

MiCollab Advanced Messaging Mitel TSW E1 CAS TCP/IP Integration Technical Note

For version 9.2 and above

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Contents

Preface	5
References	5
Documentation	5
Documentation Updates	6
Help	6
Document Conventions	6
Features Supported by this Integration	8
Critical Application Considerations	10
Installation Requirements	12
Telephone System Requirements	12
MiCollab AM Requirements	12
Programming the Telephone System	14
Initiating the Number Series for the CAS Extensions	14
Programming the Category for the CAS Extensions	14
Initiating the CAS Extensions	14
Initiating the Hunt Group	15
Initiating the NIU Port for Voice Mail	15
Initiating the NIU Port Information Computer Function	16
Initiating the NIU Port Voice Mail Function	16
Programming Message Waiting for Subscriber Telephones	17
Programming the Call Diversion for Subscriber Telephones	18
Completing the Mitel TSW Programming	18
Installing the Call Server Network Interface	19
Removing Previous Versions of Aculab Software	20
Un-installing Aculab version 5.x.x Software	20
Un-installing Aculab 6.x.x Software	20
Removing Previous Versions of Dialogic Software	22
Removing Dialogic Version SR 5.x.x Software	22
Removing Dialogic Version SR 6.x Software	24

Installing the Aculab, Dialogic and MiCollab AM software	25
About Aculab Cards	27
Installing the Aculab PCI Digital Access Card	27
Installing the Aculab Prosody X PCI or PCIe Card	27
Adding the Aculab Card to MiCollab AM	27
Configuring MiCollab AM	28
Configuring MiCollab AM for the Integration During Initial Installation	28
Configuring Existing MiCollab AM for the Integration	29
Adding the Aculab PCI and Dialogic Linecards to the Boards Tab	31
Adding the Aculab Prosody X PCI or PCIe Linecards to the Boards Tab	31
Changing the Network Binding Order on the MiCollab AM Platform	33
Windows Server 2012 R2	33
Windows Server 2016 / 2019	34

Preface

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

This document describes how to integrate MiCollab AM with a Mitel TSW system using an E1 CAS EL7 interface in conjunction with the Voice Mail TCP/IP integration, which is an outband TCP/IP integration.

The E1 CAS EL7 interface is a digital 2.048-MB 32-channel interface that can provide up to 30 channel associated signaling (CAS) voice mail ports to MiCollab AM per E1 link. The E1 CAS connection is established at the Call Server platform through an Aculab E1/T1 Digital Network Access card or an Aculab Prosody X E1/T1 telephony linecard.

The Aculab card is the interface between the E1 ports on the PBX and the Dialogic media linecards on the Call Server platform. Aculab Prosody X linecards do not require Dialogic linecards as a media interface. End-to-end DTMF and voice communications are performed through the E1 CAS link.

The Mitel TSW Voice Mail TCP/IP interface is an Ethernet LAN connection that uses the TCP/IP protocol to communicate between Mitel TSW and MiCollab AM. CAS channels are used to provide DTMF signaling and voice communication.

Calling-party and called-party information is sent to the Call Server as a TCP/IP packet over the LAN at the same time that a call is sent to a CAS channel.

The data is matched with the ringing extension and MiCollab AM answers with the appropriate dialog. Message-waiting indicator (MWI) operation is also performed via TCP/IP over the network connection.

Refer to the *Mitel Extra Facility Voice Mail, VM* description and the *Interworking Description, CAS extension, EL7 Interface to Voice Mail* system for complete details.

References

A catalog of technical documentation is included on the MiCollab AM Installation Media. If you are installing any advanced applications, such as Networking and Fax Server applications, you should refer to the appropriate technical documentation for application and installation information.

Documentation

The technical documentation is produced in the PDF format and requires the PDF reader to view it. The MiCollab AM Documentation Library includes the following documents and resources:

- **Administration Documentation.** Available as a PDF only. Contains the following:
 - **Administration Guides.** Available as a PDF only. Contains administrative guides for administrators about how to manage and configure the messaging system.

- **Quick Reference Cards (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
- **User Guides.** Available as a PDF only. Contains user guides for subscribers about accessing the messaging system and checking and sending messages.
- **Server Documentation.** Available as a PDF only. Contains the following:
 - **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.
 - **Installation and Configuration.** Available as a PDF only. Contains installation and configuration guides for server administrators about how to install and configure the messaging system.
 - **Integration Technical Notes (ITN).** Contains a set of guides that describe the integration methods and instructions for a variety of phone systems to work with MiCollab AM. The ITNs are generally used by resellers or administrators who are experienced with MiCollab AM and familiar with the integration procedures and terminology.
 - **Spare Parts Documentation.** Contains a set of guides that describe the instructions for installing and configuring hardware parts to work with MiCollab AM. These documents are written for Mitel-certified MiCollab AM technicians who are experienced with MiCollab AM and familiar with the procedures and terminology.
- **Software Release Notice (SRN).** This notice introduces the new features, capabilities, and hardware/software requirements for the corresponding MiCollab AM version.

Documentation Updates

Documentation updates may be available from the following sources:

- Mitel-certified technicians can view or download documents and program files from our partner web site: www.mitel.com

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** by clicking the **Help** button in the dialog box or window in which you are working.

Document Conventions

The following conventions are used in this document:

- **Key Names.** Names of keys on the keyboard are shown in a box.

Example: **Enter**

When two keys must be pressed simultaneously, they are joined by a + sign.

Example: **Alt + Tab**

- **Reference to Document** Titles of other documents are shown in italics.

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

- **User Interface (UI) Element Names.** Names of UI elements such as dialog boxes, windows, screens, menu items, tabs, buttons, and icons are shown in bold.

Example: On the **Startup** screen, click the **Start** icon.

- **User Input.** Information required to be typed is shown in italics.

Example: Type the password *voicemail*.

- **Warning, Caution, Important, and Notes.** Text for the contents that require attention are shown as follows:

WARNING A warning paragraph advises you of circumstances that can result in the loss of data, harm to the MiCollab AM System Server platform, or personal harm.

CAUTION Failure to follow these recommendations can result in unauthorized access to the system and consequent loss of data.

IMPORTANT An important paragraph gives decision-making information or informs you of the order in which tasks need to be completed.

NOTE A note gives additional information, provides an explanation, or indicates an exception to the information in the preceding text.

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

Table 1. References

Document Type	Document Title
Administration Documentation	<i>System Administration Guide</i>
Server Documentation	<i>System Installation and Configuration Guide</i>
Spare Parts Documentation	<i>Aculab PCI E1/T1 Digital Access Linecard Installation and Replacement</i>
Spare Parts Documentation	<i>Aculab Prosody X PCI Express (PCIe) Linecard Installation and Replacement</i>
Online help	MiCollab AM online help system

Features Supported by this Integration

The following tables list the features supported using a Mitel TSW CAS TCP/IP integration.

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

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

Table 3. Integration features supported for Mitel TSW E1 CAS TCP/IP

Feature	Supported	Notes
Automatic subscriber logon	Yes	
ANI/CLI	Yes	Note 1
<i>Announce Busy</i> greeting on forwarded calls	Yes	
Call screening	Yes	
Caller queuing	Yes	
DNIS	No	
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax Ports	Yes	Note 2
Internal calling party ID for reply	Yes	
Live record, integrated	No	Note 3
Live reply to sender	Yes	
Message notification callouts	Yes	
MWI, set/clear	Yes	

MWI, inband/outband	Outband	
Networking, analog	Yes	
Overflow from MiCollab AM to attendant	Yes	
Overflow to MiCollab AM from attendant	Yes	
PBX-provided disconnect signaling	Yes	
Revert to operator from personal greeting	Yes	
Transfers, blind	Yes	
Transfers, confirmed	Yes	
Transfers, fully supervised	Yes	
Transfers, monitored	Yes	
Trunk ID for call routing	No	
Multiple Integrations	Yes	Note 4

NOTES

1. Requires Mitel TSW software version BC10 or later
2. Requires separate analog fax cards
3. Third-party conferences are not allowed on an integrated VM port. To use this feature, you must have a separate non-integrated port.
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.

- The Mitel TSW voicemail port number of each CAS EL7 extension must be assigned correctly to each integrated MiCollab AM port. The integration cannot function if these entries are incorrect. The voicemail port numbers and format (POFMT) are programmable parameters and are defined during the initiation of the voice mail port of Mitel TSW.
- Program the instrument category (ICAT) of the CAS EL7 extensions that serve MiCollab AM for enhanced global tones and assign them as voice mail ports.
- Mitel TSW requires a static TCP/IP address and must be on the same subnet as the Call Server. It cannot be assigned a lease through a DHCP server. If the customer site is using a DHCP server, a reservation must be made for Mitel TSW.
- The Call Screening feature requires T-type supervised transfers. To use this feature without having to remove diversion programming from the subscriber telephone, set the traffic matrix (TCMAP) and TRAF parameter of the extension category to restrict voice mail ports from calling other voice mail ports.
- The use of traffic restricted voice mail ports is not compatible with blind transfers. Mitel recommends that you use the monitor transfer type unless the application requires a T-type supervised transfer.
- If the malicious call trace feature of Mitel TSW is enabled on the voice mail ports, no disconnect packet will be sent to MiCollab AM from the NIU port of Mitel TSW.
- When using reason code diversions from subscriber telephones, diverted calls always go to the common diversion position. If MiCollab AM is chosen as the common diversion position (CDCOI), calls are always diverted there, even if individual diversions (CDINI) have been programmed to divert calls elsewhere.
- The parameter, **Busy telephone line when closed** on the **Lines** tab of the MiCollab AM Configuration utility is not applicable to this integration.
- Non-numeric DTMF tones cannot be used as any character in a station number. The maximum length of a station number is six digits.
- The first Aculab PCI E1/T1 card is the master clock on the SCbus; it must be set as the Resolved Primary Master FRU of the Dialogic TDM bus in Dialogic Configuration Manager. For information about configuring the Aculab card, consult the *Aculab E1/T1 PCI Installation and Replacement* spare parts document.
- The Aculab card can only be restarted by restarting the Call Server. This may be required following a loss of synchronization or clock with the PBX over the E1 interface. Alternatively, synchronization problems with the CAS interface can be corrected at the PBX by blocking traffic to the E1 board, restarting the board, and then unblocking traffic.

- Aculab does not provide BNC connectors on their PCI type boards. These boards are supplied with RJ45 connectors only. An Aculab RJ45 to BNC converter may be used to convert the connection to BNC.
- The MiCollab AM parameter, **Phone Line Default audio format** in the **Integration Specific Parameters** view of this integration applies only to Aculab Prosody X linecards. The parameter has no effect on legacy Aculab PCI Digital Access linecards. To change the A-Law/mu-Law audio format of an Aculab High Capacity Digital Access PCI linecard you must change the value of the media card inside the Dialogic Configuration Manager utility.
- If the Call Server platform uses a network card that has checksum offload capabilities, you must disable checksum offload prior to starting the integration.
- 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. For more information, refer to [Changing the Network Binding Order on the MiCollab AM Platform](#).
- MiCollab AM 9.2 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 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

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

- Mitel TSW with system software version BC10/CNI 137 or later. The following version BC10 patches are required for ANI/CLI information to the GICI port: 86376, 86377, 86444, 93545, and 93856.
 - NIU port to provide the TCP/IP network connection. The TCP/IP address of this network interface port must be a static network address.
 - TSR 902 0240/XXXX cable for the network connection between the NIU board and the Ethernet network.
 - One TLU76/3 E1 CAS card, provides up to 30 CAS EL7 voice ports
 - TSR 902 0267/XXXX cable for the RJ45 high impedance connection between the TLU76/3 card and the E1 Aculab card
- Or
- TSR 901 0301/XXXX cable for the BNC low impedance connection between the TLU76/3 board on Mitel TSW and the E1 Aculab card.

NOTE You must use an Aculab BNC to RJ45 adapter when using a BNC cable.

MiCollab AM Requirements

- Properly configured system server platform running Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience)
 - MiCollab AM 9.2 – consult the Mitel web site for the current software patches and service pack information.
 - Mitel software key diskette or feature file with the Mitel TSW CAS TCP/IP integration enabled
 - One or more Aculab PCI Digital Network Access single-port, dual-port, or quad-port cards and one digital Dialogic port for each MiCollab AM voice port to be integrated
 - Use Dialogic D/160JCT-U or D/320JCT-U linecards.
- Or
- One or more Aculab Prosody X linecards with the number of ports configured for each E1 span the card is supporting.

- Uninterruptible power supply and surge protection device (recommended)

Programming the Telephone System

Follow the recommendations and programming examples in this section to program Mitel TSW for integration with MiCollab AM. Programming examples show commands and parameters of version BC10 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 software version or other Mitel TSW software versions, refer to the appropriate *ASB Basic Exchange and Extra Facility* documentation and the Mitel TSW OEM country-specific documentation.

Initiating the Number Series for the CAS Extensions

Initiate extension numbers in Number Analysis for the MiCollab AM extensions. Use **EX** as the NUMTYP. Choose directory numbers that are appropriate for your numbering plan.

For example:

```
NANSI:NUMSE=4001&&4030,NUMTYP=EX;
```

To verify your work, type the following command:

```
NADAP;
```

Programming the Category for the CAS Extensions

To program the category for the CAS Extensions:

- 1 Set the extension category code for the MiCollab AM ports. Use a separate category for the MiCollab AM ports.
- 2 Program the TRAF parameter of CAT so that MiCollab AM ports are not restricted from calling each other unless the application requires a specific restriction.

For example:

```
EXCAS:CAT=1,TRAF=03151515,SERV=02151207,CDIV=011151000,ADC=010000301;
```

To verify your work, type the following command:

```
EXCAP:CAT=1;
```

Initiating the CAS Extensions

Initiate the CAS EL7 extensions; assign the equipment, the category, and the instrument category. ICAT=0086 assigns enhanced global tones for call progress and enables the CAS ports as voice mail ports.

For example:

EXTEI:DIR=4001&&4015,EQU=2-1-30-01,TYPE=EL7,CAT=1,ICAT=0086;

EXTEI:DIR=4016&&4030,EQU=2-1-30-17,TYPE=EL7,CAT=1,ICAT=0086;

To verify your work, type the following command:

EXDDP:DIR=4001&&4030;

Initiating the Hunt Group

To initiate the Hunt Group:

- 1 Initiate a hunt group and assign the MiCollab AM extensions to the group. Specify the type as Longest Free Hunting and set queuing to 10. Define the SEL parameter to allow overflow diversion when all ports are busy, if desired.

For example:

GHGRI:GRP=4000,LIM=2,SERV=1000,TRAF=15,SEL=110,QUE=10;

To verify your work, type the following command:

GHDAP:GRP=4000;

- 2 Assign the MiCollab AM directory numbers to the hunt group.

For example:

GHGMI:GRP=4000,DIR=4001&&4030;

To verify your work, type the following command:

GHDAP:GRP=4000;

- 3 You may want to program the MiCollab AM ports to divert when they are unavailable. For instance, the following programming example would divert calls intended for MiCollab AM to the attendant, if all ports were busy or RNA.

For example:

CDINI:DIR=4000,DIV=00; (00=operator)

To verify your work, type the following command:

CDIDP:DIR=4000;

Initiating the NIU Port for Voice Mail

To initiate the NIU Port for Voice Mail:

- 1 Initiate the NIU board position (BPOS) for the network port. Name the NODE *VOICEMAIL*.

For example:

IOBPI:NODE= VOICEMAIL,BPOS=2-1-40;

To verify your work, type the following command:

IODDP;

- 2 Initiate the I/O Equipment Position for the network port. Assign a name to the I/O device, assign the TYPE as NETWORK and the USAGE as OUT.

For example:

```
IOEQI:IODEV= VOICEMAIL,EQU=2-1-40-4, TYPE=NETWORK,USAGE=OUT;
```

To verify your work, type the following command:

```
IODDP;
```

- 3 Initiate the I/O Network Connection. Assign the USER as GICI-1, the RPORT as 2555, and the TCP/IP address as pre-determined by the network system administrator.

For example:

```
IONCI:IODEV= VOICEMAIL,USER=GICI-1, RPORT=2555,IP=195.100.102.105;
```

To verify your work, type the following command:

```
IONCP;
```

Initiating the NIU Port Information Computer Function

To initiate the NIU Port information computer function:

- 1 Initiate the Information Computer Function for the Voice Mail port. Name the I/O device *VOICEMAIL* and specify the USER as **GICI-1**. Set the directory format length (DFMT) to match the directory number length of the extensions, set the update function (UPDFCN) to **YES**, and set the FILLER to **32**.

For example:

```
ICFUI:IFCIND=1,IODEV= VOICEMAIL,USER=GICI-1,
```

```
DFMT=4,UPDFCN=YES,FILLER=32;
```

To verify your work, type the following command:

```
ICFUP;
```

- 2 Initiate the Message Waiting data for the voice mail port. Define the system ID (SID) of the PBX, the DTXT, and group number (DIG) to be called when subscribers press the message-waiting button (MWC) to retrieve messages.

For example:

```
ICMWC:SID=01,DTXT=4000,DIG=4000,KFCN=MWC;
```

To verify your work, type the following command:

```
ICMWP:SID=01;
```

Initiating the NIU Port Voice Mail Function

To initiate the NIU Port Voice Mail Function:

- 1 Initiate the Voice Mail Function for the NIU port. Set the port format (POFMT) to 3. If ANI/CLI services will be used, set the Voice Mail Functionality (VMF) to EXTN3. If ANI/CLI services are not required, set VMF to EXTN2.

For example:

```
VMFUI:IFCIND=1,VMF=EXTN3,POFMT=3;
```

To verify your work, type the following command:

```
VMFUP;
```

- 2 Initiate the Voice Mail Port and identify the starting port number. Add the MiCollab AM directory numbers and the hunt group number to the Voice Mail Port.

For example:

```
VMPOI:IFCIND=1,DIR=4001&&4030,PORT=001;
```

```
VMPOI:IFCIND=1,GRP=4000;
```

To verify your work, type the following command:

```
VMPOP;
```

Programming Message Waiting for Subscriber Telephones

To program message waiting for subscriber telephones:

- 1 Digital subscriber telephones can have an MWI key assigned in addition to the *Message Waiting* display on their LCD telephones. Subscribers can press the lit MWI key to retrieve messages from MiCollab AM. Use the Key System Function Key Change command to assign an MWI key appearance on each subscriber telephone.

For example:

```
KSFKC:DIR=2001&&2299,KEY=2,FCN=MEW;
```

To verify your work, type the following command:

```
KSFKP:DIR=2001&&2299;
```

- 2 Analog subscriber telephones can receive a pling ring for MWI or a special dial tone. Use the ASPAC command to set either pling ring or special dial tone.

For example:

```
ASPAC:PARNUM=88,PARVAL=1;
```

(PARVAL=1 sets special dial tone, and PARVAL=0 sets pling ring.)

NOTE When PARVAL=0 the *Message Waiting* text message on digital set displays is not available.

- 3 Program the time interval between pling rings when pling is used for message notification. The following example sets the pling interval to fifteen minutes.

For example:

```
ASPAC:PARNUM=45,PARVAL=90
```

To verify your work, type the following command:
ASPAP:PARNUM=45;

Programming the Call Diversion for Subscriber Telephones

Assign the MiCollab AM hunt group as the diversion point for subscribers. Use the CDCOI command to create a common diversion to voice mail for subscribers or use the CDINI command to create individual diversions.

For example:

CDINI: DIR=2001&&2299, DIV=4000;

To verify your work, type the following command:

CDIDP:DIR=2001&&2299;

If call diversion is not programmed, subscribers must use the follow me feature to divert calls to MiCollab AM.

NOTE If MiCollab AM is chosen as the common diversion position (CDCOI), then ICS calls are always diverted to this position, even if CDINI has been programmed to divert calls elsewhere. In other words, reason code diversion always goes to the common diversion position. Refer to the VIM online book for more information on programming reason code diversions.

Completing the Mitel TSW Programming

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

Make sure that the following program units have been installed in Mitel TSW in accordance with the Line Interface Module (LIM) disposition table, as follows:

- DIR
- MWP
- DIM
- IHAH
- ILP
- IDP
- IHH

Installing the Call Server Network Interface

The Call Server's Ethernet network adapter card must be configured to use the TCP/IP protocol. Consult the site system administrator for specific information on how to configure the network environment for the Call Server platform. Refer to the Microsoft Windows documentation or online help system for information on installing network adapter cards and network protocols.

Once the Call Server's network environment is configured, and joined to the same network as Mitel TSW, verify that the Call Server can communicate with the PBX via TCP/IP using the Ping command. At the Call Server, open a command prompt window, and then type the Ping command followed by the TCP/IP address assigned to the PBX. If the TCP/IP protocol and network interface is properly configured, the PBX replies.

The following is an example of how to use the Ping command:

```
C:\>ping 195.100.102.105
Pinging 195.100.102.105 with 32 bytes of data:
Reply from 195.100.102.105: bytes=32 time<10ms TTL=128
Reply from 195.100.102.105: bytes=32 time<10ms TTL=128
Reply from 195.100.102.105: bytes=32 time<10ms TTL=128
```

Removing Previous Versions of Aculab Software

If you are upgrading an existing Aculab supported integration from a previous version of MiCollab AM, you must first un-install any previous version of the Aculab software from the system server before you install MiCollab AM version 5.0 SP1 software. If the MiCollab AM version 5.0 SP1 InstallShield Wizard detects an existing version of Aculab software during the setup process, the installation is aborted, and a message displays to advise that you must un-install all Aculab software before the installation can continue.

Un-installing Aculab version 5.x.x Software

Follow the procedures in this section to un-install Aculab software version 5.x.x. This Aculab software version installed with MiCollab AM versions prior to 5.0.

NOTE Aculab software version **5.xx** is referenced in MiCollab AM software versions prior to MiCollab AM version 5.0 as Aculab version **7.80.1**. The version numbers refer to the same Aculab software package.

To remove previous 5.x.x versions of Aculab software:

- 1 From the Start menu, point to **Settings**, and then click **Control Panel**.
- 2 Double-click **Add/Remove Programs**.
- 3 In the list of installed programs, select **Aculab Configuration Tool**, and then click Change/Remove.
- 4 In the **Confirm File Deletion** dialog box, click **Yes**.
- 5 Click **OK** when the un-install is complete.
- 6 Click **Close**, and then close the Control Panel window.
- 7 Manually delete any remaining Aculab folders, such as C:\Program Files\Aculab.

Un-installing Aculab 6.x.x Software

Follow the procedure in this section to un-install Aculab software version 6.x.x. This Aculab software version installed with MiCollab AM versions 5.0.

NOTE Aculab software version 6.xx is referenced in MiCollab AM software version 5.1 and later as Aculab version 8.20.0.1. The version numbers refer to the same Aculab software package.

To remove previous 6.x.x versions of Aculab software:

- 1 Start the MiCollab AM Configuration utility. The Main tab of MiCollab AM Configuration displays
- 2 On the Main tab, click **Shutdown**.
- 3 Go to **Start > All Programs > Dialogic System Software**, and then click **Configuration Manager – DCM**. The Configuration Manager appears.
- 4 On the toolbar, click the red **Stop** icon button to stop the service.
- 5 Close the Dialogic Configuration Manager.
- 6 Go to **Start > My Computer**, and then double-click **Local Disk C**. The root folders display.
- 7 Double-click the C:\Program Files\AculabInstaller folder. The folder contents display.
- 8 Double-click the Aculab file **AIT_GUI.exe**. The Aculab Installation Tool appears.
- 9 If you are prompted to enter a User Name and Password, click **Cancel**.
- 10 From the menu bar select **File**, and then select **Open Package**. The **AIT Open Package** dialog box appears.
- 11 In the **AIT Open Package** dialog box, highlight the listed package, and then click **Open**. The Aculab Installation Tool appears.
- 12 If necessary, in the **Installation Path** dialog box, click **OK** to accept the default location.
- 13 In the right-hand pane, right-click the **Package Tag Component, Included Components**, and then select, **Uninstall**.
- 14 When the un-install process completes, close the Aculab Installation Tool.
- 15 Manually delete any remaining Aculab and AculabInstaller folders, from the disk.
- 16 Restart the platform.

Removing Previous Versions of Dialogic Software

If you are upgrading from a previous version of MiCollab AM, and the Call Server is purposing Dialogic D/160 or D/320 linecards with Aculab PCI E1/T1 linecards, or a Dialogic linecard for another integration, you must first un-install any previous version of the Dialogic software from the system server before you install MiCollab AM version 9.2 software. If the MiCollab AM version 9.2 InstallShield Wizard detects an existing version of Dialogic software during the setup process, the installation is aborted, and a message displays to advise that you must un-install all Dialogic software before the installation can continue.

IMPORTANT

1. If you are removing Dialogic software with the intention of removing it from the system permanently after you have installed MiCollab AM version 9.2 software, you must re-install the MiCollab AM version 9.2 software after the Dialogic software has been un-installed and the server has been restarted. For example, if you are replacing Aculab PCI linecards with Aculab Prosidy linecards, the Call Server does not require Dialogic linecards or software.
2. To maintain the integrity of your MiCollab AM system, complete the procedures in this section in the order given.

Removing Dialogic Version SR 5.x.x Software

Follow the procedures in this section to un-install Dialogic software version SR 5.xx. This version of Aculab software installed with MiCollab AM in versions prior to version 5.0.

To remove Dialogic SR 5.x.x point releases from the system server platform:

- 1 Start the system server platform and log on to Windows with an account that has local Administrator privileges on the platform.
- 2 Shut down all running programs.
- 3 From the Start menu, go to **Programs > Dialogic System Software**, and then click **Dialogic Configuration Manager – DCM**.
- 4 If the Dialogic System Service is running, click the red **Stop** icon on the toolbar, and then wait for the service to stop.
- 5 Close the **Dialogic Configuration Manager (DCM)**.
- 6 From the Start menu, select **Settings**, and then click **Control Panel**.
- 7 In the Control Panel window, double-click **Add/Remove Programs**.

IMPORTANT In the next step, find, and then select any item labeled Dialogic Service Applications, not the Dialogic Service Application.

- 8 In the list of currently installed programs within the Add/Remove Programs dialog box, locate the entry labeled **Dialogic Service Applications** and select it.

Table 4. Dialogic Service Application options

If there is...	Then...
An entry labeled Dialogic Service Applications	Continue with step 9.
No entry labeled Dialogic Service Applications	Skip to step 17.

- 9 After the Dialogic Service Applications entry has expanded, click **Change/Remove**.
- 10 On the **Welcome** dialog box, select **Remove**, and then click **Next**.
- 11 On the **Confirm Uninstall** dialog box, click **OK**.
- 12 If you are prompted to delete or retain any shared or read-only files, delete them. Alternately, if a file is reported as being locked, click **Reboot** to remove the file the next time you restart the platform.
- 13 On the **Maintenance Complete** dialog box, select **Yes, I want to restart my computer now**, and then click **Finish**.
- 14 After the platform restarts go to, **Start > Settings**, and then click **Control Panel**.
- 15 In the Control Panel window, double-click **Add/Remove Programs**.
- 16 If there more **Dialogic Service Applications** display, repeat steps 9-15 until all Dialogic Service Applications are un-installed.
- 17 In the list of currently installed programs within the Add/Remove Programs dialog box, locate and select the entry labeled **Dialogic Service Application**.
- 18 After the Dialogic Service Application entry has expanded, click **Change/Remove**.
- 19 On the **Confirm Un-install** dialog box, click **OK**.
- 20 If you are prompted to delete or retain any shared or read-only files, delete them. Alternately, if a file is reported as being locked, click **Reboot** to remove the file the next time you restart the platform.
- 21 On the **Maintenance Complete** dialog box, select **Yes, I want to restart my computer now**, and then click **Finish**.

To remove Dialogic System Software 5.x.x from the system server platform:

- 1 From the Start menu, select **Settings**, and then click **Control Panel**.
- 2 In the Control Panel window, double-click **Add/Remove Programs**.

- 3 In the list of installed programs within the **Add/Remove Programs** dialog box, locate the entry labeled **Dialogic System Software** and select it.
- 4 After the Dialogic System Software entry has expanded, click **Change/Remove**.
- 5 On the **Uninstall** dialog box, click **Yes**.
- 6 On the second **Uninstall** dialog box, click **OK**.

IMPORTANT If the uninstall program displays a warning about deleting the shared file *Ctl3d32.dll*, click **No** to prevent its deletion. It is safe to delete all other shared files.

- 7 When the **Remove Programs from Your Computer** dialog box prompts you that installation is complete, click **OK**.
- 8 When prompted to restart the platform, click **Yes**.
- 9 After the platform restarts and you have logged on, right-click the **My Computer** icon and select **Explore**.
- 10 From the C:\Program Files directory, delete the Dialogic folder and its contents.
- 11 Restart the computer.

Removing Dialogic Version SR 6.x Software

Follow the procedures in this section to un-install Dialogic software versions SR 6.0 SU190 or SR6.0 SU241. These versions of Dialogic software installed with MiCollab AM versions 5.0 and 5.0, respectively.

To remove Dialogic System Release 6.x.x:

- 1 Start the system server platform and log on to Windows with an account that has local Administrator privileges on the platform.
- 2 Shut down all running programs.
- 3 From the Start menu, go to **Programs > Dialogic System Software**, and then click **Dialogic Configuration Manager – DCM**.
- 4 If the Dialogic System Service is running, click the red **Stop** icon on the toolbar, and then wait for the Service to stop.
- 5 Close the **Dialogic Configuration Manager (DCM)**.
- 6 From the Start menu, point to **Settings**, and then click **Control Panel**.
- 7 Double-click **Add/Remove Programs**.
- 8 Select **Dialogic System Release 6.0 PCI Redistributable Edition**, and then click **Remove**.
- 9 To confirm the software removal, click **OK**.
- 10 Select **Yes, I want to restart my computer now** and click **Finish**. Once the server restarts the clean-up utility removes any remaining Dialogic components automatically.

NOTE If the Windows Found New Hardware wizard appears, click **Cancel**.

Installing the Aculab, Dialogic and MiCollab AM software

The Aculab and Dialogic software components are installed in conjunction with the MiCollab AM version 5.0 SP1 software when you select the components as part of the installation package. If you have previously installed MiCollab AM version 5.0 SP1 software you must re-install it to install the Aculab and Dialogic software. Be sure to exit any running Windows programs before starting the Setup program. Refer to the *Install Guide for MiCollab AM version 5.0* for more information on preparing the server for MiCollab AM and installing MiCollab AM software.

IMPORTANT You must remove previous versions of the Dialogic system software, the Aculab driver software, and the Avaya/Nortel BCM enabling software before starting the MiCollab AM version 9.2, Aculab, and Dialogic installation process. If you do not remove these items, the Setup program will require you to do so before proceeding with the installation. When removing previous software versions, you must restart your server before you begin installing MiCollab AM. Failure to do so can result in errors with the installation process.

To start the setup wizard for the MiCollab AM Server Software installation:

- 1 Log on to the platform using a Windows Administrator account.

IMPORTANT If you are installing MiCollab AM Unified Messaging, log on using the Unified Messaging account instead. For more information on Unified Messaging administrative accounts, see the Unified Messaging online book for the type of Unified Messaging you are using.

- 2 Shut down all running programs.
- 3 Insert the MiCollab AM Installation Media into the appropriate drive.
- 4 Do one of the following.

Table 5. Installation Options

If autorun is...	Then
Enabled	The MiCollab AM Installation Media version 9.2 appears. In the Mitel MiCollab AM Installation Media Components area, click MiCollab AM Server , and then skip to Step 6
Not Enabled	On the taskbar select Start > Run > Browse , and then continue to step 5.

- 5 Locate and open the Server Installs\Telephony Server folder, double-click **start**, and then click **OK**. The MiCollab AM Installation Media main window appears.
- 6 Click **MiCollab AM Server** in the Server components submenu. The Welcome page appears.
- 7 In the **Welcome** page, click **Next** to continue.
- 8 Click **Yes** to accept the License Agreement. If you have not installed the MiCollab AM Speech and TTS Support components, a warning appears.

IMPORTANT You must read and accept the terms of the license agreement to continue with Setup.

- 9 If you are installing ASR (Automatic Speech Recognition), the MiCollab AM TTS and Speech software must be installed before you can install MiCollab AM Server version 9.2 software. If the **Required software not found** dialog box displays, click **Cancel** to exit the installation, and then refer to the section, *Installing TTS and Speech Software*, of the *Install Guide* to learn how to install these components.
- 10 Click **Next** to continue with the next step in the installation. The Select Hardware Support Components page appears.
- 11 Select the **Aculab Driver Software Package 8.10.0.0** component, the Dialogic System Release 6.0 PCI Update 252 component (optional—not required for Aculab Prosidy cards), and then click **Next** to continue through the installation process.
- 12 Follow the prompts to complete the software installation. Refer to the *Install Guide* for more information on installing and configuring MiCollab AM software.

IMPORTANT Once the MiCollab AM version 9.2 software is installed, and the system server is restarted successfully, the Windows Hardware Wizard detects the new hardware. When you are prompted to let the Hardware Wizard add the linecards to the system, click **Yes, this time only**. Windows configures the new hardware and its drivers, and then adds the new linecards to the Device Manager list.

Follow the prompts to complete the MiCollab AM and Aculab software installation. Once the software is installed, you can install the Aculab card into the platform. Refer to the *Install Guide* for more information on installing and configuring MiCollab AM software.

About Aculab Cards

MiCollab AM version 9.2 supports several types of Aculab linecards. This section briefly describes the three types.

Installing the Aculab PCI Digital Access Card

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

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

Installing the Aculab Prosody X PCI or PCIe Card

The Aculab Prosody X PCI or PCIe E1/T1 linecard is a full media TDM telephony linecard with on-board DSP that provides call and signaling control of an E1 or T1 telephony interface. The Prosody X PCI or PCIe E1/T1 linecard integrates MiCollab AM with a telephone system using the CAS or the Q.SIG signaling protocols. An Aculab Prosody X PCI card supports 1-8 ports, 30 voice channels per port; an Aculab Prosody X PCIe card supports 1-4 ports, 30 voice channels per port. The Aculab Prosody X card has an H.100 connector that cables to the H.100 connector of any other telephony linecard in the system with an H.100 ribbon cable.

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

Adding the Aculab Card to MiCollab AM

The Aculab Digital Access card and the Aculab Prosody X cards must be configured in MiCollab AM before they can be used in the Call Server. The cards are configured quite differently—each card type requires a unique set of steps to configure and add it to MiCollab AM. Refer to the particular spare parts document for the type of Aculab card you are installing. The documents can be found on the MiCollab AM Installation Media or on the Mitel Connect website, connect.mitel.com/connect.

Configuring MiCollab AM

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

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

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

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

Configuring MiCollab AM for the Integration During Initial Installation

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

- 1 In the **Database Initialization Parameters** dialog box, configure the following options:
 - a In the **Mailbox Length** box, enter the mailbox length in digits.
 - b In the **First Extension** box, enter first extension number for the first line. You can also leave the **First Extension** box empty.
 - c From the **Manufacturer** dropdown list, select **Mitel**.
 - d From the **Model** dropdown list, select **MiVoice MX-ONE**.
 - e From the **Integration Type** dropdown list, select **CAS TCP/IP**.
- 2 Click **Next**. The **Board Options** dialog box appears.
- 3 Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate Spare Parts document for more information on the Aculab card you are installing.
- 4 Click **OK**. The **Switch Options** dialog box appears.
- 5 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.

If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the *System Installation and Configuration Guide*.

- 6 Click **OK**. The **Integration Options** dialog box appears.
- 7 In the **Integration Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Communication Settings** view.
 - b In the **TCP/IP Port number** field, enter the port number programmed in Mitel TSW. The default TCP port number is **2555**.
- 8 Click **OK**. The **Switch Section Options** dialog box appears.
- 9 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, enter the code you configured previously in the section, [Initiating the Hunt Group](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box appears. Click **OK**.
- 11 If **MiCollab AM Configuration** does not open automatically after the configuration completes, open **MiCollab AM Configuration**, and select the **Lines** tab.
- 12 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 13 Click **OK** to save all changes.

Configuring Existing MiCollab AM for the Integration

To configure exiting MiCollab AM for the telephone integration:

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

NOTE If you have not configured the virtual board with your MiCollab AM system yet, complete **Step 3**. If your MiCollab AM already has the virtual board configured, skip to **Step 4**.

- 3 **[Optional]** Select the **Boards** tab, and then click the **Add** button. The **Board Options** dialog box appears.

- a Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate *Spare Parts document* for more information on the Aculab card you are installing.
 - b Click **OK**.
- 4 Select the **Switches** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box appears.
 - a From the **Manufacturer** dropdown list, select **Mitel**.
 - b From the **Model** dropdown list, select **MiVoice MX-ONE**.
 - c From the **Integration Type** dropdown list, select **CAS TCP/IP**.
- 5 Click **OK**. The **Switch Options** dialog box appears.
- 6 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.

If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the *System Installation and Configuration Guide*.

- 7 Click **OK**. The **Integration Options** dialog box appears.
- 8 In the **Integration Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Communication Settings** view.
 - b In the **TCP/IP Port number** field, enter the port number programmed in Mitel TSW. The default TCP port number is **2555**.
- 9 Click **OK**. The **Switch Section Options** dialog box appears.
- 10 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, enter the code you configured previously in the section, [Initiating the Hunt Group](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 11 In **MiCollab AM Configuration**, verify that the telephone system is properly added and configured in the **Switches**, **Switch Sections**, and **Integrations** tabs.
- 12 Select the **Lines** tab.
- 13 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 14 Click **OK** to save all changes.

Adding the Aculab PCI and Dialogic Linecards to the Boards Tab

The first Aculab PCI telephony interface linecard is the clock source for all Dialogic cards installed in the Call Server, so all of the Aculab and Dialogic cards installed in the system must be connected to the same H.100 bus. Before the Dialogic service can be started, the Aculab card must be installed, configured, and running in the system. Once the Aculab software is installed the Aculab card is automatically configured in the Call Server. You must configure the correct integration in the **Integrations** tab and run the Auto Detect wizard in the **Boards** tab of the MiCollab AM Configuration utility.

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

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

Adding the Aculab Prosody X PCI or PCIe Linecards to the Boards Tab

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

To Auto-Detect the Prosody X PCI Linecard:

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

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

- 6 Set the **Type of Call Progress to use for External Calls**. How this should be set depends on the gateway used for the integration. If the gateway supports call progress through to the endpoint, set to Digital.

However, 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.

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

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

Changing the Network Binding Order on the MiCollab AM Platform

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. By default, MiCollab AM uses the primary (public) network interface card (NIC) in the platform, the first NIC in the network binding order. If you want MiCollab AM to use a NIC other than the first one, you must make several required configuration changes. It is much easier to configure the Integration to use another NIC by simply setting the integration parameter **Local IP Address to bind on** to the address of the NIC connected to the PBX.

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. However, 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, click **Start** > **Control Panel**.
- 2 In the **Control Panel**, click **Network and Internet** > **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 2016 / 2019

To change the binding order of multiple NICs:

- 1 From the taskbar, select **Start > Control Panel**.
- 2 In the **Control Panel**, click **Network and Internet > Network and Sharing Center**.
- 3 On the left 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 through 8 to assign an Interface metric value to all other network adapters.