                   |
| SIP Server Port                     | 5060              |
| Transport for outgoing SIP messages | UDP               |
| Local IP Address to bind on         | - Please Select - |
| SIP Local Connection Port           | 5060              |
| PBX Registration password           |                   |
| SIP parser qualifier string         |                   |

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

- a In the **Local Integration Settings** section, select the **Required Parameters** View and configure the following options:

Table 4. Required Parameter Settings

Field	Value
SIP Server Address	Enter the IP address of MiVoice Office 400. <b>IMPORTANT</b> This value must match the configuration of MiVoice Office 400.
SIP Server Port	Enter the port on which listens MiCollab AM for incoming SIP messages. The default value is <b>5060</b> . <b>IMPORTANT</b> This value must match the configuration of MiVoice Office 400.
Transport for outgoing SIP Messages	A default value of UDP is pre-selected, Select <b>TCP</b> if your configuration requires TCP.
Local IP Address to bind on	Select the local IP address of the MiCollab AM server platform that communicates with MiVoice Office 400. The drop-down box displays all available local IP addresses.
SIP Local Connection Port	Enter the port MiCollab AM listens on for incoming SIP messages. The default value is <b>5060</b> .
SIP parser qualifier string	<ul style="list-style-type: none"><li>• <b>Single SIP integration on the call server:</b> 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.</li><li>• <b>Multiple SIP integrations on the call server:</b> Use a string that is unique to each SIP integration. <b>For example:</b> The Fully Qualified Domain Name (FQDN) of the switch, such as <b>pbx1.sipdomain.com</b>.</li></ul> <b>NOTE</b> This setting must match a string in the SIP header that is unique to this particular integration
PBX Password	Enter the password programmed in the MiVoice Office 400 Terminal Data programming. <b>IMPORTANT</b> This password must match the password of all SIP terminals on MiVoice Office 400.
Registration Period in seconds	Enter the time in seconds, for the SIP port registration period.

The default value is **800**.

Media packet size  
(milliseconds)

MiCollab AM sends/receives packets containing the number of  
milliseconds worth of audio data set here.

The default value is **20**.

- b** In the **Local Integration Settings** section, select the **Integration Specific Parameters** View.

Local Integration Settings

View: Integration Specific Parameters Set Defaults

Name	Value
Base ASR Sensitivity (Internal)	5
Base ASR Sensitivity (External)	5
Use Single Channel on Blind Transfers	<input checked="" type="checkbox"/>
Use Single Channel for Monitor Transfers	<input checked="" type="checkbox"/>
Type of call progress to use for external calls	Digital
Enable SIP server failover	<input type="checkbox"/>
Delay (in MS) between Failover attempts	1000
Enable fallback to primary SIP server	<input type="checkbox"/>
Rehome to Primary server timer (in MS)	90000

- Find **Type of Call Progress to use for External Calls** and set the value as how the gateway is used for the integration.
  - Digital**: Select if the gateway supports call progress through to the endpoint.
  - Media**: Select if the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing.

- 9** Click **OK**. The **Switch Section Options** dialog box displays.

Switch Section Options

Local Switch: Mitel MiVoice Office 400 OK

System Switch Section: - Create New - Apply

Cancel

Help

System Switch Section Settings

Name: Mitel MiVoice Office 400 Section

Node Code:

Location Code:

Location: Seattle

MWI Integration: Mitel MiVoice Office 400 SIP Station

Local Switch Section Settings

View: Required Parameters Set Defaults

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	

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

- a** In the **Local Switch Settings** section, select **Required Parameters** view.



- b** In the **Incoming Hunt Mode** field, select the mode appropriate for your configuration.
- c** In the **Hunt Group Access Code** field, type the pilot number or destination code that users dial to reach MiCollab AM.

**NOTE** Select the hunt mode that matches the hunt mode type in IP PBX programming.

- 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, enter the extension number of each integrated line on the Call Server.

**IMPORTANT** You must enter the PBX extension numbers that the Call Server is configured to answer or the integration will fail. The extension numbers are registered as SIP stations with the IP PBX during system startup.

- 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** From the **View** dropdown 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 5. Secondary SIP Server Address and the Secondary SIP Server Port example

Field	Value
Secondary SIP Server Address	Enter the TCP/IP address or an FQDN of the secondary node.  For example: The IP address 123.45.6.789 as displayed on the Review/Modify SIP Gateway screen.

**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.

**IMPORTANT** This value must match the configuration on the Gateway of the secondary node.

Secondary SIP Server Port	Enter the port number of the secondary node. The default value is <b>5060</b> .
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7 From the **View** dropdown list, select **Integration Specific Parameters**. The **Integration Specific Parameters** view displays.

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 may not be listed in the same order presented in the table below.

Table 6. 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.
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 <b>1000</b> ms.
Incoming off hook delay	800
Outgoing off hook delay	0
On hook delay	300
Type of Call Progress to use for External Calls	How this should be set depends on the gateway used for the integration. <ul style="list-style-type: none"><li>• If the gateway supports call progress through to the endpoint, set to <b>Digital</b>.</li><li>• If the gateway reports early that the call is connected, such as before the phone rings or while the phone is ringing, set to <b>Media</b>.</li></ul>

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** dropdown 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 2008 R2 with Service Pack 1

To change the binding order of multiple NICs:

- 1 From the taskbar, click **Start** > **Control Panel**.
- 2 In the **Control Panel**, click **Network and Sharing Center**.
- 3 On the left 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 to the right of the **Connections** list as many times 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 2012 R2

To change the binding order of multiple NICs:

- 1 From the taskbar, click **Start > Control Panel**.
- 2 In the **Control Panel**, click **Network and Sharing Center**.
- 3 On the left 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 to the right of the **Connections** list as many times 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**.

# Configuring Quality of Service (QoS)

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

Table 7. 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