

MiCollab Advanced Messaging

System Installation and Configuration Guide

For version 9.2 and above

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Contents

Preface	10
References	10
Documentation	10
Documentation Updates	11
Help	11
Document Conventions	11
Glossary	15
Acronyms and Abbreviations	17
Overview of MiCollab AM	18
Basic MiCollab AM Messaging System	18
Expanded MiCollab AM Messaging System Topology	19
MiCollab AM Messaging System Management	19
Hardware/Software Licensing	20
Planning the MiCollab AM Installation	21
Preparing for Software Installation	22
Receiving the License Package	22
Performing Backups	23
Migrating from a Windows or OS/2 Platform	23
Upgrading from a Previous Version of MiCollab AM	23
Removing Dialogic and Aculab Software Components	25
Understanding Software Support Component Versions	25
Configuring the MiCollab AM Server Platform	27
Installing CTbus H.100 Compliant Linecards	27
Installing LAN Cards	27
Installing the Operating System	28
Installation Requirements	28
Verifying the Local Security Policy	29
Windows Update Policy	30
Windows Performance Optimization	30
Memory Dump Size	30
Installing TTS and Speech Software	31

Licensing the Messaging System	33
Software Licensing	33
Supported Server Hardware	34
Hardware Licensing	34
Installing the Hardware Lock and Sentinel Driver Software	34
Using the License Management Utility	35
Installing the License Management Utility	35
Manually Configuring a Proxy Server for the License Management Utility	35
The License Management Utility Login	36
Using the License Management Utility	36
Licensing your MiCollab AM System	38
Converting from Hardware to Software Licensing	40
Converting from Software to Hardware Licensing	40
Replacing a Software Licensed Defective Server	41
Changing System Server Fingerprint	41
Other License Management Utility Uses	42
Installing MiCollab AM Server Software	43
MiCollab AM Setup and Database Initialization	47
Setting the Log-on Account for the MiCollab AM Services	47
Choosing the Role of the Server	48
Initializing the Database as a System Server	48
Initializing the Database as a Call Server	49
Installing the License Key	51
Selecting Required Parameters	53
Configuring VIM	58
Configuring Language Packs	59
Initializing the Standard Database	61
Confirming Administrator User IDs and Completing Database Initialization	62
Controlling SSL/TLS Protocols for Secure Connections	63
Starting MiCollab AM for the First Time	66
Configuring Dialogic Linecards	66
Creating Shortcuts for MiCollab AM Icons on the Desktop	66
Licensing and Line Allocation	67
Enabling Lines for MiCollab AM Unified Messaging	68

Changing the Startup Mode	69
Starting MiCollab AM	69
Verifying that MiCollab AM is Running	70
Shutting Down the System Server	70
MiCollab AM Configuration Utility	72
Main Tab	73
Database Dialog Box	74
Daily Maintenance Dialog Box	75
About Button	75
Server Tab	76
SSL Certificate Import dialog box	77
System Tab	78
Tenant Tab	79
Tenant Summary Dialog Box	80
E-Mail Tab	87
Licensing Tab	88
Hardware System License	88
Software/Hybrid System License	89
Switches Tab	91
Switch Options Dialog Box	92
Switch Sections Tab	95
Switch Section Options Dialog Box	96
Integrations Tab	98
Integration Options Dialog Box	99
Boards Tab	101
Lines Tab	102
VIM Tab	104
Call Progress Tab	106
Language Tab	107
Reliability Tab	107
Fax Tab	110
Configuring an Online Backup Location	112
Recovering a Database	114
Configuring Callout Settings	121

Resetting the System Time	124
Shutting Down the Operating System	125
Setting Keep Private Messages Local	126
About MiCollab AM Admin	128
Integrating MiCollab AM with the Telephone System	129
MiCollab AM Integration Features	129
Integrating the Telephone System and MiCollab AM	130
Programming the Telephone System to Recognize and Communicate with MiCollab AM	130
Adding an Additional Telephone Switch	131
Assigning Lines to the Integration	132
Adding or Updating a Dialogic or Aculab Linecard	133
Adding a Virtual Board	133
Assigning Extension Numbers to Lines	134
Testing the Telephone System Integration	135
Preparing the Software for Testing	136
Message Waiting Indicator Set and Cancel Test	136
Direct Subscriber Logon Test	137
Call Forward on Ring No Answer	137
Call Forwarding on Busy Test	138
Transfer Testing	138
Reply to a Message from an Internally Forwarded Caller Test	138
Direct Operator Call from an Attendant Console to MiCollab AM Test	139
Disconnect Test	139
Troubleshooting the Integration	141
The Call Server	141
The Telephone System	141
Solutions to Common Problems	142
Configuring Firewalls	143
Firewall Setup for Licensing	148
Installing Client Utilities	149
Configuring the System Server to Support Client Utilities	149
Sharing the Reports Directory	149
Granting System Admin Access	149

Client Utility Resources	150
Starting Setup from the MiCollab AM Installation Media	150
Starting Setup from the Shared Directory	153
Installing the OpenText RightFax Fax Server	154
Installing Anti-Virus Software	155
Recommendations	155
Directory Exclusions	155
System Server Exclusions	155
Call Server Exclusions	156
System Server with Neverfail (Both primary and secondary)	156
Integrated Client Access (ICA) Server	156
Digital Networking Server	156
Digital Networking Propagation Master	156
Process Exclusions	157
Enabling Encryption of Stored Messages	158
Introduction	158
How EFS Works	158
Changing the Service Account Logon	159
Encrypting a Folder	160
Appendix A: Tools and Applications	163
Built in MiCollab AM Configuration, MiCollab AM Admin, and Maintenance Tools	163
System Administration	164
Line Status	164
Live Update	170
Additional Applications	175
Automatic Speech Recognition	175
Global User Administration	176
Networking	176
MiCollab AM Notify	177
Personal Assistant	177
SNMP Management Console	178
TUI (Telephone User Interface) Emulation	178
UCCconnect	179

Unified Messaging	179
Appendix B: Multi-Server Architecture	180
Reliability and Scalability	180
Neverfail – High Availability and Disaster Recovery for the System Server	181
System Server and Call Server Roles	182
System Server with Call Services Configuration	183
Multiple Call Server Configuration	184
Remote Call Server Configuration	186
Deployment Considerations	187
Network Considerations	187
IPv6	188
Telephony Considerations	188
E-Mail Considerations	189
Remote Locations and Multi-Vendor Installations	189
Fault Tolerance	189
Maintenance and Prevention Policies	191
Appendix C: VMware and Virtual Servers	192
VMware Feature Support	192
Virtualizing MiCollab AM Components	193
Host Server and Hypervisor Requirements	194
MiCollab AM Component Virtual Machine Resource Reservation	195
Installing a New Virtual System	195
Converting a Non-Virtualized System	196
Licensing MiCollab AM in a VMware Virtual Environment	196
System Server Configuration with Neverfail	197
Choosing the Right High Availability Technology	199
Managing Software-Based Licensing in a VMWare Environment	201
Definitions	201
Overview	203
Maintaining License Validity	203
Reverting System or Call Servers to a Snapshot	204
Appendix D: Microsoft Hyper-V	206
Hyper-V Feature Support	206
Virtualizing MiCollab AM Components	208
Hyper-V Host Server Requirements	208

MiCollab AM Components Virtual Machine Resource Reservation	208
Tuning	209
Licensing MiCollab AM in a Hyper-V Virtual Environment	210
Reverting System or Call Servers to a Checkpoint	210
Appendix E: Changing the Message Classes for Exchange/Office 365 (Optional)	212
Appendix F: Enabling/Disabling E-mail Access During System Maintenance	214
Enabling/Disabling E-mail Access Using AT_EMA	214
Running AT_EMA from the MiCollab AM System Server	214
Running AT_EMA from the E-mail Server	215

Preface

NOTE Your system may have come with the latest Software Update (at time of shipment) on a disc in the package. In some cases, a Software Update will contain a complete updated installation for one or more components. If your system includes a Software Update disc, please review the Technical Bulletin for the Software Update to determine if you should install the component from the Software Update disc or the base software disc to avoid unnecessary work. It's also a good idea to run Live Update or check the support web site for any newer Software Updates or patches that have become available since your system was shipped.

This guide describes how to install and configure MiCollab Advanced Messaging (MiCollab AM).

This guide is written for Mitel-certified administrators and technicians who are familiar with MiCollab Advanced Messaging (MiCollab AM) procedures and terminology, the **MiCollab AM Configuration** utility, and the Microsoft Windows® operating system.

References

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

Documentation

The technical documentation is produced in the PDF format and requires the PDF reader to view it. The 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.

To determine where to look for more information on a specific subject, refer to the following table.

Table 1. References

For information about...	See...
Configuring a MiCollab AM System Server and an XMediusFAX fax server to work together in managing incoming fax messages	Online book <i>XMediusFax Integration</i>
Configuring a MiCollab AM System Server and a OpenText™ RightFax® fax server to work together in managing incoming fax messages	Online books <i>RightFax Integration</i> and <i>Fax Messaging for RightFax</i>
Configuring a MiCollab AM system to support Unified Messaging on an IMAP compliant e-mail server	Online book <i>Unified Messaging for IMAP</i>
Configuring a MiCollab AM system to support the Unified Messaging for Lotus Notes and Domino client program and installing that program on subscribers' computers	Online book <i>Unified Messaging for IBM Lotus Notes and Domino</i>
Configuring a MiCollab AM system to support the Unified Messaging for Microsoft Exchange client program and installing that program on subscribers' computers	Online book <i>Unified Messaging for Microsoft Exchange 2010 2013 2016 2019</i>
Configuring a MiCollab AM system to support an IMAP-based e-mail client	Online book <i>Integrated Client Access</i>

Configuring and changing your Short Message Service (SMS) message notification settings	Quick Reference Card <i>SMS QRC</i>
Configuring two or more networked MiCollab AM systems so that administrators on one server can view and change mailboxes and system configuration settings on the others	Online book <i>NetConnect Digital Networking</i>
Configuring, installing, or replacing a System Server platform or one of its hardware components	Spare parts document for the platform or component
Connecting the Call Server to the telephone system and programming both so that they handle calls in an integrated manner	The MiCollab AM Integration Technical Note for the telephone system
Creating new UConnect scripts automatically	Online book <i>UConnect</i>
Diagnosing and correcting conflicts in information traffic (known as mailbox conflicts and server conflicts) between networked MiCollab AM systems	Online book <i>NetConnect Digital Networking</i>
Installing and Administering Message Cache Manager	Online book <i>Web PhoneManager</i>
Installing and Administering the Mobility Data Server	Online book <i>Mobile Web Admin</i>
Installing a System Server platform, setting up the MiCollab AM software on it, and preparing it to be used for the first time	Online book <i>System Installation and Configuration Guide</i>
Installing UConnect interactive voice response (IVR) development software	Online book <i>UConnect</i>
Installing the Web PhoneManager™ application on a web server and making it available to subscribers	Online book <i>Web PhoneManager</i>
Managing voice and fax messages through Lotus Notes	Online help and Quick Reference Card <i>UM Notes QRC</i>
Managing voice and fax messages through Microsoft Outlook	Online help and Quick Reference Card <i>UM Exchange QRC</i>
Managing voice and fax messages through Novell® GroupWise®	Quick Reference Card <i>UM IMAP QRC</i>

Networking a MiCollab AM system with one or more messaging servers or voice mail systems from other manufacturers so that they exchange messages over a data network	Online book <i>NetConnect Digital Networking</i>
Networking a MiCollab AM system with one or more voice messaging servers or voice mail systems from other manufacturers so that they exchange messages over standard telephone connections	Online book <i>Analog Networking</i>
Networking two or more MiCollab AM systems to exchange configuration information about Subscriber and Distribution list mailboxes	Online book <i>NetConnect Digital Networking</i>
Networking two or more MiCollab AM systems to exchange messages over a data network	Online book <i>NetConnect Digital Networking</i>
Networking two or more MiCollab AM System Servers to exchange messages over standard telephone connections	Online book <i>Analog Networking</i>
New features and capabilities in your version of the MiCollab AM software	Software Release Notice for that version of the software
Notifying subscribers of new messages through Short Message Service (SMS) support	Online book <i>SMS and Simple UM</i>
Preparing a MiCollab AM system that runs a previous version so that you can upgrade the server to the current software version	Online book <i>Upgrading and Migrating MiCollab AM</i>
Providing library documents by fax to callers who request them	Online books <i>RightFax Integration</i> and <i>Faxtext</i>
A quick reference guide to the MiCollab AM Mobile Clients	Quick Reference Cards <i>Android Mobile Client QRC</i> and <i>iPhone Mobile Client QRC</i>
Recording names, recording greetings, and changing mailbox settings through an appropriate web browser	The Web PhoneManager application and its Online help
Recording names, recording greetings, and changing mailbox settings through PhoneManager™	The Online help and the appropriate edition of the MiCollab AM Telephone Quick Reference Card
Specific UConnect programming syntax	Online book <i>UConnect</i>

Removing and Installing Dialogic and Aculab Software Support Components	Online book <i>Dialogic & Aculab Administration</i>
Supporting Voice Intercept Messaging (VIM) features on a supported telephone system	Online book <i>VIM User Guide</i>
Using basic MiCollab AM features over the telephone	The appropriate edition of the MiCollab AM Telephone Quick Reference Card
Using Voice Intercept Messaging (VIM) features with MiCollab AM	Quick Reference Card <i>VIM QRC</i>
Working with Call Processor Mailboxes	Online book <i>Call Processor Mailbox</i>
Working with Automatic Speech Recognition	Online book <i>Automatic Speech Recognition</i>
Working with Mailbox Archive	Online book <i>Mailbox Archive</i>

Glossary

Table 2. Glossary

Term	Description
Access rights	Permission granted by a system's administrators to perform tasks such as adding, editing, or deleting mailboxes
Application	A System Server mailboxes and other settings that controls how the System Server and the telephone system work together to process calls
Audio Messaging Interchange Specification	An industry standard that allows voice messaging systems from different manufacturers to exchange messages
Automatic Number Identification	A series of digits that accompanies a telephone call and communicates the caller's telephone number
Blind Transfer	A transfer type in which the System Server dials the caller's destination telephone number or extension and releases the call immediately. See also monitored transfer and transfer type
Caller	A person who places a call to a telephone system. See also subscriber
Call Server	Call Servers provide the telephony and speech interface; they perform the call handling, message taking, and MWI and callout tasks of the system

Client Utilities	Programs that an administrator uses to configure and manage the System Server
Device	A telephone instrument
Dongle	A USB device that is attached to the MiCollab AM server platform, which verifies the license information and authorizes the software to run
Global User Administration	A feature that makes it possible to examine and change mailboxes and certain configuration elements on several System Server platforms simultaneously from one location
Integration	A specification, supplied with the System Server, that describes how to connect that server to the telephone system and program both so that they exchange as much information as possible about the calls they handle
License Key	The feature key installed on MiCollab AM to enable licensed features of the system
Monitored Transfer	A transfer type in which the System Server dials the caller's destination telephone number or extension and waits to detect ring tone before it releases the call. See also blind transfer and transfer type
Short Message Service	An industry-standard method of transmitting short text messages to a subscriber's mobile telephone, pager, or other device for immediate display
Subscriber	The user of a specific telephone instrument or extension within a telephone system. See also caller
Switch	Another word for a telephone system
System Server	<p>The System Server hosts the master database, manages the administration interface and the licensing of all assigned Call Servers</p> <p>Also refers to the combined set of System Server/ Call Server hardware and software that handles telephone calls, voice messages, and audio recordings in a MiCollab AM system</p>
System Server platform	Refers to the System Server and any Call Server computer platforms on which the server software runs
Text-to-Speech	A program that accepts strings of computer text and generates synthetic speech to read the text aloud
Transfer Type	The method that the System Server uses to transfer calls. See also blind transfer and monitored transfer

Transmission Control Protocol / Internet Protocol	A set of specifications and a resulting set of data networking protocols that support the Internet and a wide range of smaller networks
User ID	An account name that identifies an individual as a valid System Server administrator
Voice Intercept Messaging	A Service that allows subscribers to offer callers with a reason that they could not answer the call from a set number of options, then offer callers with choices of what they want to do next, such as leave a message, transfer to someone else, and so on; available on specific telephone systems only

Acronyms and Abbreviations

Table 3. References

Term	Description
AMIS	See Audio Messaging Interchange Specification
ANI	See Automatic Number Identification
ASR	Automatic Speech Recognition
CPID	Calling Party Identification. A service provided by the serving telephone company
DNIS	Directory Number Information Service. A service provided by the serving telephone company
PSTN	Publicly Switched Telephone Network
SMS	See Short Message Service
TCP/IP	See Transmission Control Protocol / Internet Protocol
TTS	See Text-to-Speech
VIM	See Voice Intercept Messaging
VPIM	Voice Profile for Internet Mail. A specification for encoding audio recordings as long strings of plain text, which makes Digital Networking possible.

Overview of MiCollab AM

Welcome to MiCollab AM, the powerful unified messaging system from Mitel. With MiCollab AM, companies can integrate their telephone systems with their computer networks, providing a versatile, truly unified messaging environment for their employees and customers.

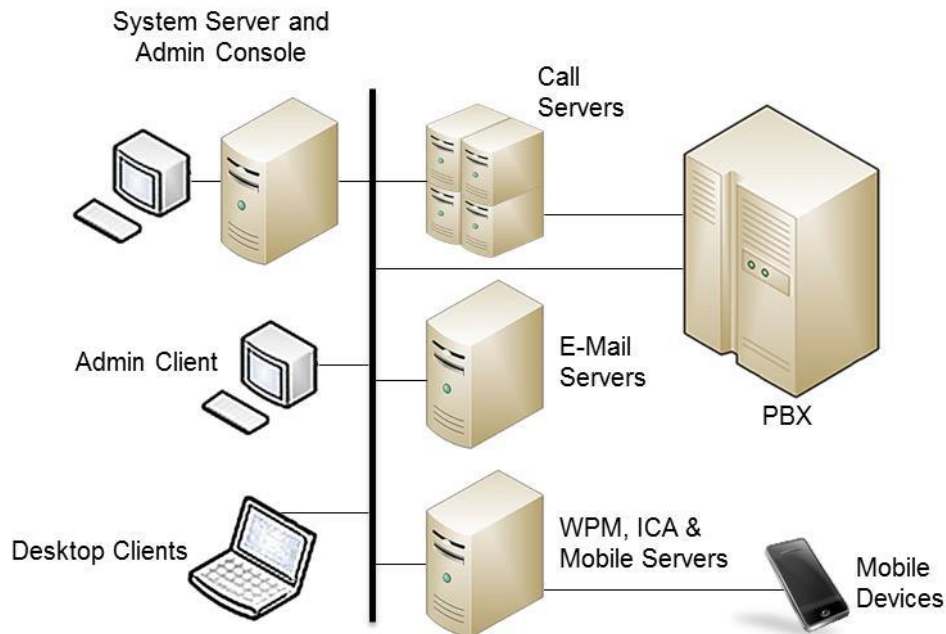


Figure 1. Possible MiCollab AM Integration Options

Basic MiCollab AM Messaging System

A basic MiCollab AM messaging system consists of a System Server with Call Services connected to the telephone system and the company's local area network (LAN). The scalability of MiCollab AM and the Microsoft Windows operating systems enable this messaging system to expand its versatility by adding any of the following components:

- Additional servers for applications such as digital networking or UConnect service designed to enable business integration interactive voice response (IVR) applications.
- One XMedius, Third Party, or RightFax® Fax Server
- Additional e-mail servers using IBM Notes™ Domino Server or Microsoft Exchange Server, or e-mail servers compatible with the Internet Message Access Protocol (IMAP)

The MiCollab AM components that manage phone lines and process calls are designed to run as operating system services. This design protects the most critical server functions from interference caused by errant applications and allows the server to resume call processing automatically as soon as the operating system recovers from a power loss.

Expanded MiCollab AM Messaging System Topology

The basic MiCollab AM messaging system described above can be expanded from a single System Server with Call Services to a multi-server topology including:

- Up to three (3) System Servers protected by Neverfail technology. The Neverfail technology provides High Availability (HA) and Disaster Recovery (DR) for the System Servers.
- Up to twenty (20) Call Servers allowing messaging systems to grow to hundreds of ports while providing call processing redundancy.

The expanded MiCollab AM topology provides enterprises with the scalability, high availability, and disaster recovery capabilities required for mission critical application.

MiCollab AM Messaging System Management

The **MiCollab AM Admin** utility can run either on the server platform itself or on another computer on the same LAN or WAN. This allows multiple administrators to manage the server from their own desks, either separately or as a team.

NOTE In a multi-tenant system, the tenant administrator manages the tenant data such as tenant email messaging server profiles, tenant fax servers, tenant presence servers, and tenant languages via the **MiCollab AM Admin** utility. Server administrators create and manage tenants via the **MiCollab AM Configuration** utility.

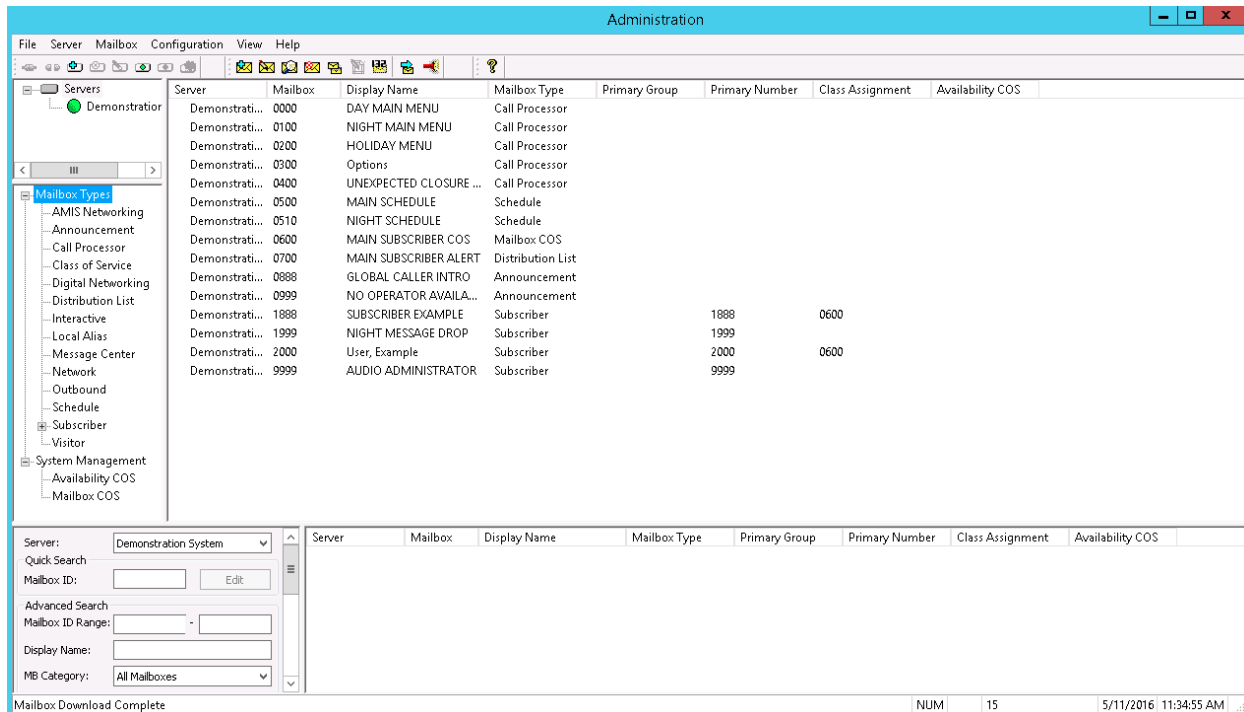


Figure 2. MiCollab AM Admin Utility

To configure and manage a server over an Internet connection, administrators can use a remote-control solution, such as the Microsoft Remote Desktop Connection. The remote-control software application enables administrators and Technical Support personnel to view and manipulate the server's desktop as though they were at the server's own console. For more information about Remote Desktop, see the online help or the *System Administration Guide*.

NOTE You can use software other than Microsoft Remote Desktop Connection to administer MiCollab AM remotely. To ensure the software is compatible with MiCollab AM, contact Technical Support.

For information on the use of anti-virus software running on the System Server or any Call Server, refer to the [Installing Anti-Virus Software](#) section.

Hardware/Software Licensing

There are two possible ways that MiCollab AM can be licensed: **Hardware** or **Software**.

- **Hardware** licensing relies on a USB dongle.
- **Software** licensing relies on cloud licensing, which requires permanent internet connectivity.

To simplify the licensing process both hardware and software licensing can be managed with the **License Management Utility**. The **License Management Utility** allows the administrator to download the MiCollab AM license file, and to register the server platform with the cloud license provider.

The [Licensing the Messaging System](#) section describes the steps to install and use the **License Management Utility** to license the MiCollab AM system.

Planning the MiCollab AM Installation

The following flowchart provides guidance on the steps to successfully install the MiCollab AM messaging system based on the specific installation needs.

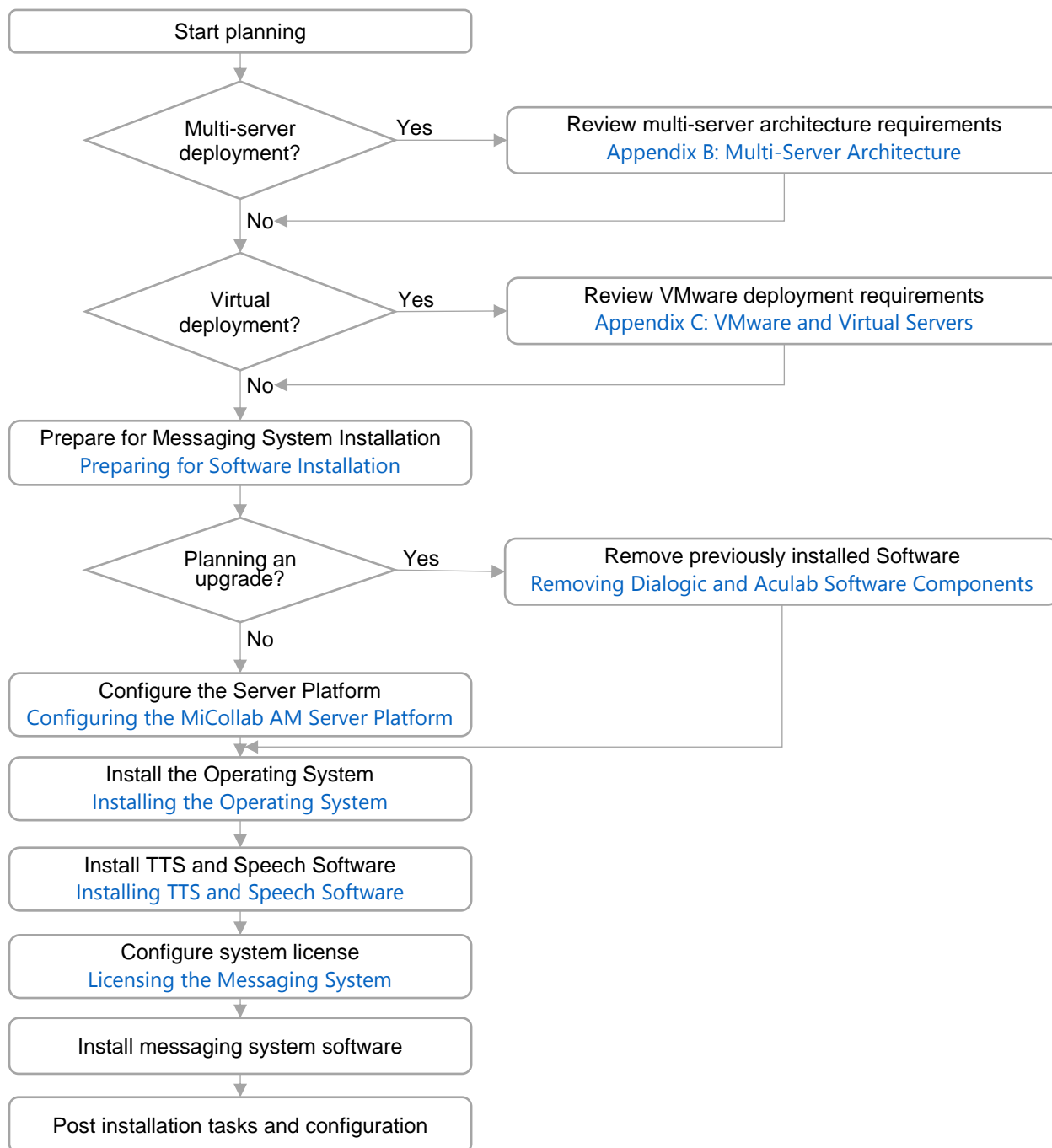


Figure 3. MiCollab AM Installation Process

Preparing for Software Installation

NOTE All *Critical* and *Important Updates* including *Security Updates* for the Windows operating system in use should be installed prior to installing the MiCollab AM software. For Windows Server 2012 R2, this is essential as the system may experience instability if not properly updated.

Certain versions of Windows, such as Windows 8/8.1/10, Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience) and Windows Server 2019 (Server with Desktop Experience), may not allow MiCollab AM to install .NET 3.5 SP1. In those cases, you may need to manually install .NET 3.5 to use full MiCollab AM functionality.

This chapter discusses the installation or upgrade process you should follow to install the MiCollab AM software. You may complete installation either directly at the computer where you want to install MiCollab AM, or remotely through **Remote Desktop Connection**. For more information about **Remote Desktop Connection**, refer to the appropriate Microsoft documentation.

IMPORTANT

1. To install MiCollab AM through **Remote Desktop Connection**, you must log onto the server in console or admin session. If you do not, some drivers may not install correctly. In addition, Dialogic or Aculab board detection fails.
2. To install MiCollab AM through **Remote Desktop Connection**, you must be able to access the contents of the Nuance and MiCollab AM Installation Media by either copying them to a network drive or sharing the drive on the computer where you are performing the installation.
3. The pages, options, and installation procedures described in this chapter may differ from those presented by the Setup program you are using, based on the MiCollab AM software version and the optional components you have purchased.

Receiving the License Package

The MiCollab AM license is accessed via the **MiCollab AM License Management Utility**. The **License Management Utility** credentials are emailed to the customer contact designated during the customer account registration process.

The licensing process:

- A registration email is sent by Mitel to the Mitel reseller that ordered the product.
- The reseller might use the information in the registration email to register the customer account on behalf of the customer. Alternatively, the reseller might forward the registration email to the appropriate customer contact for the customer to complete the registration.
- Upon the customer account being registered, the **License Management Utility** credentials are emailed to the customer contact designated during registration. The reseller will also receive their own credentials for managing the system license.

- Install the **License Management Utility** and use the credentials received by the customer after account registration to download the license certificate and register the System Servers if using software based licensing. See the following sections for details on installing and using the **License Management Utility**.

NOTE The System Server requires a feature file (license certificate); the Call Servers authenticate against the System Server instead of using their own feature file.

Before proceeding with the system installation, please make sure you have received by email the **License Management Utility** credentials.

IMPORTANT If you have not received the license package, contact Technical Support.

Performing Backups

If you are upgrading your version of MiCollab AM, Mitel strongly recommends that you perform a system backup and a mailbox archive of voice and fax messages before upgrading. These backups and archives allow you to restore the MiCollab AM system if there is an error during the upgrade process. See the *System Administration Guide* for instructions on performing these backups.

IMPORTANT A system backup and an archive of voice and fax messages may be your only means to recover a MiCollab AM system in the event of an error during the upgrade process.

Migrating from a Windows or OS/2 Platform

If you are upgrading from a previous version of MiCollab AM on a Windows or OS/2 platform, refer to the online book, *Upgrading and Migrating MiCollab AM*. In addition, there are text files to help you with the migration process. These text files are found in the related migration utility folders of the MiCollab AM Installation Media version 9.2.

Upgrading from a Previous Version of MiCollab AM

- If you are upgrading from a previous version of MiCollab AM, you must first install the MiCollab AM TTS/ASR Resources software before you upgrade the MiCollab AM software. You must install the TTS/ASR Resources software first, regardless of whether or not you are using the Speech or TTS features at this time. If you reinstall TTS/ASR later, you must re-install MiCollab AM software after installing the TTS/ASR software.

NOTE In MiCollab AM 5.1 and later, TTS/ASR installation is required. The TTS and ASR software has changed in 9.2. If upgrading a system from a version earlier than 9.2, you must install the TTS and ASR software required for the current MiCollab AM version.

- MiCollab AM version 9.2 requires Dialogic System Release 6 build 271. If your system is running a previous version of Dialogic software, it must be uninstalled before you begin the MiCollab AM version 9.2 software installation. The installation process cannot continue if a previous version of

Dialogic is detected. You can remove all Dialogic components from the Windows **Control Panel Add or Remove Programs** utility. For more information, refer to the *ReadmeCompatibleSW.txt* file located on the MiCollab AM Installation Media version 9.2 in the **\Server Installs\Telephony Server** folder.

- MiCollab AM version 9.2 requires Aculab software version 8.20.0.1 for 64-bit. If your system is running a previous version of Aculab software. It must be uninstalled before you begin the MiCollab AM version 9.2 software installation. The installation process cannot continue if a previous version of Aculab software is detected. For more information, refer to the *ReadmeCompatibleSW.txt* file located on the MiCollab AM Installation Media version 9.2 in the **\Server Installs\Telephony Server** folder, the [Removing Dialogic and Aculab Software Components](#) section of this document, and/or *Dialogic & Aculab Administration Guide*.
- If you are configuring a multi-box environment, you must first upgrade the System Server before upgrading the Call Servers in the system. After the system is upgraded, install any additional Call Servers, and then add them to the System Server once the upgrade is complete.
- The port licenses available on the feature file are shared between all of the Call Servers in the system. Delegate the correct amount of ports to each Call Server using the **Lines** tab of each Call Server. Open only the ports you want to use on each Call Server. Close the ports you are not using to allow other Call Servers to use the remaining available port licenses.
- If you are using Digital Networking, the Directory Propagation Server must be upgraded prior to upgrading your MiCollab AM System. Follow the steps outlined in the *Installing the Directory Propagation Server (Master)* chapter in the *NetConnect Digital Networking Administration Guide* to perform the upgrade.

Once you have installed all of the software, the setup is the same as a new installation process, including the requirement of a license certificate (software) and a feature file to activate the options you have ordered with MiCollab AM. These two licensing components are provided in the license package you receive from Mitel. If your upgrade includes a new hardware lock, you must return the old hardware lock to Mitel.

NOTE The license package replaces the feature key disk that you may have used previously to install or upgrade MiCollab AM.

Removing Dialogic and Aculab Software Components

NOTE This section applies to messaging system upgrades.

Installing a new version of System Server software support components may require you to remove existing Dialogic or Aculab software support components prior to upgrading the system.

When the System Server Installation Wizard starts, it checks for previous versions of software. If it finds an incompatible version, the setup process is halted and the wizard advises you that you must uninstall previous versions before you can continue with the installation.

Installing the current version is performed by installing the System Server version 9.2 software and selecting the software support components you require to support the Call Server. If version 9.2 software is already installed, you must re-install it to add these software support components.

For more information on removing and installing these components, see the MiCollab AM help or *Dialogic & Aculab System Administrator Guide*.

Understanding Software Support Component Versions

Refer to the current version numbers in the following table to determine if the current software versions are compatible with the software version you are installing.

If you are upgrading from a previous version of software, and the current version of the Dialogic or Aculab components are not compatible with the current version, you must uninstall the previous version before you install System Server software version 9.2.

Table 4. Software Version Compatibility

System Server Version	Dialogic Version	Aculab Version	Aculab Version (as referenced in MiCollab AM)
5.0	SR6 SU190	6.x	8.00.3.1
5.0 SP1	SR6 SU241	6.x	8.10.0.1
5.0 SP2	SR6 SU252	6.x	8.10.0.1
5.0 SP3	SR6 SU252	6.x	8.20.0.0
5.1 SU3	SR6 SU252	6.x	8.20.0.1

5.1 SU4	SR6 SU252	6.x	8.20.0.1
6.0	SR6 SU271	6.x	8.20.0.1
6.0 SU1	SR6 SU271	6.x	8.20.0.1
6.0 SU2	SR6 SU271	6.x	8.20.0.1
6.1	SR6 SU271	6.x	8.20.0.1
6.1 SU1	SR6 SU271	6.x	8.20.0.1
6.1 SU2	SR6 SU271	6.x	8.20.0.1
6.1 SU3	SR6 SU271	6.x	8.20.0.1
6.1 SU4	SR6 SU271	6.x	8.20.0.1

Configuring the MiCollab AM Server Platform

This chapter discusses how you must configure server platforms before installation of the operating system and MiCollab AM software.

Installing CTbus H.100 Compliant Linecards

To support MiCollab AM, Mitel sells PCI linecards that exchange data with one another through a H.100-compliant resource bus. The H.100 standard specifies a hardware design that supports signals from several earlier resource bus specifications including CTbus, SCbus, MVIP, and others.

Each telephony linecard in the Call Server platform is equipped with a CTbus connector, to which a CTbus cable is attached, connecting each telephony linecards H.100 bus together through the CTbus cable. Because the MiCollab AM software is designed to work without terminated resource buses, it is not necessary to add a terminator pack of any sort to either end of the CTbus cable or to change the termination settings on any CTbus linecard in the system.

NOTE The terms CT bus and H.100 are often encountered together. H.100 refers to the specific variant of the CT bus specification used in PCI linecards.

Installing LAN Cards

MiCollab AM requires that a LAN adapter card be installed in the server platform. This LAN card is required even if the server platform is not connected to a LAN.

MiCollab AM supports all LAN cards that are compatible with Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience) and Windows Server 2019 (Server with Desktop Experience). See the Microsoft Windows Server Catalog website (www.windowsservercatalog.com) for a list of LAN cards that are compatible with the Windows operating system.

For details relating to the installation and replacement of LAN cards, refer to the documentation that came with the LAN card or contact the hardware manufacturer.

Installing the Operating System

This chapter documents the critical application considerations that are essential for MiCollab AM to function properly on a Windows Server platform. Currently, Mitel supports the following Windows Server operating systems for use with MiCollab AM:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016 (Server with Desktop Experience)
- Microsoft Windows Server 2019 (Server with Desktop Experience)

IMPORTANT Hard Drive manufacturers have begun migrating away from 512 byte sectors to 4096 byte sectors. While this is supported by Windows 2012 R2, the internal database engine for MiCollab AM is MySQL, which does not support this drive technology until version 5.7.

For those systems using 4K sector drives and MySQL 5.6 and below, MySQL fails to create the database files, not only for itself, but for MiCollab AM. The manifestation is the SQL service will attempt to start, and then stop. MiCollab AM reports that we cannot stop the MySQL service, when in reality it never started.

MySQL supports the use of 4k sector drives as of version 5.7. It is planned that MiCollab AM will include support for MySQL version 5.7 next year. In the meantime, it is recommended that you avoid using 4k sector drives.

This manual assumes that you are familiar with installing the Windows Server operating system and have read and understood the appropriate Windows Server documentation. Your installation and configuration of Windows Server may differ slightly based on your requirements.

IMPORTANT You must read and follow each requirement for MiCollab AM to function properly.

Installation Requirements

The following are the MiCollab AM requirements for Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience):

- Create a **C** partition on the hard disk with an NTFS file system that is at least 40 GB. This is the partition where the Windows operating system resides.
- Create a **D** partition on the hard disk with an NTFS file system for MiCollab AM. Mitel does not support the FAT file system.
- Do NOT install Internet Information Services (IIS). Installing this component interferes with MiCollab AM.
- A static TCP/IP address is recommended.

- After you install the Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience) operating system, but prior to installing the MiCollab AM ASR/TTS Resources software and the MiCollab AM System Server software, verify that the **Local Security Policy, User Account Control: Detect application installations and prompt for elevation**, is **enabled** on the server platform. Refer to the [Verifying the Local Security Policy](#) section.
- After you are finished installing Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience), run the Windows Update Service to install any critical updates recommended by Microsoft. Refer to the [Windows Update Policy](#) section.
- Configure the following Windows settings:
 - [Windows Performance Optimization](#)
 - [Memory Dump Size](#)
 - Save the new settings and close the **System** window.
 - Make sure your display properties are set to a screen resolution of at least 1024 x 768.

Verifying the Local Security Policy

IMPORTANT After you install the Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience) operating system, but prior to installing the MiCollab AM TTS/ASR Resources software and the MiCollab AM System Server software, verify that the Local Security Policy, **User Account Control: Detect application installations and prompt for elevation**, is **enabled** on the server platform.

The security setting must be set to **enabled**, before you begin the MiCollab AM software installation.

On most editions of Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience) this policy is enabled by default. However, on some editions the policy may be disabled by default.

To verify Local Security Policy:

- 1 Go to **Start > All Programs > Administrative Tools > Local Security Policy** or search for *Local Security Policy*. The Local Security Policy window appears.
- 2 Under **Security Settings**, select **Local Policies**, and then **Security Options**.
- 3 Locate the policy, **User Account Control: Detect application installations and prompt for elevation**, and then verify the **Security Setting** is **Enabled**.
- 4 If it is not enabled, double-click the policy. **The User Account Control: Detect application installations and prompt for elevation Properties** dialog box appears.
- 5 Select **Enabled**, and then click **OK**.

Windows Update Policy

All updates made via Windows Update should be manually installed. The system should not be automatically updated and restarted. Mitel recommends the following rules for Windows Update:

- *Important updates* for the current supported operating system should be installed.
- *Recommended* and *Optional updates* should be reviewed for compatibility prior to installing.
- Service Pack or major release updates should only occur if they have been validated by Mitel.
- Backups should be made prior to any updates.

Windows Performance Optimization

To optimize Windows performance:

- 1 Go to **Computer > Properties > Advanced System Settings** or search for *Advanced System Settings*. The **System Properties** dialog box appears.
- 2 In the **Performance** area of the **Advanced** tab, click **Settings**. The **Performance Options** dialog box appears.
- 3 On the **Visual Effects** tab, select **Adjust for best performance**.
- 4 Select the **Advanced** tab.
- 5 Under **Processor scheduling**, select **Background Services**.
- 6 Click **OK**.

Memory Dump Size

To specify the Memory Dump setting for system recoveries:

- 1 Go to **Computer > Properties > Advanced System Settings** or search for *Advanced System Settings*. The **System Properties** dialog box appears.
- 2 In the **Startup and Recovery** area, click **Settings**. The **Startup and Recovery** dialog box appears.
- 3 In the **Write debugging information** area, select **Small Memory Dump (256 KB)**.
- 4 Click **OK**.

Installing TTS and Speech Software

You must install the **MiCollab AM ASR/TTS Resources** software on your MiCollab AM servers. The ASR and TTS components must be installed prior to installing MiCollab AM Server software. Exit any running Windows programs before starting the Setup program.

NOTE It is required that you install the MiCollab AM ASR/TTS software regardless of whether you are using it. The MiCollab AM ASR/TTS software has changed for MiCollab AM version 9.2.

If you are upgrading from a MiCollab AM version earlier than 9.2, you must install the ASR and TTS support software for version 9.2. The MiCollab AM ASR/TTS setup will determine the required actions and will install, or remove, the software accordingly.

When you insert the MiCollab AM ASR and TTS Resources media into the appropriate drive, a search is made of the software currently installed, and the required actions will be displayed within the installation wizard dialogs.

IMPORTANT If it is determined that some applications require removal prior to installing the new software, that information is displayed for confirmation before the removal process begins.

At the end of the removal process, you will be instructed to reboot your system. Following the reboot, the setup wizard will resume automatically and begin installing the required ASR/TTS software for MiCollab AM version 9.2.

To start the setup wizard of the ASR and Text-to-Speech components:

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

NOTE If you are installing MiCollab AM Unified Messaging, log on using the Unified Messaging account instead.

- 2 Shut down all running programs.
- 3 Insert the **MiCollab AM ASR and TTS Resources** Media into the appropriate drive.
- 4 The **MiCollab AM ASR and TTS Resources Welcome** dialog box appears.
- 5 In the **Welcome** dialog, click **Next**. The **Language Pack Selection** dialog box appears.
- 6 In the **Language Pack Selection** dialog, select the languages you would like to include for installation, click **Next**. The **Software Summary** dialog box appears.

NOTE If any languages are disabled, this means that the corresponding ASR and TTS software is currently installed (and of the required version) and need no action.

- 7 In the **Software Summary** dialog, the ASR and TTS software that is about to be **INSTALLED**, and/or **REMOVED**, is noted. Please review the information, and click **Next** to start the software installation, and/or removal, process as noted.

NOTE If no existing software was detected that requires removal, only software to be **INSTALLED** is listed.

- 8 If existing software was detected that requires uninstallation, a series of status dialogs will display during the software removal of each component (it may take a few minutes before the process completes).

If no existing software was detected that requires removal, continue to **Step 12**.

- 9 Once the software removal is complete, a dialog will display informing a reboot is required.
- 10 Remove all disks from the computer's drives, select **Yes, I want to restart my computer now** option, and then click **Finish** to restart your system.
- 11 Log on as the Administrator after the platform restarts.
- 12 The **Software Summary** dialog displays informing the software to be **INSTALLED**.
- 13 Review the information, and click **Next** to start the software installation process as noted.
- 14 A series of status windows will display while the ASR and TTS software is being installed (it may take a few minutes before the process completes).
- 15 Once the ASR and TTS software installation process is complete, the **Setup Complete** dialog will display.
- 16 Click **Finish** to exit the wizard. A reboot is not necessary.

NOTE MiCollab AM Server Software must be installed, or re-installed if already exists, before any new ASR or TTS software can be used.

Licensing the Messaging System

There are two possible ways that MiCollab AM can be licensed: Hardware or Software. Both licensing options are configured using the **License Management Utility**.

At the appropriate point of the MiCollab AM installation process, the installer will prompt you for the feature.dat file you either received for the installation or downloaded using the **License Management Utility**.

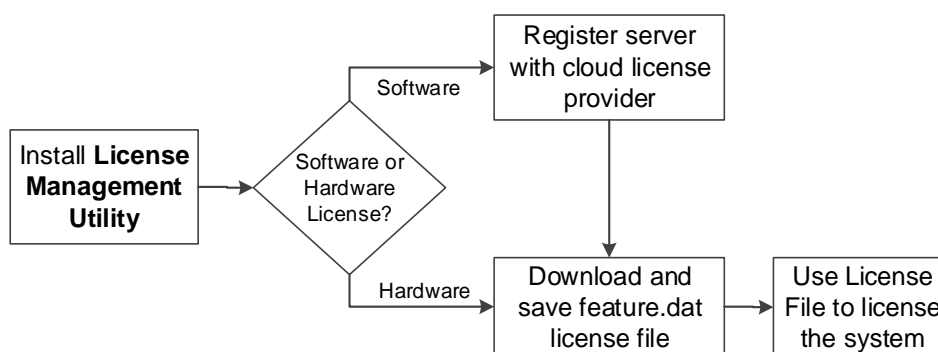


Figure 4. Using the License Management Utility

NOTE In order to use the **License Management Utility**, you must logon with the **License Management Utility** credentials provided by Mitel with the license package. See the instructions below to install and run the **License Management Utility**.

IMPORTANT If re-licensing a previously registered server, you must unregister that server before re-registering it against a new license slot.

Software Licensing

If your system uses software licensing, you will need to register the MiCollab AM server with the cloud license provider and download the **feature.dat** file using the **License Management Utility**.

The MiCollab AM server registration allows the MiCollab AM application to acquire the license from the cloud license provider. With a software-based license, MiCollab AM will periodically connect to a cloud-based license service to verify the feature entitlement and to verify it has access to a valid license.

MiCollab AM binds the license to the specific server it is running on; the license can be acquired only when MiCollab AM is running on the registered server. Should the software need to be moved from one server to another, it is possible to unregister the license from one server and register the license to another server.

For software-based licensing to work properly, MiCollab AM must have continual access to the cloud-based license service. In order to accommodate internet disruptions, MiCollab AM will cache the license entitlement and authorization locally. MiCollab AM downloads the license entitlement and authorization daily. With each download, the license expiration is extended. The **Cached Software License Expiration** date is displayed on the **Licensing** tab of the **MiCollab AM System Configuration** utility. The **Cached Software License Expiration** date will typically be four days in the future.

Should MiCollab AM experience a period without internet connectivity that extends beyond the **License Expiration** date, the system will enter a grace period of up to eight additional days. As soon as MiCollab AM fails to connect to the cloud-based license service, a warning will be displayed on the **Licensing** tab indicating that the system is not able to download a new license entitlement and authorization. If internet connectivity is not restored before the end of the grace period, MiCollab AM will consider the license to no longer be valid and the system will shut down.

IMPORTANT Software licensing requires a permanent System Server Internet connection; however, there is built-in protection for temporary internet connection outages. Refer to the [Configuring Firewalls](#) section for firewall configuration.

NOTE VMware Distributed Resources Scheduler (DRS) is supported with Software Based Licensing.

Supported Server Hardware

MiCollab AM software licensing requires the System Servers to run either on physical server hardware or on VMware/Hyper-V virtual machines.

Hardware Licensing

If your system uses hardware licensing, it will use a license file, **feature.dat**, and a USB hardware dongle. You may download the license file via the **License Management Utility**.

IMPORTANT Refer to the [Using the License Management Utility](#) and [Configuring Firewalls](#) sections for **License Management Utility** firewall configuration.

Installing the Hardware Lock and Sentinel Driver Software

If your system is using hardware licensing, the MiCollab AM System Server requires a USB dongle on the platform at all times. The hardware lock is associated with the software license key that is unique to the system and is part of the License package you received for the installation, or downloaded with the **License Management Utility**. The hardware lock must be installed in a USB port for MiCollab AM to run.

The Sentinel driver software is installed automatically during the MiCollab AM version 9.2 software installation. In addition to installing the necessary software to communicate with the hardware lock, the software installation process opens the required ports on the server's firewall necessary for MiCollab AM to communicate with the USB hardware lock.

Using the License Management Utility

The following sections describe the steps to install and use the **License Management Utility**.

Installing the License Management Utility

To install the License Management Utility:

- 1 Insert the MiCollab AM Installation Media to display available installation options.
- 2 Click **License Management Utility** under **Administrative Clients**.
- 3 Click **Run** if a security warning popup appears.
- 4 Follow the instructions to install the **License Management Utility**.
- 5 On the last screen, make sure the **Launch the License Management Utility now** check box is selected, and then click **Finish**.

NOTE You can also start **License Management Utility** from **Start > All Programs > MiCollab AM Desktop**.

Manually Configuring a Proxy Server for the License Management Utility

You can manually configure a proxy server to connect to the Sentinel Cloud licensing server.

To manually configure a proxy server:

- 1 Navigate to the folder where the License Management Utility is installed (such as C:\Program Files (x86)\MiCollab AM\License Management Utility) and open the **AT_LicMgmtUtil.exe.config** configuration file in Notepad (or any XML/text editor).
- 2 Edit the following Application Settings values:
 - a **ProxyHost** – Enter the host name for the Proxy server.
 - b **ProxyPort** – Enter the port number for the Proxy server.
 - c **ProxyUserName** - Enter the username of the Proxy server.
 - d **ProxyPassword** - Enter the password mapped with the username.
- 3 Save and close the configuration file.

The following example shows the Proxy configuration parameters in bold.

```
<applicationSettings>
  <LicMgmtUtil.Properties.Settings>
    <setting name="AT_LicMgmtUtil_LDSWebService_LicenseDownloadAPI"
      serializeAs="String">
        <value></value>
```

```

</setting>
<setting name="ProxyHost" serializeAs="String">
  <value>172.16.70.1</value>
</setting>
<setting name="ProxyPort" serializeAs="String">
  <value>8080</value>
</setting>
<setting name="ProxyUserName" serializeAs="String">
  <value>User001</value>
</setting>
<setting name="ProxyPassword" serializeAs="String">
  <value>ExamplePassword</value>
</setting>
</LicMgmtUtil.Properties.Settings>
</applicationSettings>

```

The License Management Utility Login

The **License Management Utility** login allows the connection to the cloud license management system.

IMPORTANT The **License Management Utility** login is not your MiCollab AM system login.

You may obtain your **License Management Utility** login in two ways:

- You may receive your login from your vendor.
- You may receive a link from your vendor. The link will allow you to register your customer account and configure your login via a web registration portal.

Using the License Management Utility

The **License Management Utility** is required for licensing your MiCollab AM system. The utility allows you to manage licensing for all System Servers for all purchased systems.

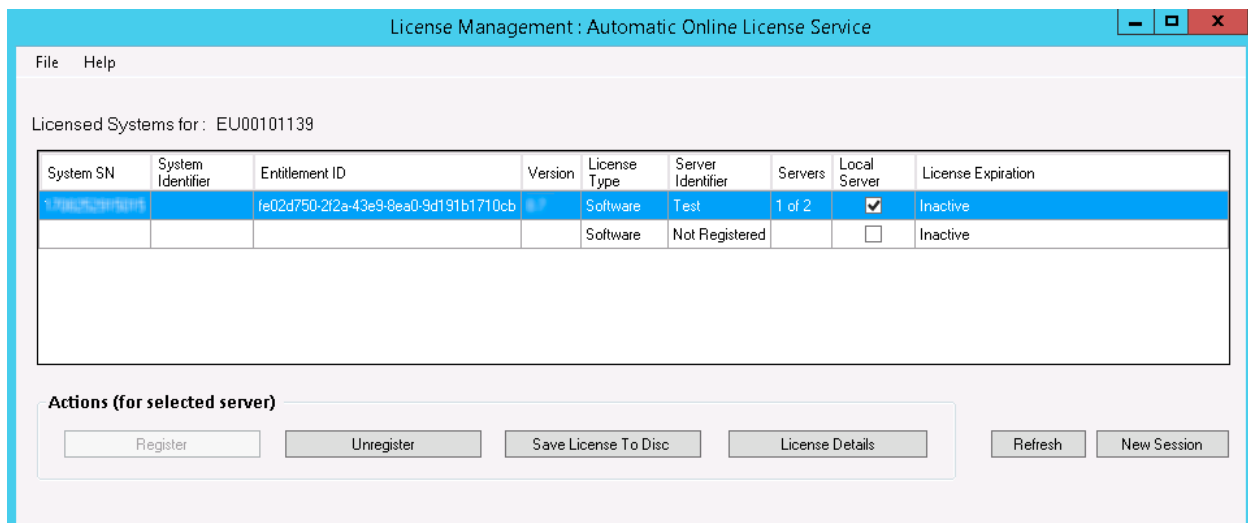


Figure 5. License Management Utility

Upon logging in, you are able to:

- View all purchased systems with their serial numbers. This includes **software licensed systems**, **hardware licensed systems**, and **hybrid licensed systems**.

Example for customer Standard Corporation:

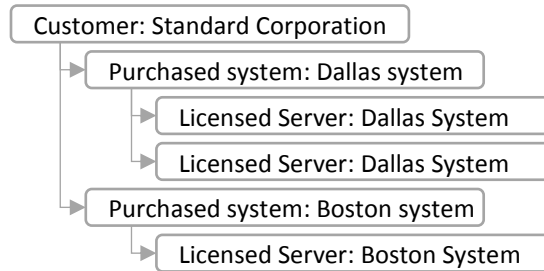


Figure 6. Standard Corporation Example

NOTE A hybrid licensed system is a system that has two or three licensed System Servers as part of a Neverfail topology. In a hybrid licensing mode, at least one System Server is licensed for software licensing, and at least one is licensed for hardware licensing.

- For each purchased system you can see and configure the license:

NOTE A single System Server MiCollab AM system has a single license, while a Neverfail system has two or three available licenses, depending on the Neverfail topology.

NOTE The hardware licensed servers are shown in the server list, however they cannot be registered or unregistered. The **Server Identifier** for a hardware licensed server is the USB dongle identifier, and cannot be edited.

- **System SN:** The system serial number that identifies the system to which the license is attached.

NOTE In some cases, this field will contain additional information (in parenthesis) that helps the resellers identify the system.

Example: 1234567891012 (IPA 02-4335)

- **System Identifier:** A friendly name to help identify a particular message system. This field is user-configurable and will be saved when pressing the **Enter** key or clicking outside the field. This is especially helpful for customers that own multiple messaging systems and want to use a friendly name to differentiate them.
- **Entitlement ID:** The identification number of the license.
- **Version:** Displays the entitlement version of the system.
- **License Type:** The type of license, either software or hardware.
- **Server Identifier:** A user-configurable field that allows to enter a meaningful name that can clearly identify the server. During the registration process, the server is registered with the user-provided name.

If it shows **Not Registered**, it indicates that the server has not been registered, and the license has not been assigned to the server.

- **Servers:** The number in sequence of the server to which the license in a particular row is attached. Each licensed system might have one, two or three System Servers.
- **Local Server:** A check box that indicates whether or not a system server in the list is on the local server, meaning the system is on the same server where the **License Management Utility** is running.
- **License Expiration:** The expiration for the locally cached license. **None** indicates a hardware license.

NOTE For software licensed system servers, the **License Expiration** indicates when the local license expires. If a software licensed system server is without internet connectivity beyond the indicated **License Expiration** time, the system server license becomes invalid.

- **Register:** Register software licensed systems. Only the local server can be registered.
- **Unregister:** Unregister software licensed systems. Any registered server can be unregistered.
- **Save License to Disc:** Download and save the license file for any purchased system.
- **License Details:** See the license details for any purchased system.

Licensing your MiCollab AM System

To license your MiCollab AM System:

- 1 Start **License Management Utility**.
- 2 Log in using your **License Management Utility** credentials.
- 3 Select a server row for the system you want to work with, and perform one of the following tasks:
 - To register the local server for software licensing:

NOTE Only software licensed servers can be registered.

IMPORTANT If re-licensing a previously registered server, you must unregister that server before re-registering it against a new license slot.

- a Select a server row that shows **Not Registered** in the **Server Identifier** column. Make sure you select the server row that belongs to the system you want to register the local server against.
 - b Enter a meaningful server name in the **Server Identifier** column. It is important for the server name to clearly identify the server. This will be useful if you want to unregister the server.
 - c Click the **Register** button to register the server.
- To download the license file:

The license filename is based on the **System SN** and **System Identifier** fields.

- a** Select the server row for the system you want to download.
- b** Click the **Save License to Disc** button and save the **.dat** license file. You will need this file during the MiCollab AM installation process.

- **To unregister any server for any system:**

NOTE Only software licensed servers can be unregistered.

- a** Select the server record you want to unregister.
- b** Click the **Unregister** button.

Converting from Hardware to Software Licensing

To convert from Hardware to Software Licensing:

- 1 Contact your reseller and request the conversion.
- 2 Receive license conversion confirmation from your reseller.
- 3 Make sure your MiCollab AM system is connected to internet.
- 4 Stop the MiCollab AM application on the server to be converted to software licensing.
- 5 Remove the USB dongle from the MiCollab AM server if not already removed.
- 6 Log in to the **License Management Utility** from the server you are converting to software licensing.

After logging in, you will notice that the server license that was previously listed as **Hardware** type is now listed as **Software** and the **Server Identifier** (if the row is not selected) is listed as **Not Registered**.

NOTE If the System Server to be converted to software license is the only server on the list, it will be selected by default and the **Server Identifier** field will have the text cursor inside waiting for a name/value to be typed in.

- 7 If not already selected, click on the server row showing as **Not Registered**.
- 8 In the **Server Identifier** field, type in a unique name that will clearly identify the server.
- 9 Click the **Register** button.
- 10 Click the **Save License To Disk** button and save the **.dat** license file to disk.
- 11 Import the new license from the **Licensing** tab of **MiCollab AM Configuration**.
- 12 Close the MiCollab AM application and wait approximately one minute for the software licensing cloud provider to complete its startup routine.
- 13 Start the MiCollab AM application. Upon startup, the application will acquire the software license from the software licensing cloud provider.

Converting from Software to Hardware Licensing

To convert from Software to Hardware Licensing:

- 1 Contact your reseller and request the conversion.
- 2 Receive license conversion confirmation from your reseller.
- 3 Stop the MiCollab AM application on the server to be converted to hardware licensing.
- 4 Plug in the USB dongle if not already plugged in.
- 5 Log in to the **License Management Utility**.

After logging in, you will notice that the server license that was previously listed as **Software** type is now listed as **Hardware**, and the **Server Identifier** field displays the USB dongle ID.

- 6 Click the **Save License to Disk** button and save the **.dat** license file to disk.
- 7 Import the new license from the **Licensing** tab of **MiCollab AM Configuration**.
- 8 Start the MiCollab AM application.

Replacing a Software Licensed Defective Server

IMPORTANT If re-licensing a previously registered server, you must unregister that server before re-registering it against a new license slot.

To replace a Software Licensed Defective Server:

- 1 Follow the installations steps for the new server, up to setting up the license.
- 2 Make sure the new server is connected to internet.
- 3 Install the **License Management Utility** as instructed in the [Installing the License Management Utility](#) section.
- 4 Log in to the **License Management Utility** from the new server.
After logging in, you will notice that the old defective server is still listed as registered.
- 5 Select the row corresponding to the defective server.
- 6 Click the **Unregister** button. Your machine will be unregistered.
- 7 Click on the server row showing as **Not Registered**, and in the **Server Identifier** field, type in the name for the server.
- 8 Click the **Register** button.
- 9 Click the **Save License to Disk** button and save the license file to disk if you no longer have it available.
- 10 Continue the MiCollab AM system installation and provide the license file when required.
- 11 After the installation is complete the new MiCollab AM server will acquire the software license from the software licensing cloud provider.

Changing System Server Fingerprint

A server fingerprint might change if certain hardware components are replaced, or if the entire server is replaced.

After System Server registration via the **License Management Utility**, the software license is linked to the System Server fingerprint. A fingerprint change will cause the license to become invalid.

IMPORTANT If re-licensing a previously registered server, you must unregister the server before re-registering it.

To change System Server Fingerprint:

- 1 Stop the MiCollab AM application.

- 2 Log in to the **License Management Utility** from the server which the fingerprint has changed.
- 3 Select the row corresponding to the server.
- 4 Click the **Unregister** button. This will unregister your System Server.
- 5 Click on the server row showing as **Not Registered**, and in the **Server Identifier** field, type in the name for the server.
- 6 Click **Register** button.
- 7 In the MiCollab AM installation directory, delete the **SentinelCloudUsage** folder.
- 8 Start the MiCollab AM application. Upon startup the application will acquire the software license from the software licensing cloud provider.

Other License Management Utility Uses

The **License Management Utility** does not require any MiCollab AM components to run. It can be installed on servers or workstations that run a MiCollab AM supported operating system.

IMPORTANT When installing the **License Management Utility** on a server or workstation that is not your MiCollab AM system server, make sure you DO NOT use the **Register** function.

Depending on the circumstances, you might find it useful to use the **Unregister** and **Save License to Disc** functions on a system that is not your MiCollab AM server; for example, if you use hardware licensing and the MiCollab AM server doesn't have internet access.

The **License Management Utility** also allows you to save the server signature, also known as the server fingerprint. While you don't need to do this during the normal licensing process, you might need to save and send the fingerprint to Mitel Technical Support for troubleshooting purposes.

For this, generate the proper system fingerprint for either Hardware Based Licensing or for Software Based Licensing by clicking the appropriate **Save Software Fingerprint** or **Save Hardware Fingerprint** button in the **License Management Utility**.

Installing MiCollab AM Server Software

The installation of both the System Server and the Call Server(s) is identical until you reboot the server. Be sure to exit any running Windows programs before starting the Setup program.

IMPORTANT On Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience) the Local Security Policy, **User Account Control: Detect application installations and prompt for elevation**, must be **enabled** before you begin the MiCollab AM Server software installation.

For more information about changing the security setting, refer to the [Installing the Operating System](#) section or refer to the Windows help.

If the security policy is not enabled, a pop-up message displays when you insert the MiCollab AM Installation Media.

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 Administration Guide* 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.

If autorun is...	Then...
Enabled	The Mitel MiCollab AM 9.2 installation front page appears. Skip to Step 6 .
Disabled	On the taskbar go to Start > Run > Browse , and then go to Step 5 .

- 5 Open the location where the installation media is inserted, and double-click the **start.hta** file. The MiCollab AM installation front page appears.
- 6 In the **Server Components** menu area, select **MiCollab AM Server (System or Call Server)**.
- 7 In the **Welcome** page, click **Next**. The **License Agreement** dialog box appears.
- 8 Click **Yes** to accept the License Agreement.
- 9 If you have not installed the **MiCollab AM Speech and TTS Support** components, a warning appears.

IMPORTANT You must accept the terms of the license agreement to continue with the setup.

- 10 Click **Next**, to continue to the next step of installation. The **Select Hardware Support Components** dialog box appears.
- 11 In the **Software** list, select the check boxes for the corresponding software required for your MiCollab AM installation.

NOTE If the installation detects the current version of any of the software packages is valid, the corresponding check box is not available.

- Dialogic System Release 6.0 PCI Update 271
- Aculab Driver Software Package 8.20.0.1
- Avaya/Nortel BCM Enabling Software

- 12 Click **Next** to continue. The **Select Components** dialog box appears.

NOTE It is recommended that you install the software components you require for the application now, regardless of whether you intend to enable them for service later. Installing components later requires a reinstallation of the MiCollab AM software and any related updates or patches.

- 13 In the **Components** list, select the check boxes to for the corresponding components required for your MiCollab AM installation.

- **Client Network Install** – Copies the MiCollab AM client application setup files to another directory on the server platform or to a shared directory on the LAN or WAN, in addition to installing the MiCollab AM software on the server platform.
- **UCConnect** – Installs the UCConnect Development System on the System Server platform. See the *UCConnect System Administrator Guide* for details.
- **Digital Networking** – Installs support for voice and fax networking over the internet on the System Server platform. See the *NetConnect Digital Networking System Administrator Guide* for instructions on configuring a digital networking application.

NOTE Digital Networking is not supported in a multi-tenanted system.

- **Digital Networking Configurator** – Installs the Digital Networking Configurator. See the *NetConnect Digital Networking System Administrator Guide* for more information.
- **SNMP Support** – Installs the SNMP support. You must install the SNMP support on the System Server and on each Call Server on which you want to use the SNMP support feature. If you want to install the SNMP component, you must first install the SNMP Service.

See the Windows Help for instructions. The **AVTC.mib** and **AVTC.tdf** configuration files you need to configure the **SNMP Management** console are located on the MiCollab AM Installation Media in the **\Server Installs\Server Installs\Telephony Server\SNMP** folder.

- **Web Client** – Installs the Web Client application. See the *Web Client System Administrator Guide* for more information.

- 14** Verify that the **Destination Folder** points to the location where you want MiCollab AM installed.

If you want to change the default destination folder, click **Browse**, and then type or select the drive and folder destination from the list.

IMPORTANT It is recommended that you install MiCollab AM on a different partition than the operating system. By default, MiCollab AM is installed on the **D** drive partition in the **\CX** folder.

- 15** Click **Next**.

- 16** Depending on whether or not you chose **Client Network Install** as one of the components to install, proceed as following:

- If you chose **Client Network Install**, the **Network Client Installation Path** page appears. Continue to **Step 16**.
- If you did not choose **Client Network Install**, skip to **Step 17**.

- 17** In the **Network Client Installation Path** page, accept the default destination folder or click **Browse** to choose a different location.

NOTE Although you can install client program files to the default folder on the server platform, Mitel recommends that you install them to a shared directory on the network. You must have the correct permission in Microsoft Windows to create a shared directory on the network. If you have already created a shared directory on the network for the MiCollab AM client program installation files, click **Browse** to locate the directory.

- 18** Click **Next**, to continue the installation.

- 19** Depending on whether or not you chose **Digital Networking** as one of the components to install, proceed as following:

- If you chose **Digital Networking**, the **Digital Networking Administration Account** page displays, continue to **Step 20**.
- If you did not choose **Digital Networking**, skip to **Step 21**.

- 20** In the **Digital Networking Administration Account** page, create the **Username** and **Password**, and then confirm the password.

IMPORTANT The account credentials you specify in this step is created automatically on the Digital Networking server.

However, in **MiCollab AM Admin**, you must manually create an administrator and give the administrator the Digital Networking admin access with the exact same username and password.

Otherwise, the Digital Networking server cannot log on to the System Server with adequate permissions to transmit messages or propagate mailboxes.

For more information, see the *System Administration Guide* and the *NetConnect Digital Networking Administration Guide*.

21 Click **Next**. The **Start Copying Files** dialog box appears.

22 Verify the components you are about to install, and then click **Next**. The installation starts.

IMPORTANT If you previously selected the **Dialogic** Hardware Support Component, a pop-up dialog box may display during the software installation process noting, **Windows can't verify the publisher of this driver software**.

To continue with the installation, select **Install this driver software anyway**.

23 After Setup finishes copying the files to the server:

- If the **Windows Error Reporting Configurator** dialog box displays, continue to **Step 24**.
- If the dialog box does not display on your system, skip to **Step 25**.

24 In the **Windows Error Reporting Configurator** dialog box:

- Click **Yes** to configure the **Windows Error Reporting** to send output log files to the **\CX\Log** folder.

NOTE Sending the file to the **\CX\Log** folder allows the system to gather as much information as possible in the event of a system failure.

- Click **No** to leave the existing settings.

25 When the first part of installation finishes, the **System Restart Required** dialog box appears. Select **Yes, I want to restart my computer now**, remove any disks from their drives, and then click **Finish** to restart your computer. The installation continues after the computer restarts.

NOTE If you select **No, I will restart my computer later**, and then click **Finish**, the installation will not continue until the computer has been restarted manually.

26 After the platform restarts, sign in as the Administrator. A prompt may display to alert you that the installation is resuming, and then the software continues installing.

27 Continue to the next section, [MiCollab AM Setup and Database Initialization](#).

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.

MiCollab AM Setup and Database Initialization

Once you have completed the software installation, you must continue through the setup program and database initialization process. During the setup procedures, you are prompted to choose logon account names for **MiCollab AM Services**, choose a mailbox number length, select a telephone system and integration, configure language packs, and choose whether to use the standard database.

Setting the Log-on Account for the MiCollab AM Services

Call Servers must access the System Server in order to share files. To do so, the **MiCollab AM File Manager Service** on the System Server and all of the Call Servers must have administrator-level logon rights. Furthermore, if you are using Microsoft Exchange, the MiCollab AM Service must likewise have administrator-level logon rights.

NOTE If you have not already created the same administrator-level user on both the System Server and all of the Call Servers you must do so before continuing with the installation.

During the database initialization, you can configure the **MiCollab AM File Manager** and **Services** for Unified Messaging or to use with a multi-server MiCollab AM system.

- Configure the **MiCollab AM File Manager Service** on the System Server and each Call Server to use the **Online Backup Location** feature to a network location.
- Configure the **MiCollab AM File Manager Service** on the System Server and each Call Server to allow each server to communicate and share files with each other.
- Configure the **MiCollab AM Service** on the System Server and each Call Server if you are going to use the Unified Messaging feature.

To set the logon account for the Services:

- 1 In the **Database Initialization – Service Configuration** dialog box, select **New System Installation** in the **Initialization Mode** section.
- 2 Click the **Launch Windows Services Manager** button. The **Services** window appears.
- 3 In the list of Services, double-click **MiCollab AM File Manager**. The **MiCollab AM File Manager Properties** dialog box appears.
- 4 Select the **Log On** tab, and then click the **This account** radio button.
- 5 Type the administrator's account name or click **Browse** to search for the name.
- 6 Enter the password in the **Password** and the **Confirm password** fields, and then click **OK**.

IMPORTANT You must delete the dots that are shown in the **Password and Confirm password** fields and enter the correct password in these fields before you click **OK**.

- 7 A dialog box displays to tell you that the account you selected has been granted the **Log On Service** right. Click **OK**.
- 8 Another dialog box displays informing that you must stop and restart the **Services** in order for your changes to take effect (if they are running). Click **OK** to continue.
- 9 From the **Services** window, right-click **MiCollab AM File Manager**, and then click **Start** or **Restart** (Optional).
- 10 Close the **Services** window. You are taken back to the **Database Initialization – Service Configuration** dialog box.
- 11 Click **Next**. The **Database Initialization - Service Configuration** dialog box appears. Proceed to the next section, [Choosing the Role of the Server](#).

Choosing the Role of the Server

The next step in configuring MiCollab AM is to choose the role of the server. You must choose whether the server is a System Server or a Call Server. You can configure the System Server to include Call Services on a single platform configuration.

Initializing the Database as a System Server

To initialize the database as a System Server:

- 1 In the **Database Initialization - Service Configuration** dialog box, click **Next**. The **Database Initialization - Local Server Settings** dialog box appears.

Database Initialization - Local Server Settings

Local Server Configuration

Server Role: ☒ System Server ☐ Call Server

☒ Include Call Services

View Readme...

System Name:

Server Display Name:

Network Address: ☐ IP ☒ DNS

Online Backup

IMPORTANT: By default, the Daily Maintenance routine backs up minimal data to a location on the local drive only, and this default backup generated cannot be used to restore a system. To maintain a full backup that can be used to restore your system, you must specify a valid Location below where you want to store database, message, report, and speech files during the Daily Maintenance routine.

Location:

< Back Next > Cancel Help

- 2 The **Server Role** is set to **System Server** by default.
- 3 The **Include Call Services** check box is selected by default. If do not want to include call services on your MiCollab AM System Server, clear this check box.

NOTE A System Server can function as a combined System Server with Call Services.

- 4 In the **System Name** field, type the name of your system. The system includes the System Server and all of the Call Servers.
- 5 In the **Server Display Name** field, type the name of that can identify this server.
- 6 In the **Network Address** field, select either **IP** or **DNS**, and then enter your network address into the text field.
 - If you select **IP**, enter the TCP/IP address of the server.
 - If you select **DNS**, enter the domain name address of the server.
- 7 Click **Next**. The **License Key Import** dialog box appears. Proceed to the [Installing the License Key](#) section.

Initializing the Database as a Call Server

Once you have installed the MiCollab AM software on a Call Server, you are ready to initialize the server and authenticate it with the System Server. Call Servers do not require an individual license key; they authenticate with the System Server.

The System Server must be installed and a Node license must be available before you can initialize a Call Server. The Call Server authenticates with the System Server through a network connection; make sure the Call Server is properly networked with the System Server before you begin.

IMPORTANT Each Call Server requires a Node license on the license key of the System Server.

To initialize database as a Call Server:

- 1 In the **Database Initialization – Local Server Settings** dialog box, select the **Call Server** radio button from the **Local Server Configuration** section.

The screenshot shows the 'Database Initialization - Local Server Settings' dialog box. It is divided into two main sections: 'Local Server Configuration' and 'Online Backup'. In the 'Local Server Configuration' section, the 'Server Role' is set to 'Call Server' (indicated by a selected radio button), and the 'Include Call Services' checkbox is checked. The 'System Name' field contains '<UNASSIGNED>', the 'Server Display Name' field contains 'CallServer', and the 'Network Address' is set to 'DNS' (selected radio button) with the text 'server.labs.local' entered in the adjacent field. A 'View Readme...' button is located to the right of the 'Local Server Configuration' section. The 'Online Backup' section contains an 'IMPORTANT' note about the default backup location and a 'Location' field with a 'Browse...' button next to it. At the bottom of the dialog, there are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

- 2 In the **Server Display Name** field, type the name of this server.
- 3 In the **Network Address** field, select either the **IP** or the **DNS** radio button, and then enter your network address into the field
 - If you select **IP**, enter the TCP/IP address of the server.
 - If you select **DNS**, enter the domain name address of the server.
- 4 Click **Next**. The **Database Initialization - System Server Information** dialog box appears.

Database Initialization - System Server Information

For this Call Server to become operational, it must belong to a System. To become part of a system, please specify the network address and logon credentials to the system server which to join.

System Server Connection Information

Network Address:

MiCollab AM Administrator:

Password:

Port:

< Back Next > Cancel Help

- 5 In the Network Address field, enter the network address of the System Server.
 - If you are using **IP**, enter the TCP/IP address of the System Server.
 - If you are using **DNS**, enter the fully qualified domain name of the System Server.
- 6 Enter the MiCollab AM Administrator **ID** and **Password**.
- 7 Enter the **Port** value. You can leave it as the default setting.
- 8 Click **Next**. The server attempts to communicate with the System Server and authenticate to it.
- 9 Once authentication is complete, a notification popup advises you that the authentication process is successful and complete.
- 10 Click **OK**. The **Database Initialization Parameters** dialog box appears. Proceed to the [Selecting Required Parameters](#) section. (Skip the [Installing the License Key](#) section.)

Installing the License Key

The Setup program for the System Server uses the license key, or feature file (feature.dat) to determine which features and modules it should enable.

In the case of an upgrade, Setup may not ask for the feature file if it can find feature information for the components and items you have selected previously in Setup. However, if you are upgrading from a previous version of software, you must install a new license key.

NOTE Call Servers do not require a license key; they authenticate themselves automatically on a regular basis with the System Server in order to receive license certificates.

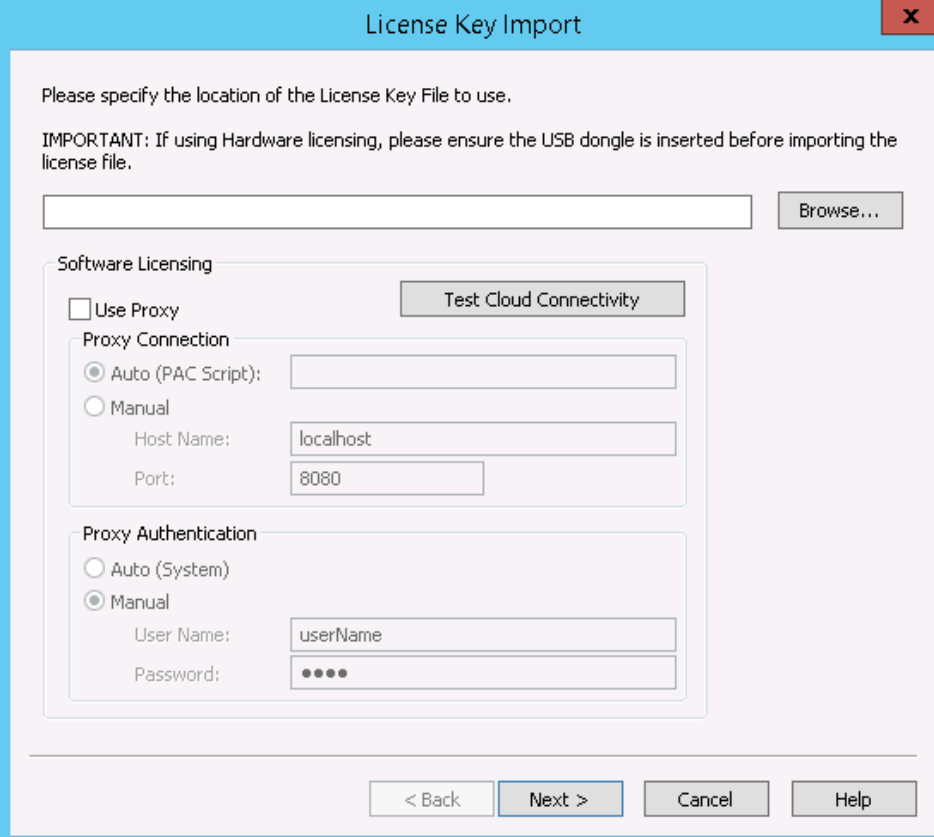
To install the License key:

IMPORTANT Make sure the following prerequisites are met prior to installing the license key:

- If you are using a Hardware licensing, make sure that the USB dongle is inserted.
- If you are using a Software licensing, make sure that you have generated the license key (feature file) using **License Management Utility**. For more information about how to license your system and get the feature file via **License Management Utility**, refer to the [Licensing the Messaging System](#) and [Using the License Management Utility](#) sections.

If you have the license key handy, proceed with the following steps.

- 1 In the **License Key Import** dialog box, click **Browse** to locate the feature file (**feature.dat**).

The image shows a screenshot of the 'License Key Import' dialog box. The title bar is blue with the text 'License Key Import' and a red close button. The main area is light gray. At the top, it says 'Please specify the location of the License Key File to use.' followed by 'IMPORTANT: If using Hardware licensing, please ensure the USB dongle is inserted before importing the license file.' Below this is a text input field and a 'Browse...' button. Under the 'Software Licensing' section, there is a 'Use Proxy' checkbox. To its right is a 'Test Cloud Connectivity' button. Below the checkbox is a 'Proxy Connection' section with two radio buttons: 'Auto (PAC Script):' (selected) and 'Manual'. The 'Manual' option has sub-fields for 'Host Name:' (containing 'localhost') and 'Port:' (containing '8080'). Below that is a 'Proxy Authentication' section with two radio buttons: 'Auto (System)' and 'Manual' (selected). The 'Manual' option has sub-fields for 'User Name:' (containing 'userName') and 'Password:' (containing four dots). At the bottom of the dialog are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

- 2 If you are using a Hardware licensing, click **Next**, and then skip to **Step 4**.
- 3 If you are using a Software licensing:
 - a Click the **Test Cloud Connectivity** button to ensure that you are connected to the network and test the cloud connectivity.

- b [Optional]** If your system uses the Proxy server, you can select the **Use Proxy** check box and configure the **Proxy Connection** and **Proxy Authentication** options.

Once you've entered the configuration options, click the **Test Cloud Connectivity** button to verify that the options are properly set.

- c** Click **Next**.

- 4** The **Database Initialization Parameters** dialog box appears. Proceed to the next section, [Selecting Required Parameters](#).

Selecting Required Parameters

The next steps require you to choose the mailbox length and a telephone switch. Additional parameters can be entered at this time to expedite the setup process.

To select the required parameters:

- 1** Enter the **Mailbox Length** in the **Database Initialization Parameters** dialog box. The mailbox length you enter typically matches the PBX extension number length used at the site.

NOTE If you need to increase the mailbox length in the future, you can change the value in **MiCollab AM Configuration**. From the **Tenant** tab, select a tenant to edit and adjust the **Mailbox Length** in the **Tenant Summary** dialog box.

However, you cannot decrease the current mailbox length unless you re-initialize the database, which will cause all data to be removed.

- 2 (Optional) In the **First Extension** box, assign the extension number that will be used as the first line (Line 1).

Subsequent lines are assigned automatically to the next extension number, incremented by one.

NOTE If you leave this box empty, you can assign extension numbers later from the **Lines** tab in **MiCollab AM Configuration**.

- 3 In the **Switch** section, select the **Switch Manufacturer**, **Model**, and **Integration Type**.

NOTE Be sure the license key is enabled for the telephone switch and integration type you select.

- 4 In the **Language** section, select the **American English only** check box if the system will use American English only for its language pack (prompts, ASR, and TTS).

NOTE The **American English only** option is disabled if American English is not available for one or more of the language components (prompt set, ASR language, or TTS language).

- 5 In the **Configure Now** section, select the **VIM** check box, if applicable.

NOTE If you do not want to configure this feature at this time, you can configure it later from the **VIM** tab in **MiCollab AM Configuration**.

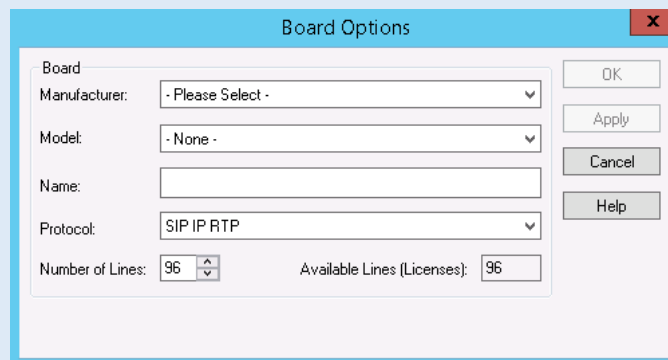
NOTE The **VIM** tab contains the information needed to support **Voice Intercept Messaging (VIM)** for subscribers. **VIM** is available only on systems that are integrated with specific telephone systems that support the **VIM** feature.

VIM is a licensed feature of Mitel and this tab is available only if the **VIM** feature is enabled on the license key. For more information about configuring **VIM** support, see the *VIM User Guide*.

6 Click **Next** to continue.

- If hardware linecards are automatically detected, the **Switch Options** dialog box appears.
- If hardware linecards are detected and you have additional virtual boards to configure, you can configure them later from **MiCollab AM Configuration**.

NOTE If you are implementing an **Internet Protocol (IP)** integration and there is no Dialogic or Aculab linecard installed in the telephony platform, the **Board Options** dialog box will display for the board configuration.



Refer to the [Integrating MiCollab AM with the Telephone System](#) section for information on these dialog boxes.

7 The **Switch Options** dialog box allows you to modify your switch settings. Typically, no changes are needed in this dialog box.

Switch Options [X]

Manufacturer:

Model:

System Switch:

System Switch Settings

Switch Name:

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

MWI Settings

Refresh Trigger: Refresh Type:

Refresh Interval: Initialize Mode:

Refresh Time of Day: Set Preference:

Inter-Switch Connectivity Group Assignments

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

Local Switch Settings

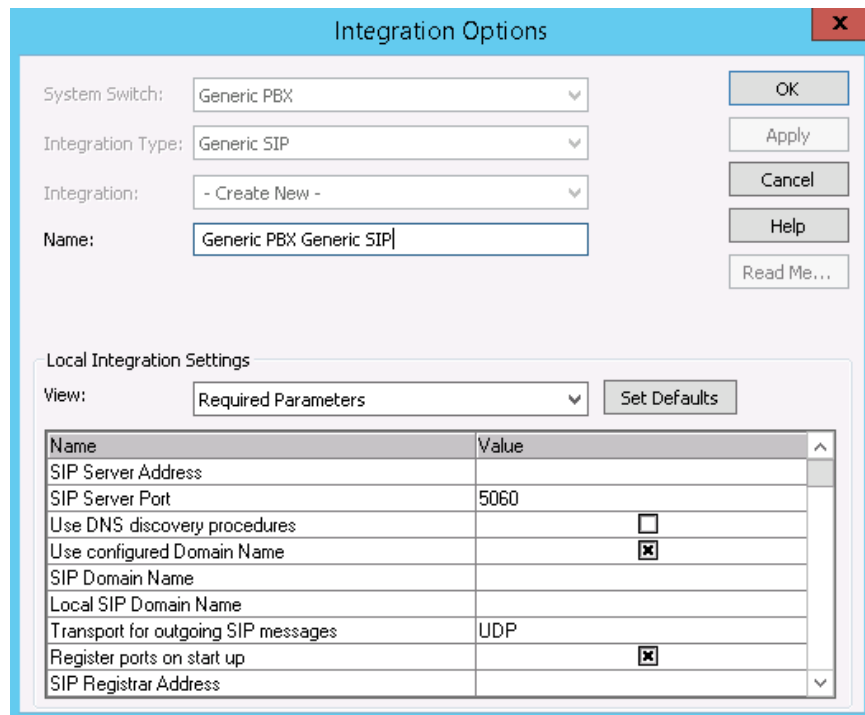
View:

Name	Value
Disconnect Loop Current Length (ms)	0
Flash Hook Time (ms)	500
T1 Protocol	FXS
T1 Signaling	Immediate

- 8 Click **OK** to accept the current settings. The **Integration Options** dialog box appears.
- 9 The options that appear in the **Integration Options** window are dependent on the type of integration you are using.

Verify that the integration settings are correct for the type of integration you are using, and then fill in any required parameters pertaining to the integration you are configuring.

NOTE Refer to the appropriate *Integration Technical Note* for information on configuring this dialog box.



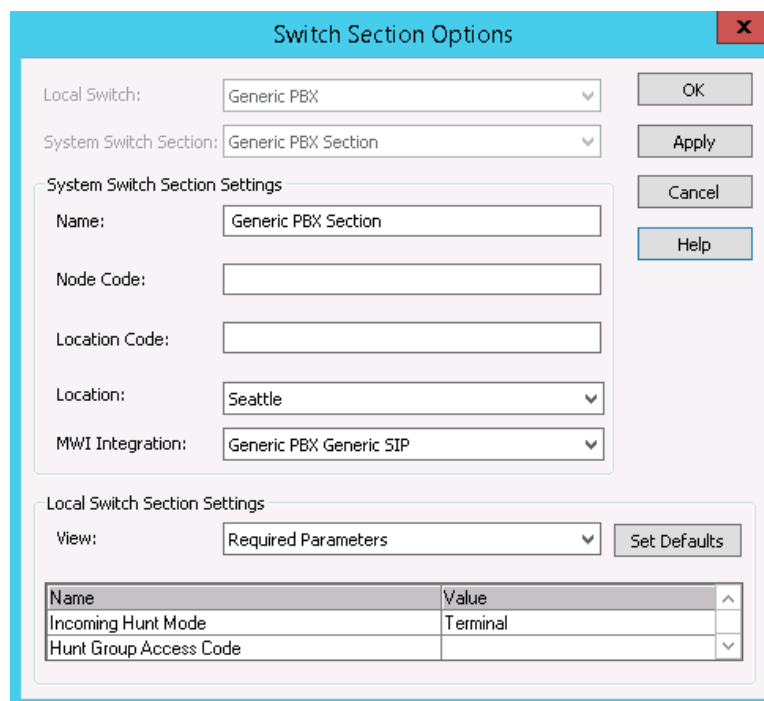
The **Integration Options** dialog box is shown. It contains the following fields and controls:

- System Switch:** Generic PBX (dropdown)
- Integration Type:** Generic SIP (dropdown)
- Integration:** - Create New - (dropdown)
- Name:** Generic PBX Generic SIP (text field)
- Buttons:** OK, Apply, Cancel, Help, Read Me...
- Local Integration Settings:**
 - View:** Required Parameters (dropdown)
 - Set Defaults** (button)
 - Table:**

Name	Value
SIP Server Address	
SIP Server Port	5060
Use DNS discovery procedures	<input type="checkbox"/>
Use configured Domain Name	<input checked="" type="checkbox"/>
SIP Domain Name	
Local SIP Domain Name	
Transport for outgoing SIP messages	UDP
Register ports on start up	<input checked="" type="checkbox"/>
SIP Registrar Address	

- 10 Click **OK** when you have filled in all the parameters required for the integration. The **Switch Section** dialog box appears.

NOTE See the appropriate *Integration Technical Note* for information on configuring this dialog box.



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

- Local Switch:** Generic PBX (dropdown)
- System Switch Section:** Generic PBX Section (dropdown)
- Buttons:** OK, Apply, Cancel, Help
- System Switch Section Settings:**
 - Name:** Generic PBX Section (text field)
 - Node Code:** (text field)
 - Location Code:** (text field)
 - Location:** Seattle (dropdown)
 - MWI Integration:** Generic PBX Generic SIP (dropdown)
- Local Switch Section Settings:**
 - View:** Required Parameters (dropdown)
 - Set Defaults** (button)
 - Table:**

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	

- 11 In the **Hunt Group Access Code** field, enter the value, and then click **OK**.

12 Depending on whether or not you chose to configure **VIM** now in **Step 5**, proceed as following:

- If you chose to configure **VIM**, proceed to the next section, [Configuring VIM](#).
- If you did not choose to configure **VIM**, skip to the [Configuring Language Packs](#) section.

Configuring VIM

If the Voice Intercept Messaging (VIM) feature is enabled in the MiCollab AM feature file, and you selected the **VIM** check box from the installation configuration page, the **VIM** page appears.

The screenshot shows a configuration window titled "VIM". At the top, there is a "Connection Type:" dropdown menu set to "None". Below this, there are two main sections. The "Serial Connection" section includes fields for "Port:" (set to 1), "Baud Rate:" (set to 1200), "Data Bits:" (set to 7), "Parity:" (set to Even), and "Stop Bits:" (set to 1). The "TCP/IP Connection" section includes a "Domain Address:" text field and a "Port ID:" dropdown menu set to 3001. At the bottom of the window, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

NOTES

- 1.** **VIM** is available only on systems that are integrated with specific telephone systems that support the **VIM** feature. **VIM** is a licensed feature and is available only if the **VIM** feature is enabled on the license key. For more information about configuring **VIM** support, see the *Voice Intercept Messaging* online book.
- 2.** The **VIM** settings can also be configured through the [VIM Tab](#) in **MiCollab AM Configuration**.
- 3.** For new installations or upgrades, the information provided during setup will belong to the first tenant on the system.

To configure VIM:

- 1** In the **VIM** page, choose your **Connection Type**.
 - If you choose **Serial Port**, the **Serial Connection** section will become active.

- If you choose **TCP/IP**, the **TCP/IP** Connection section will become active.
- 2 Configure the appropriate section as necessary.
 - 3 Click **Next**. The **Language** dialog box appears. Proceed to the next section, [Configuring Language Packs](#).

Configuring Language Packs

Setup displays the **Language** dialog box that allows you to edit Language Packs and enable them for use. Each Language Pack consists of a **Prompt Set**, **TTS Language**, and **ASR Language**, if licensed.

Default language packs are created and selected by default during database initialization on the System Server. Generation of default Language Packs is based on the TTS and ASR Languages selected at the time of TTS and ASR software installation.

NOTE TTS and ASR are licensed optional features of MiCollab AM. To use these features, you must purchase TTS and/or ASR resources from Mitel. The TTS and/or ASR Language selections may not be available for edit depending on what options are enabled on your MiCollab AM license.

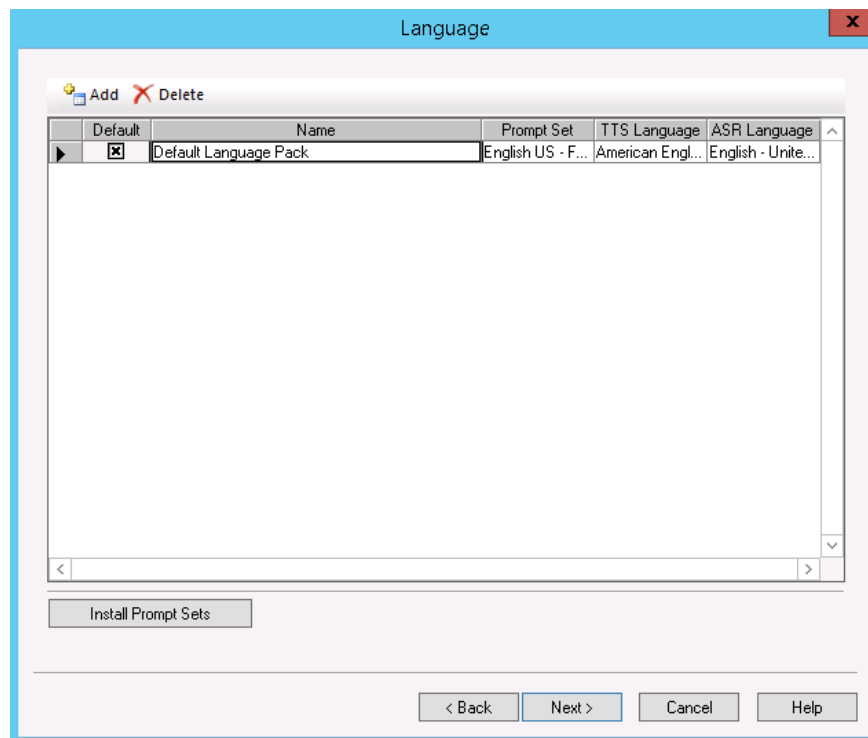

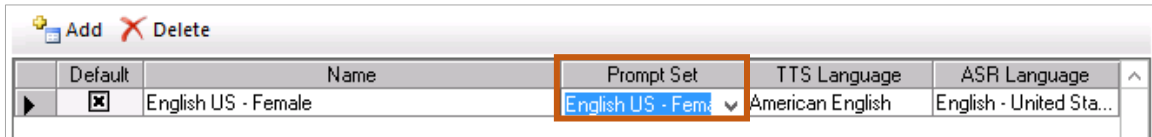


Figure 7. Language Dialog Box

To install and enable additional Prompt Sets:

- 1 Insert the MiCollab AM Installation Media into the appropriate drive.
- 2 In the **Language** dialog box, click the **Install Prompt Sets** button. The **Prompt Language Installation** dialog box appears.

- 3 Click the  (**Browse**) button. The **Prompt Language Directory Selection** dialog box appears.
- 4 Select the drive where the installation media is inserted, and locate the **\Server Installs\Telephony Server\Prompts** folder.
- 5 Select the language(s) you want to install, and then click **OK**. The **Prompt Set** files are copied to the hard disk drive of the server platform.
- 6 After the prompt files are copied to the hard disk drive, the installed **Prompt Set** will appear in the drop-down entries within the **Prompt Set** column in the **Language** dialog box.

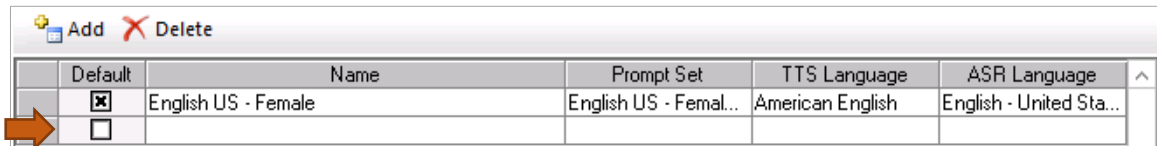


Default	Name	Prompt Set	TTS Language	ASR Language
<input checked="" type="checkbox"/>	English US - Female	English US - Fem...	American English	English - United Sta...

To create and configure additional Language Packs:

IMPORTANT The following steps apply to System Servers only.

- 1 To create a new Language Pack, click the **Add** button. A new row is created as shown below.



Default	Name	Prompt Set	TTS Language	ASR Language
<input checked="" type="checkbox"/>	English US - Female	English US - Femal...	American English	English - United Sta...
<input type="checkbox"/>				

- 2 Type a **Name** for the new Language Pack. Then, for each column (**Prompt Set**, **TTS Language**, and **ASR Language**), select languages as you would like configured for your new Language Pack.

IMPORTANT You may create as many Language Packs as you would like. However, the total number of **Prompt Sets**, **TTS Languages**, and **ASR Languages** that you can select individually, spanning across all Language Packs, is determined by your MiCollab AM license per language type. This number is limited to five (5) or fewer per language type.

For example, if your MiCollab AM license allows for 2 TTS Languages and 1 ASR Language, you may create multiple Language Packs. However, the Language Packs created must consist of at most 2 different TTS Languages, and must be assigned the same ASR Language in each entry.

- 3 To specify a Language Pack as the default entry, select the **Default** check box on the desired language pack row.

NOTE The default Language Pack is used by MiCollab AM unless specifically configured otherwise.

- 4 If you wish to migrate prompt recordings from one prompt set to another, click **Migrate Recordings**.

NOTE Migrating recordings from one language to another does not delete greetings such as mailbox greetings, personal greetings, etc. that were previously recorded and associated

with the prior language. Instead, a migration of the recordings results in the re-assignment of those prompts to the new language selected.

- 5 Click **Next**. The **Initialize Database** dialog box appears. Proceed to the next section, [Initializing the Standard Database](#).

Initializing the Standard Database

MiCollab AM offers a standard database of thirteen mailboxes. Some of these mailboxes have pre-recorded announcements, which include:

- Five **Call Processor** mailboxes
- Three **Subscriber** mailboxes
- Two **Announcement** mailboxes
- One of each **Distribution List**, **Mailbox Class of Service**, and **Availability Class of Service** mailboxes

The screenshot shows the 'Initialize Database' dialog box. It has a title bar with the text 'Initialize Database' and a close button (X). The main area contains the following options:

- ☒ Use Standard Database
- Auto Attendant User Interface:
 - ☐ DTMF
 - ☒ Speech
- Directory Key Mapping:
 - ☒ 1
 - ☐ 9
- Call Processor Transfer Type:
 - ☒ Blind
 - ☐ Transfer
 - ☐ Monitor
- Location (Required):

At the bottom of the dialog, there are four buttons: '< Back', 'Finish', 'Cancel', and 'Help'.

NOTE For new installations or upgrades, the information provided during setup will belong to the first tenant on the system.

To initialize the standard database:

- 1 Select the **Use Standard Database** check box to initialize the standard database.

IMPORTANT If you choose not to select Use Standard Database, you must manually create mailboxes and an Administrator User ID.

- 2 Choose how standard database creates the Automated Attendant User Interface. Select **Speech** if the **Speech** feature is installed. Select **DTMF** if the **Speech** feature is not installed. The default setting is Speech.

NOTE Unless licensed, speech is not available.

- 3 In the **Directory Key Mapping** box, select the **DTMF** key that callers should press to hear a directory of extensions. This key is mapped to the selected key on all of the Call Processor mailboxes created in the standard database.
- 4 In the **Call Processor Transfer Type** box, select the appropriate transfer type:
 - **Blind:** MiCollab AM initiates the transfer and releases the call.
 - **Transfer:** MiCollab AM initiates the transfer and monitors call progress for busy, reorder, and ring back tone before releasing the call.
 - **Monitor:** MiCollab AM initiates the transfer and monitors call progress for busy and reorder tones before releasing the call.
- 5 In the **Location** box, enter a name to describe the location of the system. The location is referenced within the **Call Routing** and **Auto Attendant Scheduling** configuration.

NOTE This field typically represents a geographical location such as Seattle.

IMPORTANT The **Location** value is required. The **Finish** button will not become active if this field has not been filled in.

- 6 Click **Finish**. The **Administrators** dialog box appears. Proceed to the next section, [Confirming Administrator User IDs](#).

Confirming Administrator User IDs and Completing Database Initialization

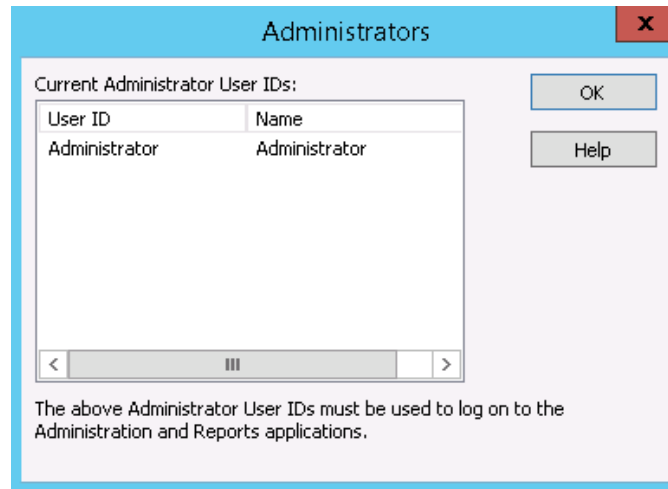
To use the **MiCollab AM Admin**, **Diagnostics**, **Line Status**, Mailbox Archive, and **Reports** utilities, you must have an **Administrator User ID** that has permission to use these utilities.

MiCollab AM employs a security model that grants permissions to **Administrator User IDs** (also called administrator accounts). Administrators who have Windows domain accounts that match their **Administrator User IDs** (if the Windows Logon option is set for them) can access these utilities without retyping their user IDs and passwords.

When you install MiCollab AM for the first time, an **Administrator User ID** called *Administrator* is created. This account is granted with the permission to access all administrative functions automatically in the **MiCollab AM Admin**, **Diagnostics**, **Line Status**, and **Reports** utilities. See the **Help** or the *System Administration Guide* for information on modifying this **Administrator User ID**.

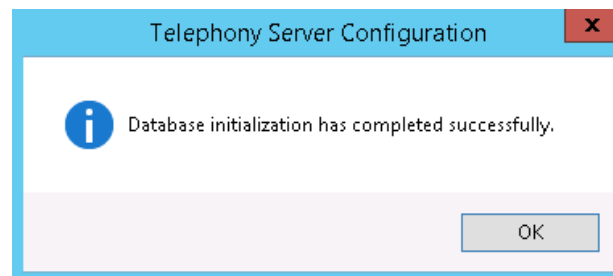
To confirm Administrator User IDs and complete the setup process:

- 1 In the **Administrators** dialog box, click **OK** to confirm.



NOTE The **Administrator** dialog box, as shown above is intended to show only the administrator accounts that currently exist. New installations display the default administrator account while upgraded systems display any additional accounts that have been created. You cannot change any of the administrator accounts in this dialog box.

- 2 A prompt appears, alerting you that the initialization is complete.



- 3 Click **OK**. The MiCollab AM setup and database initialization is now complete.

Controlling SSL/TLS Protocols for Secure Connections

It is recommended that the System Server and Call Servers use TLS 1.2 or later to create secure connections. Previous versions of these protocols, SSL 3.0, TLS 1.0, and TLS 1.1 are not recommended for secure connections. System administrators can disable SSL 3.0, TLS 1.0, TLS 1.1 and TLS 1.2 for the SOAP server by manually modifying the SSLConfig.xml file located in the CX\Bin directory.

NOTE SSL 3.0 is permanently disabled from 9.0 SU3 and onwards.

To restrict protocols for secure connections on each System Server/Call Server:

- 1 Open the **MiCollab AM Configuration** utility on the System Server.
- 2 On the **Main** tab, click the **Daily Maintenance...** button and make a Complete backup of the system to a network location or USB storage device. When finished, close the **Daily Maintenance** window.
- 3 On the **Main** tab, click **Shutdown** to stop the MiCollab AM service.
- 4 After the server has been shutdown, modify the SSLConfig.xml file in the CX\Bin directory with the following changes. Make sure that the following attributes are defined for the XML Element, SSLConfig. These attributes may be added if they are not already present. There is no need to add an attribute if you are setting it to 0 or empty value:

- NoTLSv1="1"
- NoTLSv1.1="1"
- NoTLSv1.2="0"

NOTE This can be set to 1 in order to disable TLSv1.2. However, doing so may break some applications. Limited functionality is supported with TLS 1.2. For more information, contact Technical Support.

- CipherList
This may be set to any values that are supported by OpenSSL. For example, setting it to "DEFAULT:!3DES" will make the server use the default cipher list but disable all cipher suites using 3DES.

Below is an example of the SSLConfig.xml file.

```
<?xml version="1.0" encoding="UTF-8"?>  
<SSLConfig CipherList="DEFAULT:!3DES" NoTLSv1.2="0" NoTLSv1.1="1" NoTLSv1="1"/>
```

- 5 Open **MiCollab AM Configuration**, and on the **Main** tab, click **Startup** to restart the MiCollab AM service manually, after which Automatic Startup will function normally.

More steps to control ciphers for secure connections for integrations

- 1 From **MiCollab AM Configuration**, click the **Integrations** tab.
- 2 From the **Integrations** list, select your integration, and then click **Edit**.
- 3 In the **Local Integration Settings** section, select the **Connection Security Parameters** view, and then scroll down to locate the **Override list of ciphers to use** parameter.
- 4 In the **Override list of ciphers to use** parameter, specify the ciphers or cipher suites to be used for your integration in Open SSL format. In the example below, SHA1+DES is used and represents all cipher suites containing the SHA1 and the DES algorithms.

Integration Options [X]

System Switch: Generic PBX [v]
 Integration Type: Generic SIP [v]
 Integration: Generic PBX Generic SIP [v]
 Name: Generic PBX Generic SIP [text]
 [OK] [Apply] [Cancel] [Help] [ITN...]

Local Integration Settings

View: Connection Security Settings [v] [Set Defaults]

Name	Value
Enable TLS	<input type="checkbox"/>
SIP server TLS Port	5061
SIP Local TLS Port	5061
SSL/TLS protocol version	TLS V1.2
Override list of ciphers to use	SHA1+DES
Preferred URL Scheme	sip
Thumbprint call server certificate	...
Thumbprint remote root CA certificate	...
MTLS (Mutual TLS) required	<input type="checkbox"/>

[Add Trusted SIP Server Address] [Remove Trusted SIP Server Address]

☒ Show thumbprint properties [allows selection of certificates from Windows certificate store]

[Add Local Issuer Certificate] [Remove Local Issuer Certificate]
 [Add Remote Trusted Certificate] [Remove Remote Trusted Certificate]

NOTE The **Override list of ciphers to use** parameter is empty by default which means all ciphers will be used.

Starting MiCollab AM for the First Time

This section discusses creating desktop shortcuts you want for the MiCollab AM utilities and Windows utilities, allocating lines, starting MiCollab AM and installing the permanent license.

Once you have completed the software installation and the database initialization you are ready to start MiCollab AM for the first time. If you installed Dialogic software, verify that the Dialogic Configuration Manager has correctly identified the linecards and all of the parameters for the linecards are configured correctly for your system.

Configuring Dialogic Linecards

If you installed the Dialogic system software, you must change the settings in the Dialogic Configuration Manager (DCM) for your site if you are using unique country codes, or third-party software/linecards. For more information, refer to the appropriate spare parts document that is included in the Mitel documentation library.

Creating Shortcuts for MiCollab AM Icons on the Desktop

As a convenience, you may want to create shortcuts on the Windows desktop. By creating shortcuts, you can quickly find and access them because they are located in one place. For instructions on creating program shortcuts, refer to the Windows Help.

As an example, the following procedure shows you how to place a shortcut on the Windows Server desktop for **MiCollab AM Config**.

To place a shortcut for MiCollab AM Config:

- 1 From the Windows taskbar, go to **Start > Programs > MiCollab AM Desktop**.
- 2 Right-click **MiCollab AM Config** and drag it to the desktop.
- 3 Release the button and select **Create Shortcut here**.

NOTE For easy access to utilities used during troubleshooting, you may also want to consider creating shortcuts on the Windows Server desktop for the Event Viewer in the Administrative Tools (Common) program folder and the Services and Devices icons in Control Panel.

Licensing and Line Allocation

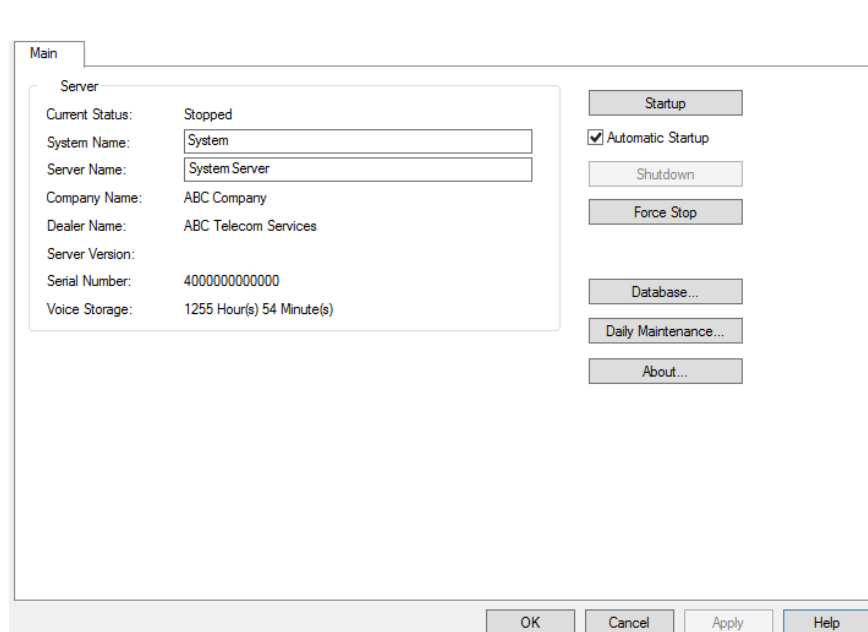
MiCollab AM dynamically allocates line usage per server based on the total number of Voice Lines specified on the license key. The total number of voice lines pertains to the entire system. For example, if you have a System Server with Call Services with lines and two Call Servers in the system, the total number of voice lines is shared between the three servers. Line allocation between servers is performed from the **Lines** tab in MiCollab AM Configuration.

Voice line licenses are allocated to the Call Server when they are allowed to open. De-select any lines in the **Lines** tab that you do not want to assign to each particular server. For example, if you have 24 Dialogic ports installed in one Call Server but you only want to use 12 voice line licenses and assign the remaining voice lines to other Call Servers, de-select the 12 lines you do not want to open at startup in the **Lines** tab.

NOTE MiCollab AM must be shutdown to open or close lines in the **Lines** Tab.

To allocate voice lines between call servers:

- 1 Go to **Start > Settings > Control Panel**
- 2 Double-click **MiCollab AM Configuration**. MiCollab AM Configuration starts on the **Main** tab.



- 3 Click the **Lines** tab.

Lines

☒ Busy telephone line when closed

Line	Extension	Switch Integration Name	Section	Callouts	Open
1		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Fill Down

OK Cancel Apply Help

- 4 In the **Open** column, de-select the individual lines that you do not intend to allocate to the server.
- 5 Click **Apply**.

Enabling Lines for MiCollab AM Unified Messaging

If the optional MiCollab AM Media player (installed on the subscriber's Windows workstation) will be deployed, the MiCollab AM server administrator must enable lines on the **Lines** tab so the MiCollab AM system can make callouts. This type of callout allows subscribers to use a telephone to listen to messages when using the optional MiCollab AM Media Player.

In addition, the server administrator must verify that the values are appropriate for the **Incoming Line Reserve** and **Maximum Callouts** settings on the **Switch Section Options** dialog box from the **Switch Sections** tab.

To enable lines for client applications:

- 1 Open **MiCollab AM Configuration** and select the **Lines** tab.
- 2 Select **Callouts** for each line allowed for MiCollab AM Unified Messaging callouts, and then click **Apply**. If necessary, refer to the online help for information about the **Lines** tab.
- 3 Select the **Switch Sections** tab.
- 4 Select the switch section from the list, and then click **Edit**. The **Switch Section Options** dialog box appears.
- 5 From the **Switch Section Options** dialog box, select **All Parameters** from the **View** list.
- 6 Verify that the values in the **Incoming Line Reserve** and **Maximum Callouts** settings are appropriate. Change the values as necessary.

NOTE Keep in mind that the total number in both settings cannot exceed the number of lines in your system. If necessary, refer to the online help for information about the **Switch Section Options** dialog box.

- 7 Click **OK** to close the **Switch Section Options** dialog box.
- 8 Click **OK** to close **MiCollab AM Configuration**.

Changing the Startup Mode

If you want MiCollab AM to start automatically in subsequent restarts, enable the automatic startup feature. When enabled, MiCollab AM starts automatically in the event of a server restart.

To change the Startup mode:

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **MiCollab AM Configuration**.
- 3 On the **Main** tab, select the **Automatic Startup** check box, and then click **Apply**.

The screenshot shows the 'Main' tab of the 'MiCollab AM Configuration' dialog box. The 'Server' section on the left contains the following fields: 'Current Status' (Stopped), 'System Name' (System), 'Server Name' (System Server), 'Company Name' (ABC Company), 'Dealer Name' (ABC Telecom Services), 'Server Version' (empty), 'Serial Number' (4000000000000), and 'Voice Storage' (1255 Hour(s) 54 Minute(s)). On the right, there are buttons for 'Startup', 'Shutdown', 'Force Stop', 'Database...', 'Daily Maintenance...', and 'About...'. The 'Automatic Startup' checkbox is checked. At the bottom, there are buttons for 'OK', 'Cancel', 'Apply', and 'Help'.

Starting MiCollab AM

When you initially install the MiCollab AM software, you must start the MiCollab AM software manually. You also need to start MiCollab AM after performing a procedure that has required you to shut it down. The System Server and each Call Server are started in the same manner from the **Main** tab of **MiCollab AM Configuration**.

To start the software:

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **MiCollab AM Configuration**.
- 3 On the **Main** tab, click the **Startup** button.

Verifying that MiCollab AM is Running

MiCollab AM is installed as a Service, not as an application program. Therefore, MiCollab AM does not appear as an icon or a button on the Windows taskbar.

To verify that MiCollab AM is running:

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **MiCollab AM Configuration**.
- 3 On the **Main** tab, verify that the **Current Status** line indicates **Running**.

Shutting Down the System Server

Some installation and maintenance procedures require that you shut down the System Server or Call Server first. In most situations, the server prompts you, allowing you to continue that procedure or cancel it.

If you plan to shut down the operating system as well, Mitel recommends that you shut down the MiCollab AM processes before you shut down the operating system.

IMPORTANT Do NOT use the hardware reset button on the server platform at any time. Also, do NOT just power off the server platform. Shut down the MiCollab AM software processes, and then the operating system. Allow the operating system to power off the system. If you do not properly shut down both, you can lose important data.

To shut down the System Server:

- 1 Start the **MiCollab AM Configuration** utility.
- 2 On the **Main** tab, click **Shutdown**.

While shutting down, a Call Server warns callers still on the line with the prompt, *The system is shutting down; please hang up now*. The Call Server shuts down all inactive lines.

For example:

If a line is active, an outside caller is leaving a message the server waits for the line to become inactive before closing it.

NOTE Use the **Line Status** utility to observe the lines if necessary. If a line remains active, you can force the line closed by clicking **Force Stop**. However, forcing a line to close may disconnect an outside caller or subscriber before they have completed the purpose of their call.

MiCollab AM Configuration Utility

The **MiCollab AM Configuration** utility is installed in the Windows Control Panel on the System Server platform when you install the MiCollab AM server software. If you followed the recommendations for creating shortcuts as described in the previous section, there is also a shortcut on the Windows Desktop for the **MiCollab AM Configuration**.

To use **MiCollab AM Configuration**, you must be logged on to the System Server platform locally, using an account that has administrator privileges. **MiCollab AM Configuration** does not have a corresponding client application for use at machines other than the System Server. For most operations, however, it is possible to access MiCollab AM Configuration by means of a remote-control utility, such as Windows Remote Desktop.

Many changes and modifications that you perform with **MiCollab AM Configuration** can be completed with the system running and processing calls. All such changes take effect immediately. Some modifications, such as hardware-level integration configuration and major database structure changes, can only be performed with the System Server shutdown. Items that cannot be configured with the system running are grayed out or presented in a read-only mode until the system is stopped.

As a rule, installers or maintenance technicians perform changes to **MiCollab AM Configuration**. The customer's administrator(s) generally do not use **MiCollab AM Configuration** and may not even need to be aware of its presence. When training end-user administrators, it is a good idea to warn the administrators that any changes in MiCollab AM **Configuration** should be first reviewed with their service provider. Modifications applied to **MiCollab AM Configuration** incorrectly can produce unexpected results, generate system-wide problems, result in loss of valuable data, or even cause a complete system failure.

NOTE For full procedural documentation on **MiCollab AM Configuration**, see the online help.

To start MiCollab AM Configuration:

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **MiCollab AM Configuration**. The **MiCollab AM Configuration Main** tab appears.

Main Tab

The **Main** tab allows you to shut down and start up the call handling Services for maintenance or to make changes to the System Server. It also allows you to change the system name and access the **Database** and the **Daily Maintenance** dialog boxes on the System Server. Further, it displays attributes of the System Server software and the voice storage available on the System Server hardware.

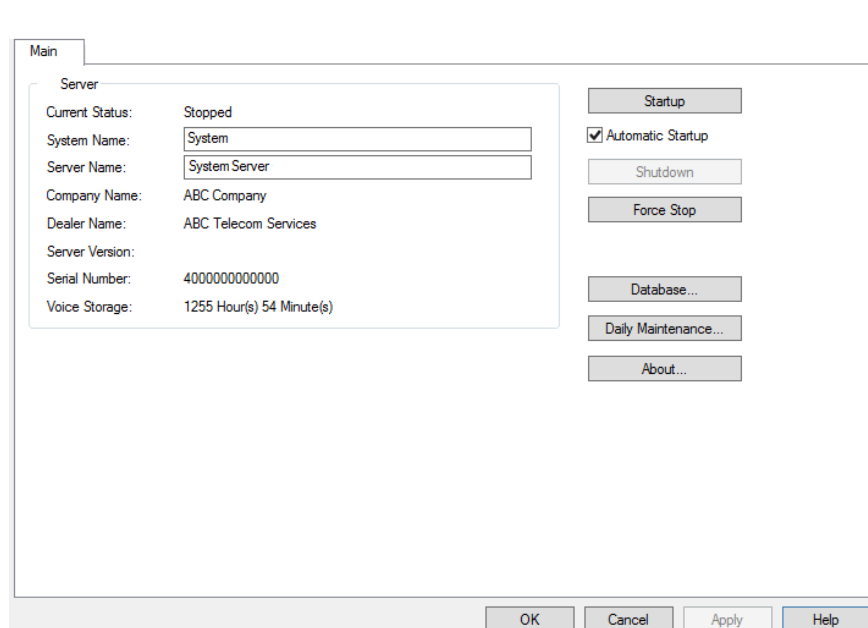


Figure 8. MiCollab AM Configuration – Main Tab

- **Current Status:** Displays the current state of the System Server: Stopped (not currently processing calls), Running, Starting, or Stopping. The **Current Status** line automatically updates when you click **Startup**, **Shutdown**, or **Force Stop**.
- **System Name:** Displays the name of the MiCollab AM system specified during installation; you can change the system name when the system is shutdown.
- **Server Name:** Displays the name of the MiCollab AM server
- **Company Name:** Displays the name that represents your organization in the license package for this System Server
- **Dealer Name:** Displays the name of the dealer from whom you purchased this System Server.
- **Server Version:** Shows the Version, Build, and Service Pack number of the System Server software currently installed. This information is updated automatically when a new version is installed.
- **Serial Number:** The System Server's serial number is required to obtain Technical support.
- **Voice Storage:** Displays the total amount of voice storage capacity remaining on the System Server's hard disk drive, in hours and minutes
- **Startup** button: Click to start the System Server. The change in the server's status appears on the **Current Status** line.

- **Automatic Startup:** Select this box to set the System Server to start automatically when the operating system starts. Clear the box to start the System Server manually. The System Server must be started before it can process calls.
- **Shutdown** button: Click **Shutdown** to shut down the System Server and its call handling Services. Shutdown closes a line only after it becomes inactive. Subscribers accessing their mailboxes hear a prompt asking them to complete their action and hang up. The change in the server's status appears on the **Current Status** line. The **Shutdown** button works independently of the **Force Stop** button.
- **Force Stop** button: Click **Force Stop** to force all lines to close and shut down call handling Services immediately. Subscribers accessing their mailboxes do not hear a prompt asking them to complete their action and hang up, they are disconnected immediately. The **Force Stop** button works independently of the **Shutdown** button.

WARNING Use the **Force Stop** button to shutdown MiCollab AM only when lines are stuck in the dropping or incoming state. Shutting down the system with this method does not preserve data integrity and some data may be lost.

Database Dialog Box

Click to open the **Database** dialog box, in which you can perform database maintenance actions. Use this dialog box to:

- Re-synchronize a Call Server database with the System Server
- Force a database fixup
- Compact the database to regain space from deleted database records
- Reconcile by eliminating references to voice messages that no longer exist and removing voice messages that no longer have references.
- Re-initialize the database
- Recover the database with a previous backup

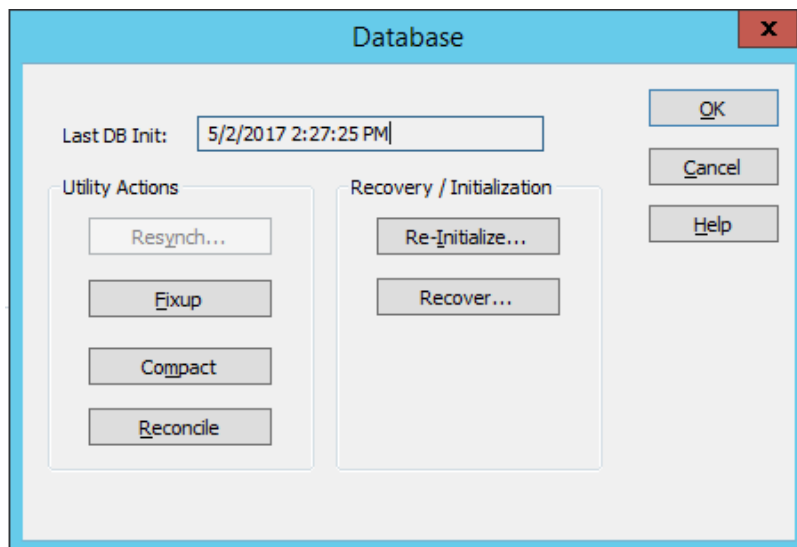


Figure 9. Configuration - Database Dialog Box

Daily Maintenance Dialog Box

IMPORTANT The Daily Maintenance routine backs up minimal data to the local drive only. To maintain a full backup that can be used to restore your system, you must specify a valid Online Backup Location where you want to store your database, messages, reports, and speech files during Daily Maintenance.

- Set the time for the scheduled Daily Maintenance to run for the local server
- Run a complete Daily Maintenance
- Run Daily Maintenance without backing up messages
- Configure the online backup location
- Adjust the retention properties for:
 - Messages
 - Server files
 - Online backups

The screenshot shows the 'Daily Maintenance' dialog box. It features a 'Schedule' section with a 'Time of' dropdown set to '2:00 AM'. The 'Run Now' section includes 'Complete' and 'Without Message Backup' buttons. The 'Online Backup' section displays the 'Location' as 'D:\Backups', a 'Backup Status' bar at 100.0%, and file counts: 'Files Saved: 1545' and 'Files Pending: 0'. The 'Retention Properties' section is divided into three parts: 'Message Retention (in days)' with 'Call Server Msg Caching' set to 7; 'Server File Retention (in days)' with 'Daily Backup Retention' at 7, 'Max Diagnostic Log Retention' at 14, and 'Speech Utterance Retention' at 8; and 'Online Backup Retention (in days)' with 'Report Retention' and 'Backup Retention' both set to 31, each with a 'Disable' checkbox. There are also checkboxes for 'Include Messages' and 'Include Greetings, Names, Announcements'. Standard 'OK', 'Cancel', and 'Help' buttons are located on the right side of the dialog.

Figure 10. MiCollab AM Configuration - Daily Maintenance Dialog Box

About Button

The **About Configuration** dialog box provides details about:

- The MiCollab AM software version
- The installed patches and updates
- System information
- File versions of MiCollab AM files that reside in the CX\Bin directory

Server Tab

The **Server** tab allows you to configure the local server. As you configure your system, additional information about each of your servers displays in the table at the bottom of this window.

The screenshot shows the 'Server' tab of the MiCollab AM Configuration Utility. The 'Local Server Configuration' section contains the following fields and controls:

- Server Display Name:** A text box containing 'System Server'.
- Role:** A dropdown menu set to 'System and Call Server', with a 'Remove Call Services...' button next to it.
- Network Address:** Radio buttons for 'IP' and 'DNS' (selected), followed by a text box.
- Port:** A text box containing '18276'.
- Server ID:** A text box containing '1'.
- Description:** An empty text box.
- Contact:** An empty text box.
- Location:** An empty text box.

Below these fields is a table with configuration parameters:

Name	Value
ASR Remote TCP Port	6060
ASR Audio Format	pcm
No Input Timeout (Milliseconds)	3000
Speech Complete Timeout (Milliseconds)	1500
ASR Start Delay	0
TTS Remote TCP Port	6060

At the bottom is the 'SSL Certificate' section, showing 'Certificate Expiration: 05/01/20' and an 'Import New SSL Certificate...' button. The window has 'OK', 'Cancel', 'Apply', and 'Help' buttons at the bottom right.

Figure 11. MiCollab AM Configuration - Server Tab

- **Local Server Configuration:**
 - **Server Display Name:** The display name of the local server
 - **Role:** The role of the server is determined at the time of database initialization to be either a System Server or a Call Server and cannot be changed from this tab. To change the role of a server you must re-initialize the database from the Database dialog box. However, on a System Server you can add or remove Call Services.
 - **Add or Remove Call Services: (System Server Only)** The Add or Remove Call Services button is a dual function button. It allows you to Add Call Services if it is not enabled or Remove Call Services if it is enabled. This allows you to configure Call Services on a System Server without having to re-initialize the database.

IMPORTANT When you add Lines and Call Services to a System Server it requires a license for each added Line and a Call Services Node license. You must have an available Node license to enable Lines and Call Services on a System Server. Removing Call Services frees a Node license for use on a separate Call Server.

Lines are licensed per system. They can be used on any server within the system that has call services enabled.

NOTE If you want to enable Lines on the System Server, the correct line allocation must be enabled on the License key, and a Call Services node must be enabled on the License key. However, a Call Services node license is not required to support an MWI Only Integration that does not use lines, even though Call Services is enabled.

- **Network Address:** Select the type of network address you are using by selecting either the IP or DNS radio buttons, and then enter an appropriate network address in the Network Address field. If you select IP, select an IP address from the drop-down list. If you select DNS, enter the fully qualified domain name (FQDN) of the server.

IMPORTANT

1. If you change the network address of the System Server, you must shut down the attached Call Servers and remove them from the System Server. Then you must re-add each Call Server back to the System Server (using the updated System Server's network address).
2. The network address of a Call Server can be updated only if it is connected to the System Server. If you need to update or change the network address of a Call Server that is not connected to the System Server, you must first remove it from the System tab on the System Server. Change the address of the Call Server, and then add it back to the System Server once the address is changed.

- **System ID:** The identification number assigned to the server during the initial startup and inclusion into the system.
- **Port:** Enter a TCP port number. The default port number is 18276.
- **Description:** Enter a description of the server.
- **Contact:** Enter a contact name in case
- **Location:** Enter a location of the server.
- **SSL Certification:**
 - **Certification Expiration:** Displays the expiration date of the existing SSL Certificate.
 - **Import New SSL Certificate:** Select this button to launch the **SSL Certificate Import** dialog, allowing for the user to import provided set of certificate and key files, or generate a new self-signed certificate.

SSL Certificate Import dialog box

The **SSL Certificate Import** dialog box allows the user to import a provided set of certificate and key files, or generate a new self-signed certificate.



Generate new self-signed certificate: Creates your own self-signed certificate and key files for use (stored in \Bin [serverkey.pem and servercert.pem]).

Import provided certificate (requires PEM format): Click the **Browse** buttons to import two *.pem files that contain the certificate and private key.

System Tab

The **System** tab allows you to change the system name, as well as add and remove call servers from your system. Further, it displays attributes of each of the servers in your system environment.

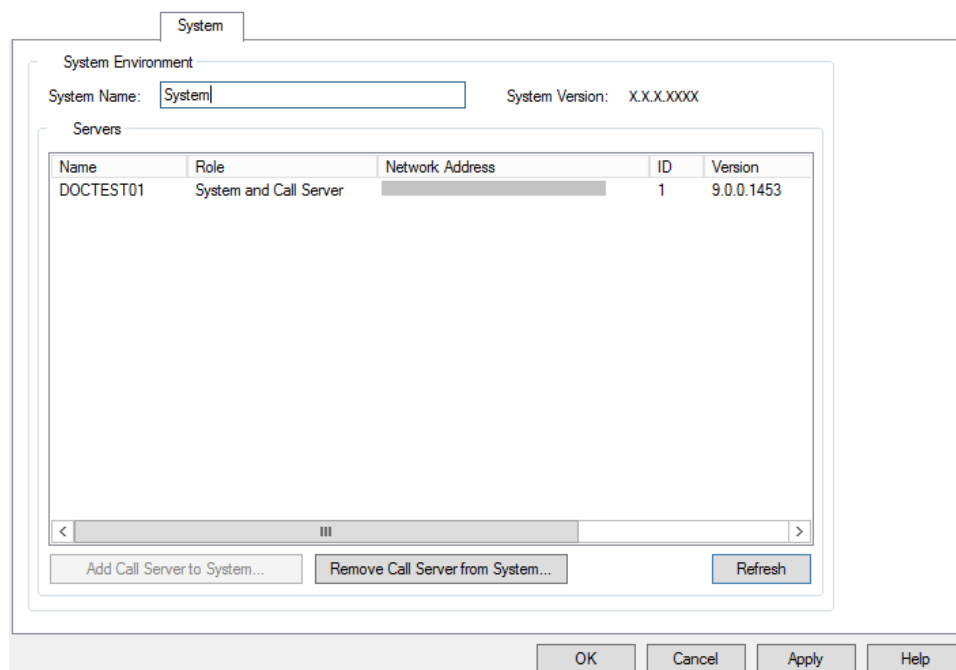


Figure 12. MiCollab AM Configuration - System Tab

- **System Name:** Enter the name of your MiCollab AM System.
- **System Version:** Displays the servers and their related attributes in your MiCollab AM environment.
- **MiCollab AM System Environment:** Displays the servers and their related attributes in your MiCollab AM environment.

- **Add Call Server to System** button: Allows you to add a Call Server to your MiCollab AM system.
- **Remove Call Server from System** button: Allows you to remove a call server from your MiCollab AM system.
- **Refresh** button: Allows you to refresh the MiCollab AM System Environment list.

Tenant Tab

The **Tenant** tab allows you to configure an existing tenant for a single tenant system. For a multi-tenant system, you can add, edit, or delete a tenant. The Telephony Server must be shut down add or delete a tenant.

NOTE For a multi-tenant system, it is recommended that the first tenant created (Tenant 1) be reserved for the Service Provider of the system.

Before you create a new tenant, you must first create a new switch section and integration, and then associate lines with the new integration.

For full procedural information about how to create or edit a tenant, see the following topics in the online help: *Creating a Tenant (Multi-Tenant System)*, *Editing a Tenant (Multi-Tenant System)*, or *Editing a Tenant (Single Tenant System)*.

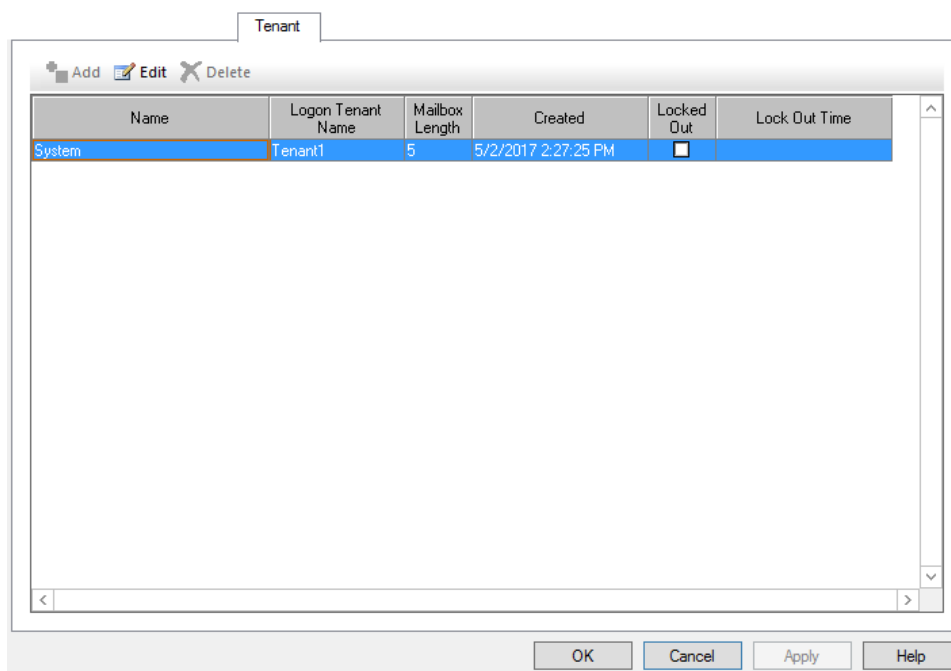


Figure 13. MiCollab AM Configuration - Tenant Tab

- **Add** button – Click to add a new Tenant to the Telephony Server. This button is greyed out for a system not licensed for multi-tenancy.
- **Edit** button – Click to edit the selected Tenant.

- **Delete** button – Click to delete the selected Tenant. This button is greyed out for a single tenant system.

The Tenant table lists the tenants that have been added to the system.

- **Name** – Displays the name entered in the **Display Name** field of the **Tenant Summary** dialog box.
- **Logon Tenant Name** – Displays the logon name of the Tenant.
- **Mailbox Length** – The number of digits for mailbox number length. The mailbox length typically matches the numbering plan of the telephone system. Values are between 2 and 10 digits.
- **Created** – The date and time the Tenant was created.
- **Locked Out** – A check box to lock or unlock a Tenant
- **Lock Out Time** – Displays the date and time the Tenant was locked out by the server administrator.

Tenant Summary Dialog Box

The **Tenant Summary** dialog box displays all of the information related to a Tenant. The following figures show the **Tenant Summary** dialog box when adding a tenant and for editing a Tenant. A tenant can only be added in a system licensed for a multi-tenancy.

Tenant Summary

Display Name: **- required -**

Logon Tenant Name: (no spaces)

Mailbox Length: ☐ Allow Trusted (Auto) Logon

☐ Locked Out Lock Out Time:

Initial Administrator User ID: **- required -**

Switch Section:

☐ Message Archiving

Messaging

☐ Keep Private Messages Local

Default Recording Format:

E-Mail Cache Size (MBytes):

Web Services Impersonation

User ID:

Created:

Message Retention (in days)

Default Msg Retention: ☐ Unlimited

Adv Notification (Hours): ☐ None

Purge Message Header:

Report Data Retention (in days)

Msg Log Retention: ☐ Disable

Mailbox Usage Retention:

Purge

☐ Reports

☐ Mailboxes

☐ Dist. Lists

☐ Network

☐ MWI

☐ Schedule

☐ Groups

Standard Database

☒ Use Standard Database

Auto Attendant User Interface

☐ DTMF ☒ Speech

Location

Directory Key Mapping

☒ 1 ☐ 9

Call Processor Transfer Type

☒ Blind ☐ Transfer ☐ Monitor

Feature Name	Total System Licenses	Unused System Licenses	Tenant Licenses in Use	Tenant License Limit
Personal Assistant Users	500	400	0	50
Unified Messaging Users	500	400	0	50
Subscribers	60	48	0	6
TeamIQ Supervisors	100	80	0	10
TeamIQ Agents	50	40	0	5
Messaging Users	Unlimited	Unlimited	0	Unlimited
Directory Users	Unlimited	Unlimited	0	Unlimited
Voice Ports	8	6	0	1
TTS Resources	4	2	N/A	1
ASR Resources	4	2	N/A	1
UCCconnect Ports	Unlimited	Unlimited	N/A	Unlimited

Notes:

Figure 14. MiCollab AM Configuration - Tenant Summary Dialog Box when adding a Tenant

Tenant Summary

Display Name:

Logon Tenant Name: (no spaces)

Mailbox Length: ☐ Allow Trusted (Auto) Logon

☐ Locked Out Lock Out Time:

☐ Message Archiving

Messaging

☐ Keep Private Messages Local

Default Recording Format:

E-Mail Cache Size (MBytes):

Web Services Impersonation

User ID:

Created:

Message Retention (in days)

Default Msg Retention: ☐ Unlimited

Adv Notification (Hours): ☒ None

Purge Message Header:

Report Data Retention (in days)

Msg Log Retention: ☐ Disable

Mailbox Usage Retention:

Purge

☐ Reports

☐ Mailboxes

☐ Dist. Lists

☐ Network

☐ MWI

☐ Schedule

☐ Groups

Feature Name	Total System Licenses	Unused System Licenses	Tenant Licenses in Use	Tenant License Limit
Personal Assistant Users	500	450	0	50
Unified Messaging Users	500	450	0	50
Subscribers	60	54	3	6
TeamQ Supervisors	100	90	0	10
TeamQ Agents	50	45	0	5
Messaging Users	Unlimited	Unlimited	3	Unlimited
Directory Users	Unlimited	Unlimited	3	Unlimited
Voice Ports	8	7	8	1
TTS Resources	4	3	N/A	1
ASR Resources	4	3	N/A	1
UCConnect Ports	Unlimited	Unlimited	N/A	Unlimited

Notes:

Figure 15. MiCollab AM Configuration - Tenant Summary Dialog Box when Editing a Tenant on a Multi-Tenant System

Tenant Summary

Display Name:

Logon Tenant Name: (no spaces)

Mailbox Length: ☐ Allow Trusted (Auto) Logon

☐ Locked Out Lock Out Time:

☐ Message Archiving

Messaging

☐ Keep Private Messages Local

Default Recording Format:

E-Mail Cache Size (MBytes):

Web Services Impersonation

User ID:

Created:

Message Retention (in days)

Default Msg Retention: ☐ Unlimited

Adv Notification (Hours): ☒ None

Purge Message Header:

Report Data Retention (in days)

Msg Log Retention: ☐ Disable

Mailbox Usage Retention:

Purge

☐ Reports

☐ Mailboxes

☐ Dist. Lists

☐ Network

☐ MWI

☐ Schedule

☐ Groups

Feature Name	Total System Licenses	Unused System Licenses	Tenant Licenses in Use	Tenant License Limit
Personal Assistant Users	500	0	0	500
Unified Messaging Users	500	0	0	500
Subscribers	60	0	3	60
TeamQ Supervisors	100	0	0	100
TeamQ Agents	50	0	0	50
Messaging Users	Unlimited	Unlimited	3	Unlimited
Directory Users	Unlimited	Unlimited	3	Unlimited
Voice Ports	8	0	8	8
TTS Resources	4	0	N/A	4
ASR Resources	4	0	N/A	4
UCConnect Ports	Unlimited	Unlimited	N/A	Unlimited

Notes:

Figure 16. MiCollab AM Configuration - Tenant Summary Dialog Box when Editing the Tenant on a Single-Tenant System

- **Display Name** - Displays the name of the Tenant that identifies the Tenant to the system administrator.
- **Logon Tenant Name (no spaces)** – Displays the unique logon name given to the Tenant (with no spaces).
- **Mailbox Length** - Select the number of digits for mailbox number length. The mailbox length typically matches the numbering plan of the telephone system. Values are between 2 and 10 digits.
If you increase the number of digits in the mailbox length once the database is initialized, you are prompted to insert the additional digit.

WARNING You must re-initialize the database to decrease the mailbox length. All current database records are removed and the application must be recreated. Do not decrease the mailbox length without carefully considering what you are about to do.

- **Allow Trusted (Auto) Logon** – Select to enable the trusted logon feature on this system. If this box is selected, administrators can allow selected subscribers to log on to their mailboxes without entering their security codes.
- **Locked Out** – Select this check box to lock out the Tenant.
- **Lock Out Time** – Displays the date and time that the Tenant was locked out. This automatically appears after the **Locked Out** check box is selected.
- **Initial Administrator User ID** – Each new Tenant must have an initial administrator account for logging on their clients such as Administration, Line Status, Reports, etc. This field is only present when a Tenant is being added.
- **Switch Section** – Each Switch Sections is exclusive to a single tenant. Therefore, before a new Tenant can be added, an unassigned Switch Section must exist. All unassigned Switch Sections will be in this list. Select which unassigned Switch Section applies. This field is only present when a Tenant is being added.
- **Message Archiving** – Select this check box to archive messages. When this check box is selected, the location where messages will be archived is displayed.
- **Messaging:**
 - **Keep Private Messages Local** – Keep private messages local, instead of on an Exchange server. For more information, refer to the [Setting Keep Private Messages Local](#) section.
 - **Default Message Recording Format** – Select the encoding/decoding method (codec) you want to use for message recording and playback.
 - PCM Mu-Law (G.711) is the default, and the recommended message-recording format for telephone systems inside North America and Japan. For systems outside of North America and Japan, select PCM A-Law. If your system includes an IP telephony integration, you must select a G.711 codec.
 - PCM A-Law (G.711) is the recommended message-recording format for telephone systems outside of North America and Japan. If your system includes an IP telephony integration such as Cisco AVVID, you must select a G.711 codec.
 - GSM 610 allows you to trade off voice quality in favor of lower storage requirements, decreased network load, and faster download times.

NOTE GSM 610 is not recommended as the default message recording format for subscribers who have the Embedded Voice Message Transcription feature enabled.

- Linear PCM is supported by all versions of Windows as a native codec. If you have a number of client machines running Windows 95, consider using Linear PCM as your default recording format.
- OKI ADPCM is the codec used in versions prior to version 6.0. It provides adequate sound quality on most systems along with low network and storage load. OKI/ADPCM is not a standard Windows codec (and therefore must be installed on client machines) and is therefore not the recommended message recording format.

NOTE G.711 is not native to Windows 95. Therefore, if you have a large number of client machines still running Windows 95, consider using Linear PCM. However, if your system includes an IP telephony integration, you must select G.711 and then load that codec on your Windows 95 clients. Note also that if you select G.711, Linear PCM, or GSM 610, subscribers cannot change the playback speed of their messages.

- **E-Mail Cache Size (Mbytes)** – Select a cache size between 10 and 500 megabytes (MB). This setting applies to systems with Server-Based Unified Messaging (Unified Messaging for Lotus Notes and Domino, Unified Messaging for Microsoft Exchange, Unified Messaging for Office 365, or Unified Messaging for Google Apps) and allows faster access to messages stored on these servers. The System Server can be configured to cache the content of voice and fax messages stored on the e-mail or messaging server. These messages are copied into this cache as they are moved from the New folder on the System Server to the message store on the e-mail or messaging server. Subscribers using a telephone can retrieve their new messages much more quickly because messages are retrieved directly from the cache. Without caching, subscribers have to wait while the System Server retrieves their messages from the message store. The System Server does not store messages in the cache indefinitely. When the cache is full, older messages are removed to make room for newer messages, ensuring that subscribers always have quick access to their latest messages. You should increase the size of the cache if the following message appears in the Windows Event Viewer Application Log more than once per day: "External Mail Cache purge."
- **Web Services Impersonation** - The Web Services Impersonation account should only be used as directed by technical support.
- **License Grid** – For each licensed feature, the license grid displays the:
 - **Total System Licenses** – The numbers in this column reflect the values in the license tab. This column is read only.
 - **Unused System Licenses** – The numbers in the column indicate the number of system licenses that are unassigned and available for assignment to a tenant. In a single tenant system, this column will show values of 0, since all licenses are allocated to the single tenant. This column is read only.
 - **Tenant Licenses in Use** – The numbers in this column indicate the number of licenses that are currently in use by the tenant. The value does not apply (N/A) for the TTS Resources, ASR Resources and UCCConnect Ports licenses. This column is read only.

- **Tenant License Limit** – The numbers in this column indicate the maximum number of licenses available to the tenant. In a single tenant system this column is read only and will be the same as the **Total System Licenses** column. When a new tenant is created in a multi-tenant system, approximately 10% of the **Total System Licenses** are allocated to the tenant if available. Modify the values to suit the tenant's needs.

Notes – This area is used for system administration as needed to record general notes related to the tenant.

- **Created** – Displays the date and time the Tenant was created.
- **Message Retention (in days)**

The following parameters manage the message retention time on the System Server.

- **Default Msg Retention** - Enter the number of days to retain messages. The default is 10 days. This parameter also appears on the **Environment** tab of the Admin utility.

NOTE The Default Message Retention parameter also controls the Calls List retention value. If unlimited is checked, a value of 10 days is used. A retention value of *Unlimited* is not compatible with the nature of a Call List. It is not meant to be permanent.

- **Unlimited** - Select this box to enable unlimited default message retention. This parameter also appears on the Environment tab of the Admin utility.
- **Adv Notification (Hours)** - Specify the number of hours, from 1 to 9999, that subscribers receive advanced notification for messages scheduled for automatic deletion. When you set this field, subscribers hear "This message is scheduled to be deleted" for messages that have reached the maximum retention time, allowing subscribers to save the messages if desired. You cannot set this value until the **None** box is cleared. This parameter also appears on the **Environment** tab of the Admin utility.
- **None** - Select this box if you do not want subscribers to receive advanced notification for messages scheduled for deletion. The default is selected.
- **Purge Message Header** - Enter the number of days to retain message header information. The default is 10 days. This parameter also appears on the **Environment** tab of the Admin utility.
- **Report Data Retention (in days)**

The following parameters manage the data retention time on the System Server.

- **Msg Log Retention** - Enter the number of days to retain message log information. The default is 7 days. This parameter also appears on the **Environment** tab of the Admin utility.
- **Mailbox Usage Retention** - Enter the number of days to retain mailbox usage information. The default is 7 days. This parameter also displays on the **Environment** tab of the Admin utility.
- **Disable** - Select Disable if you do not want Daily Maintenance to purge this data. This parameter also appears on the **Environment** tab of the Admin utility.
- **Standard Database** - This group of controls is only present what a Tenant is being added.
 - **Use Standard Database** – If selected, an initial standard set of mailboxes, routing, dialing, and recordings will be added for the new tenant. This field is checked by default.

- **Auto Attendant User Interface** – choose **DTMF** or **Speech** to configure the initial Auto Attendant system including call processors and recordings tailored for either DTMF or Speech usage.
- **Location** – This required field is used to provide the name of the Location in the initial database.
- **Directory Key Mapping** – Choose whether to use a DTMF 1 or 9 for a directory action in standard Call Processors.
- **Call Processor Transfer Type** – choose the type of transfer to use by default in the standard database Call Processor mailboxes. This selection should be used to match the functionality of the PBX.

- **Purge**

WARNING Purged information is unrecoverable; it is deleted from the system. The purge command permanently removes system data from the system.

- Do not purge Tenant data of any kind without carefully considering and planning what you are about to do.
- Do not purge Tenant data unless you are instructed to do so by a Technical Support engineer.
- It is recommended that you make a current backup of the system before you proceed with purging Tenant data.
- **Reports** - Select this box to delete all current report information. This action deletes all report records in the system
- **Mailboxes** - Select this box to delete all mailboxes from the Tenant. This action deletes the mailboxes. All names, announcements, messages, and greetings are deleted.
 - **Dist. Lists** - Select this box to delete the recipients from all Distribution List mailboxes. The Distribution List mailboxes are not deleted; this action deletes only the recipients from the Distribution List mailboxes.
 - **Network** - Select this box to delete all remote subscriber numbers from all Network mailbox directories. This action has no effect on Local Alias or AMIS mailboxes.
- **MWI** - Select this box to purge all Message Waiting Indicator data from the Tenant. This action deletes all MWI data in the queue.

NOTE It is recommended that you schedule an MWI Refresh after purging MWI data. If the PBX requires that MWI be cleared on the same line on which it is set, you must clear all MWI from the PBX prior to scheduling an MWI Refresh. For more information on scheduling an MWI Refresh, refer to the [Switch Options Dialog Box](#) section.

- **Schedule** - Select this box to delete all scheduled events. This action regenerates scheduled events by first deleting all of the current scheduled events, and then rebuilds them. Scheduled events are events such as Daily Maintenance, Daily Message Reminders, and Analog Networking. All volatile events, such as immediate message notification, MWI, and outbound delivery callouts are lost.

- **Groups** - Select this box to purge all Group data from the Tenant. This action removes all group data from the Tenant and removes all mailbox relationships to these groups. This action does not remove Group Types from the Tenant.

NOTE It is recommended that you re-synchronize the Tenant grammar on each Call Server in the system after purging Groups data. For more information on re-synchronizing the Tenant grammar, refer to the [Language Tab](#) section.

- **Purge button** - Select the system data you want to purge, and then click **Purge**. The utility purges the selected items without reinitializing the entire database.

E-Mail Tab

The **E-mail** tab allows you to configure the Message Waiting Notification TCP/IP port for some e-mail server configurations. Adding or configuring e-mail server profiles is done on the **E-Mail** tab of the **MiCollab AM Admin** utility.

NOTE The **E-Mail** tab only appears in a single tenant system. The **E-mail** tab does not appear in a multi-tenant system.

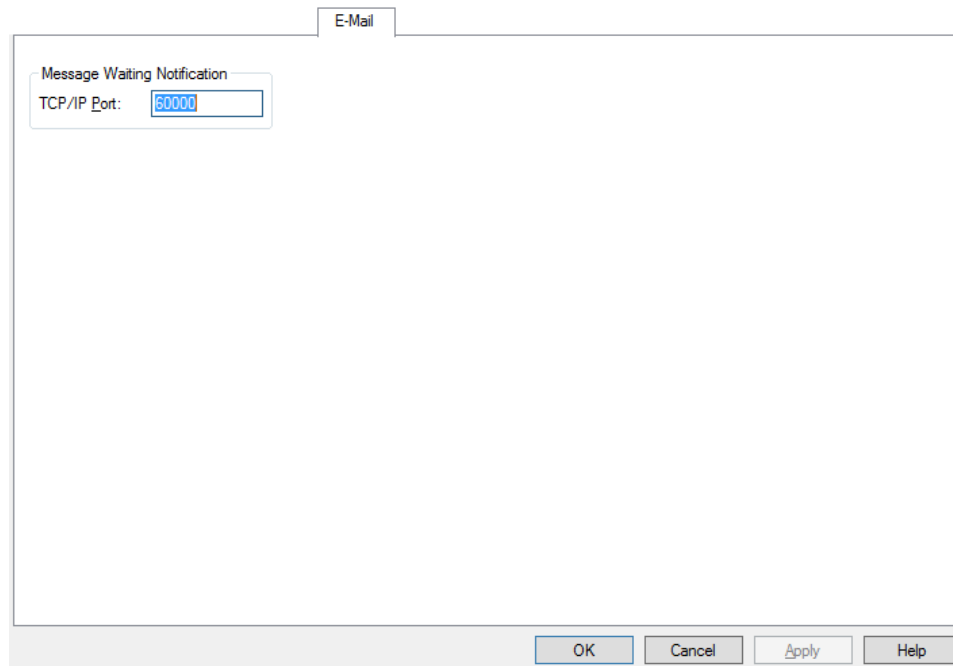


Figure 17. MiCollab AM Configuration - E-Mail Tab (Single Tenant System Only)

- **Message Waiting Notification TCP/IP Port:** Enter the TCP/IP port used for listening for message waiting notification. The default is 60000.

NOTE This feature is not currently available in all e-mail server configurations.

Licensing Tab

The **Licensing** tab lists the features licensed on the System Server. This information is useful in determining the features assigned in the installed license package. For more information about specific feature availability in your license package, contact Technical Support.

Hardware System License

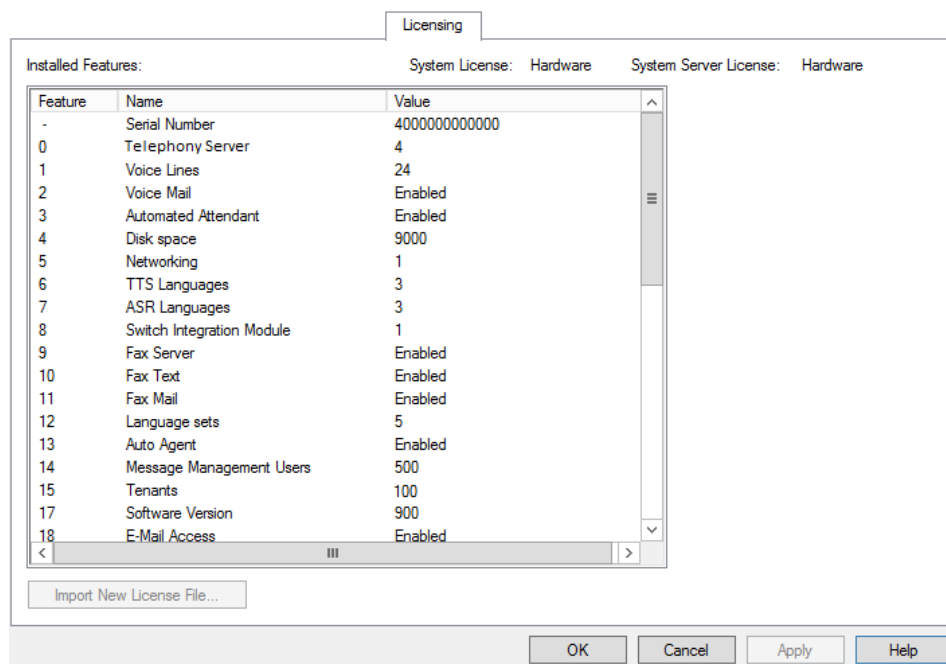


Figure 18. MiCollab AM Configuration – Licensing Tab for Hardware System License

- **System License:** Displays the type of license your system server is licensed with (as defined on your license key).
 - *Hardware:* Your system server is licensed only for a *Hardware* license.
- **System Server License:** Displays the type of license the system server is currently using (*Hardware*).
- **Installed Features:**
 - **Feature:** Displays the feature number of the feature in the installed feature file.
 - **Name:** Displays the name of the feature or advanced application that is licensed by the installed feature file.
 - **Value:** Displays information about each feature or advanced application on this System Server.

For example:

For Voice Lines, the value 4 indicates four voice lines allowed; for Voice Mail, the word *Enabled* means that feature is enabled and available; and for Disk space, the value indicates the maximum amount of hard drive space that can be used for messaging and recordings. Values in this list are determined by the installed feature file.

- **Import New License** button: Click **Import New License** to open the **License Import** dialog box and import a new or updated license certificate or feature file.

NOTE The **Import New License...** button can be used for updating or changing the license file. Importing a new license key will force MiCollab AM to look for the appropriate new licensing method, whether hardware or software.

IMPORTANT After you import the new certificate or feature file, the System Server must be shut down, and then restarted. Be sure to save any changes you have made before you shut down.

Software/Hybrid System License

In addition to the options described in the [Hardware System License](#) section, the Software/Hybrid System License provides a set of configuration options that are specific to Software Licensing.

The screenshot shows the 'Licensing' tab in the MiCollab AM Configuration Utility. On the left, under 'Installed Features:', there is a table with columns 'Feature', 'Name', and 'Value'. The table lists various features like 'Serial Number', 'Telephony Server', 'Voice Lines', 'Voice Mail', 'Automated Attend...', 'Disk space', 'TTS Languages', 'ASR Languages', 'Language sets', 'Message Manage...', 'Tenants', 'Software Version', 'E-Mail Access', 'TeamQ Agents', 'TeamQ Supervisors', and 'Advanced API'. Below this table is an 'Import New License File...' button. On the right, the 'System License' is set to 'Software' and 'System Server License' is also 'Software'. The 'Software Licensing' section contains buttons for 'Download License Time-Slice' and 'Test Cloud Connectivity'. Below these is the 'Cached Software License Expiration' date: 08/20/17 10:34:43 AM. There are checkboxes for 'Use Proxy' and 'Proxy Connection'. Under 'Proxy Connection', there are radio buttons for 'Auto (PAC Script)' and 'Manual'. The 'Manual' option is selected, and it has fields for 'Host Name' (localhost) and 'Port' (8080). Under 'Proxy Authentication', there are radio buttons for 'Auto (System)' and 'Manual'. The 'Manual' option is selected, and it has fields for 'User Name' (userName) and 'Password' (masked with dots). At the bottom of the 'Software Licensing' section is a 'Reset Software License...' button. At the very bottom of the window are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

Feature	Name	Value
-	Serial Number	1800560817003
0	Telephony Server	4
1	Voice Lines	256
2	Voice Mail	Enabled
3	Automated Attend...	Enabled
4	Disk space	50000
6	TTS Languages	1
7	ASR Languages	1
12	Language sets	5
14	Message Manage...	5
15	Tenants	100
17	Software Version	900
18	E-Mail Access	Enabled
19		0
23	TeamQ Agents	1
29	TeamQ Supervisors	1
34		0
38	Advanced API	Enabled

Figure 19. MiCollab AM Configuration – Licensing Tab for Software/Hybrid System License

- **System License:** Displays the type of license your system server is licensed with (as defined on your license key).
 - *Software:* Your system server is licensed to only for a *Software* license.
 - *Hybrid:* Your system server is licensed to use either *Hardware* or *Software* licensing.

NOTE The *Hybrid* license type is available only if you are using Neverfail.

- **System Server License:** Displays the type of license the system server is currently using (*Software*).
- **Installed Features:**
 - **Feature:** Displays the feature number of the feature in the installed feature file.

- **Name:** Displays the name of the feature or advanced application that is licensed by the installed feature file.
- **Value:** Displays information about each feature or advanced application on this System Server.
- **Software Licensing:** The Software Licensing options appear if your system server is licensed for *Software* or *Hybrid*.

- **Download License Time-Slice:** Manually downloads the License Time-Slice. Upon the completion of the download, the updated expiration time/date will display in the **Cached Software License Expiration** field according to the time/date you clicked the **Download License Time-Slice** button.
- **Test Cloud Connectivity:** Verifies whether the system server is properly connected to the cloud. The result will display whether the cloud connectivity test was successful or not.

NOTE Use the **Download License Time-Slice** and **Test Cloud Connectivity** features for troubleshooting and diagnostic purposes.

- **Cached Software License Expiration:** Displays the expiration of the current License Time-Slice. The expiration time/date is automatically updated daily.

NOTE If you want to manually update the license expiration based on the current time/date, click the **Download License Time-Slice** button.

- **Use Proxy:** Checking this box enables the following options for configuring the Proxy settings.
 - **Proxy Connection:**
 - **Auto (PAC Script):** Enter the PAC script to automatically connect to the Proxy server.
 - **Manual:** Click this option if you want to provide connection configuration option for the Proxy server.
 - **Host Name:** Enter the host name for the Proxy server.
 - **Port:** Enter the port number for the Proxy server.
 - **Proxy Authentication:** Configure these settings if the Proxy server requires any authentication.
 - **Auto (System):** Click this option if you want the authentication to be done automatically.
 - **Manual:** Enter login credentials if your Proxy server requires login.
 - **User Name:** Enter the username of the Proxy server.
 - **Password:** Enter the password mapped with the username.
- **Reset Software License:** Clears any cached license information and resets the software license.

IMPORTANT It is recommended that you use this option under the supervision of Technical Support or if you are familiar with the license features.

- **Import New License button:** Click **Import New License** to open the **License Import** dialog box and import a new or updated license certificate or feature file.

NOTE The **Import New License...** button can be used for updating or changing the license file. Importing a new license key will force MiCollab AM to look for the appropriate new licensing method, whether hardware or software.

IMPORTANT After you import the new certificate or feature file, the System Server must be shut down, and then restarted. Be sure to save any changes you have made before you shut down.

Switches Tab

The **Switches** tab allows you to configure the server for the telephone system (switch). You also use this tab to add additional switches for a multiple switch configuration. To add or delete a switch, you must shut down the System Server.

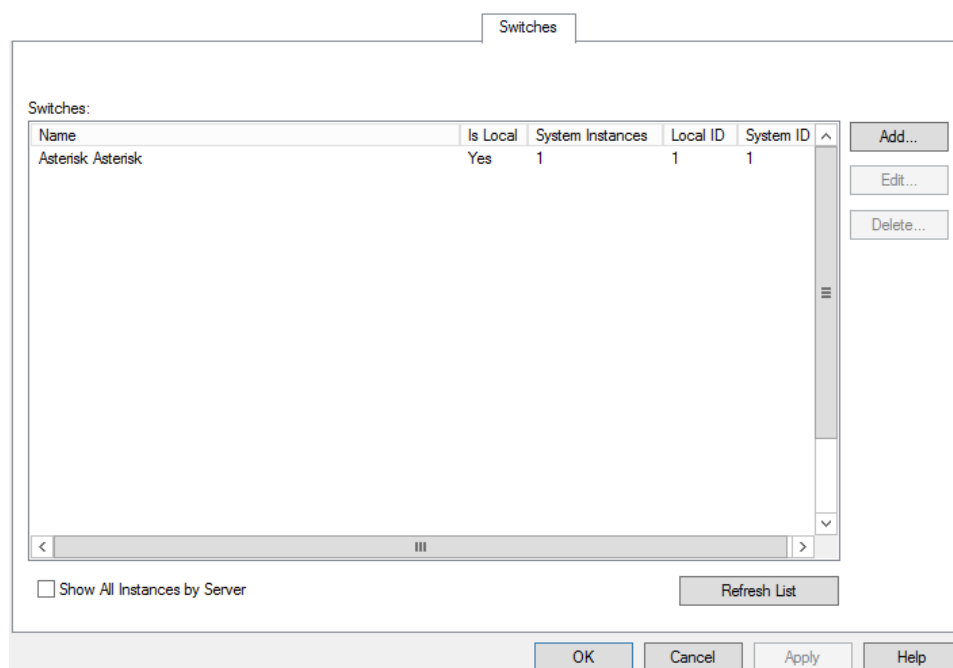


Figure 20. MiCollab AM Switches Tab

- **Switches** table: Lists the switches that are currently installed
 - **Name:** Displays the name of the telephone system
 - **Is Local:** Denotes with **Yes** or **No** if the switch is local to this server or on a remote Call Server
 - **System Instances:** Displays how many instances of the switch are installed on the entire system including all of the Call Servers in the system.
- **Show All Instances by Server:** Select to view each instance of the switches that exist within the system.
- **Refresh List:** Click to refresh the list.

- **Add** button: Click **Add** to add a new switch. The **Switch Integration Data Setup** dialog box appears.
- **Edit** button: Click **Edit** to edit the selected switch. The **Switch Options** dialog box appears.
- **Delete** button: Click **Delete** to delete the selected switch.

Switch Options Dialog Box

The **Switch Options** dialog box allows you to add a new switch to the system or edit an existing switch.

Switch Options

Manufacturer: Asterisk
 Model: Asterisk
 System Switch: Asterisk Asterisk

OK
 Apply
 Cancel
 Help

System Switch Settings

Switch Name: Asterisk Asterisk

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

MWI Settings

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

Inter-Switch Connectivity Group Assignments

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

Local Switch Settings

View: All Settings Set Defaults

Name	Value
Disconnect Loop Current Length (ms)	75
Flash Hook Time (ms)	300
T1 Protocol	FXS
T1 Signaling	Immediate

Figure 21. MiCollab AM Switch Options Dialog Box

- **Manufacturer:** Click the drop-down box to select the manufacturer of the switch from the list.
- **Model:** Click the drop-down box to select the model of the switch from the list.
- **System Switch:** Displays the currently selected system switch.
- **System Switch Settings:**
 - **Switch Name:** This field can be edited when creating a new switch to give the switch name a unique name in the system.

- **Transfer Support:**

- **Extension to Extension:** Select Extension to Extension to indicate the switch is capable of transferring an extension call to another extension. This box is selected by default.
- **Trunk to Extension:** Select Trunk to Extension to indicate the switch is capable of transferring an external trunk call to an internal extension. This box is selected by default.
- **Extension to Trunk:** Select Extension to Trunk to indicate the switch is capable of transferring an internal extension call to an external number.

IMPORTANT The site may have a policy that they do not want to allow these capabilities even though the switch can do them. If this is the case, do not check the box.

- **Trunk to Trunk:** Select Trunk to Trunk to indicate the switch is capable of transferring an external trunk call to another external number.

IMPORTANT The site may have a policy that they do not want to allow these capabilities even though the switch can do them. If this is the case, do not check the box.

- **MWI Settings:**

- **Refresh Trigger:** Click the drop-down box to select the trigger from the list. The default is **None**.

NOTE Select a Refresh Trigger only if the PBX requires one. Refreshing MWI needlessly can hinder system operation.

- Select **Daily Maintenance** to trigger the MWI refresh during Daily Maintenance.
- Select **Interval** to trigger the MWI refresh in a defined interval of time.
- Select **Switch Initiated** to trigger the MWI refresh with a switch initiated event.

NOTE This event is triggered by a command sent from the PBX to refresh MWI. The PBX integration must be capable of sending such a command in order to use this setting. Typically, an acknowledgement command is sent back to the PBX confirming the completion of the refresh request.

- Select **Time of Day** to trigger the MWI refresh at a defined time of day.

- **Refresh Type:** Select the refresh type.
 - The default is **Set**.
 - **Set** - Refreshes all MWIs that should be on.
 - **All** - Refreshes all MWIs.
 - **None** - No action is taken.

- **Refresh Interval (seconds):** Select the time in seconds for the MWI refresh interval to occur. This field is editable only if Interval is selected as the Refresh trigger.
- **Initialize Mode:** Select to determine the initialization mode.
 - The default is **None**, no initialization occurs.
 - **Set** - Initializes all of the MWIs that are supposed to be on.
 - **All** - Initializes all MWIs.
- **Refresh Time of Day:** Select the Time of day to trigger the MWI refresh. The default is 12:00 AM. This field is editable only if **Time of Day** is selected as the refresh trigger.
- **Set Preference:** Select the MWI Set Preference.
 - **First** - Sets the MWI on the first new message.
 - **All** - Sets the MWI on every new message occurrence.

NOTE Selecting **All** can have adverse call processing effects on a busy system.

- **Inter-Switch Connectivity Group Assignments:** By default, the system assumes an extension on one switch cannot be dialed directly or be recognized by another switch. However, in actual practice two switches can be networked together to allow this functionality. Typically, this is done by imposing a Uniform Numbering Plan across all networked switches, referred to here as Inter-Switch Connectivity. All switches sharing this relationship are considered part of the same **Inter-Switch Connectivity Group**. This relationship only applies to extensions.

There are four standard connectivity groups:

- Incoming 1 and 2 are for recognizing the extension numbers of calls originating from a switch in the same group.
- Outgoing 1 and 2 are for allowing extensions of switches in the same group to be dialed freely.

All extension devices that are part of switches in the same Inter-Switch Connectivity group are assumed to have unique numbers. If two or more switches are assigned to the same "Inter-Switch Connectivity Group," they can dial each other's extensions directly (Outgoing Uniform Numbering Plan) or recognize each other's extensions directly (Incoming Uniform Numbering Plan). If they are separate unique switches, they are treated as one switch by the users and by MiCollab AM in regards to extension numbers.

Select the **Member** check box in the **Inter-Switch Connectivity Group Assignments** grid to assign a switch to a particular group. Typically, switches are one part input group and one part output group. If multiple relationships exist, a switch can be part of multiple groups of the same type. If there is only one switch in the system, no selections are needed. There is no limit to the number of switches that can be part of the same group. The incoming and outgoing selections are independent.

For example: An integration link may expose the extensions of another switch, but not allow the extension of the other switch to be dialed directly.

IMPORTANT Since MiCollab AM lines are part of a switch, this switch should be in the same group as any extension devices the lines are expected to dial, and for it to recognize the extensions.

- **Local Switch Settings:**

- **View All Settings:** Click the drop-down box to select the view. In many cases, the All Settings view is the only view in this dialog box.
- **Set Defaults button:** Click **Set Defaults** to return all parameters to the default value.
- **Disconnect Loop Current Length (ms):** Enter the disconnect loop current length of time in milliseconds. This is the time interval that the switch opens or reverses current on the line to signal a disconnect to the Call Server.
- **Flash Hook Time (ms):** Enter the flash hook length of time in milliseconds. (The hook flash is the signal the Call Server sends to the switch to signal a transfer or a transfer abort.)
- **T1 Protocol:** Select the T1 protocol if applicable. If the telephony connection between the Call Server and the switch is a T1, you must select either FXS or E&M protocol.
- **T1 Signaling:** Select the type of T1 signaling for the T1 connection between the Call Server and switch. Choose Wink or Immediate.

Switch Sections Tab

The **Switch Sections** tab allows you to add additional switch sections to the system or configure existing ones.

Switch Sections

Switch Sections:

Name	Tenant	Location	Is Local	System Instance
Asterisk Asterisk Section	DOCTEST System	DOCTEST	Yes	1

Add... Edit... Delete...

☐ Show All Instances by Server Refresh List

OK Cancel Apply Help

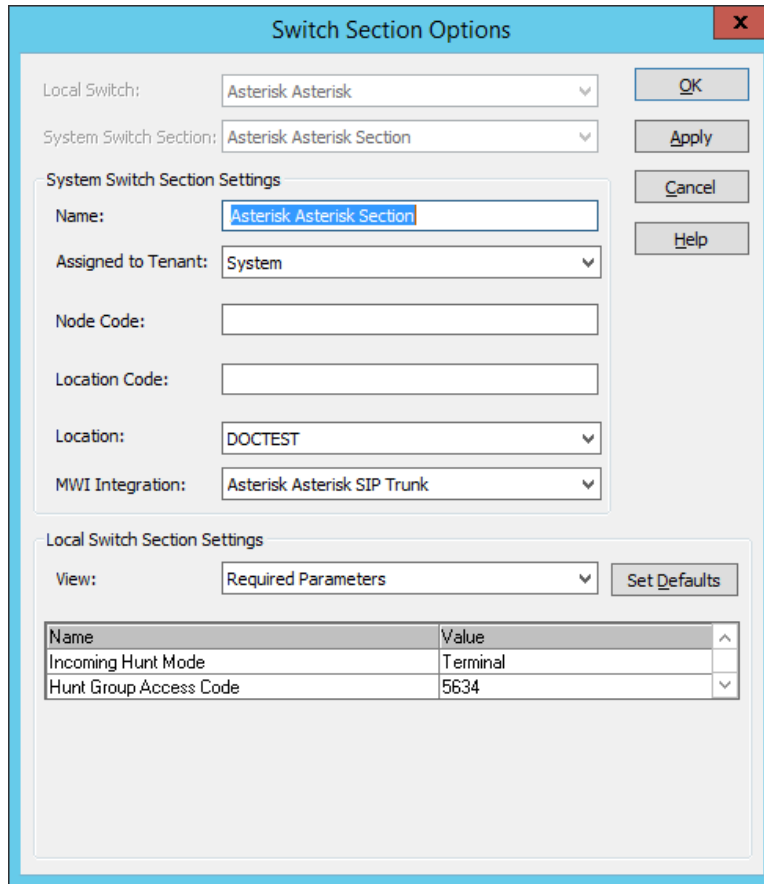
Figure 22. MiCollab AM Switch Sections Tab

- **Switch Sections:** Lists the switch sections that are installed or configured
 - **Name:** Displays the name of the switch section
 - **Tenant:** Displays the Tenant to which the switch section is assigned.
 - **Location:** Displays the location of the switch section
 - **Is Local:** Denotes with **Yes** or **No** if the switch section is local to this server or on a remote Call Server
 - **System Instances:** Displays how many instances of the switch section are installed on all Call Servers in the system.
- **Show All Instances by Server:** Select to view each instance of the switch sections that exist within the system.
- **Refresh List:** Click **Refresh** to refresh the list.
- **Add** button: Click **Add** to add a new switch section to the System Server.
- **Edit** button: Click **Edit** to edit the selected switch section.
- **Delete** button: Click **Delete** to delete the selected switch section.

Switch Section Options Dialog Box

The **Switch Sections Options** dialog box allows you to add a Switch Section or edit the settings of the selected Switch Section.

- Enter the Node code or Location code if applicable.
- Select a different MWI integration to use for this switch section, if applicable.
- Select none if the integration does not set or clear MWI or you do not want to use the MWI functionality of the integration.



The dialog box is titled "Switch Section Options" and contains the following fields and sections:

- Local Switch:** A dropdown menu with "Asterisk Asterisk" selected.
- System Switch Section:** A dropdown menu with "Asterisk Asterisk Section" selected.
- System Switch Section Settings:**
 - Name:** A text field containing "Asterisk Asterisk Section".
 - Assigned to Tenant:** A dropdown menu with "System" selected.
 - Node Code:** An empty text field.
 - Location Code:** An empty text field.
 - Location:** A dropdown menu with "DOCTEST" selected.
 - MWI Integration:** A dropdown menu with "Asterisk Asterisk SIP Trunk" selected.
- Local Switch Section Settings:**
 - View:** A dropdown menu with "Required Parameters" selected.
 - Set Defaults:** A button.
 - Table:**

Name	Value
Incoming Hunt Mode	Terminal
Hunt Group Access Code	5634

Buttons on the right side: OK, Apply, Cancel, Help.

Figure 23. Switch Section Options Dialog Box

- **Local Switch:** The current selected local switch.
- **System Switch Section:** The current selected System Switch Section
- **System Switch Section Settings:**
 - **Name:** Type a name for the switch section or accept the default name. You can give the switch section a short name or one significantly different from the existing switch sections. This makes it easier to select the correct switch section from the Section drop-down list on the **Lines** tab.
 - **Assigned to Tenant:** Select the desired tenant from the drop-down list. You can also leave it unassigned if you plan to use it to create a new tenant. To create a new tenant, see the online help topic, *Creating a Tenant (Multi-Tenant System)*.
 - **Node Code:** The node code is a unique numeric code representing a specific PBX in a network of PBXs. When used, the node code is received in the integration data in addition to the PBX extension number. The node code is also required when dialing an extension located on a remote PBX. Leave the field blank unless your PBX network requires this feature.
 - **Location Code:** The location code is a unique numeric code representing the geographic location of the caller. The location code is received in the integration data in addition to the caller's public telephone number. Leave this field blank unless your PBX requires this feature.

IMPORTANT Do not type any value in the Node Code or Location Code fields unless the ITN or a Technical Support representative specifically instructs you to do so.

- **Location:** Select the location of the switch section.
- **MWI Integration:** Click the drop-down box to select the integration that sets and clears MWI (message waiting indicators) for extensions in this switch section and switch node. If you do not want MWI functionality in this switch section, select none.
- **Local Switch Section Settings:**
 - **View:** Select a view from the list to filter the displayed switch section settings by type
 - **Switch Section Settings:** To change a setting's value, click the **Value** field you want to edit, and then enter a new value. The switch section settings allow you to specify the number of lines that System Server can use to make callouts in order to support setting message waiting indicators, network callouts, message notification, and message deliveries from outbound mailboxes.

NOTE Set the Maximum Callouts value to at least one (1), but use caution when deciding how many lines on which to allow callouts. Setting too many lines can adversely affect the System Server's ability to handle incoming calls. Typically, this number should be approximately half of the total number of lines in the system. For more information, see the section [Configuring Callout Settings](#).

IMPORTANT If Maximum Callouts is set to zero, the System Server cannot make callouts and logs an error on the Error Log report when a callout is attempted. Consult the documentation for the telephone system, the Integration Technical Note, for more information about the data that you may need to enter here.

- **Set Defaults** button: Returns the selected switch section settings, but not the display name, to their default values

Integrations Tab

The **Integrations** tab allows you to add additional integrations to the system or edit (configure) existing ones. One telephone system (switch) can have multiple integrations (for example, one integration per serial port). Multiple telephone systems (if you have a multiple switch configuration) can have one or more integrations apiece. The System Server must be shut down in order to add or delete an integration.

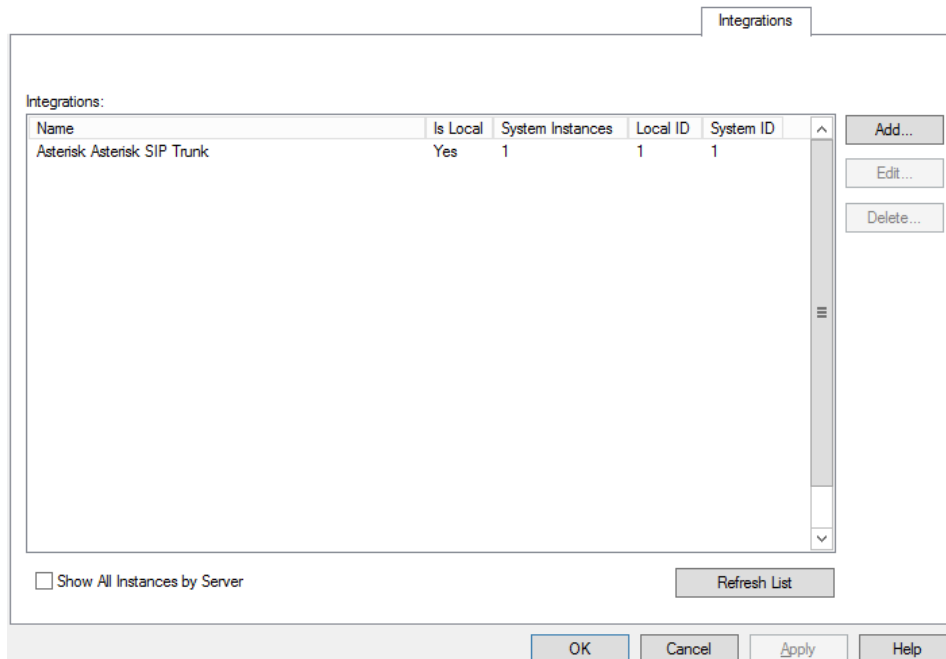


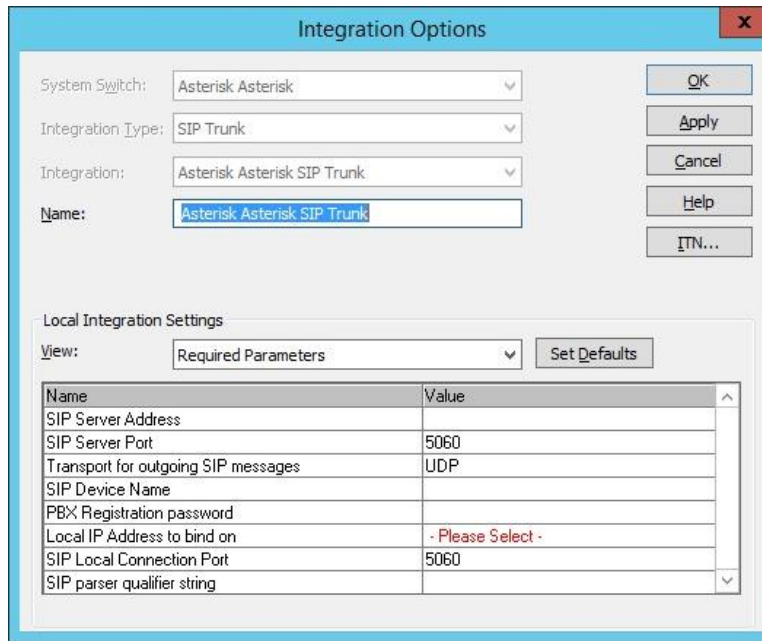
Figure 24. MiCollab AM Configuration - Integrations Tab

- **Integrations** table: Lists the integrations that are installed or configured
 - **Name:** Displays the name of the integration
 - **Is Local:** Denotes with **Yes** or **No** if the integration is local to this server or on a remote Call Server
 - **System Instances:** Displays how many instances of the integration are installed, including all of the Call Servers in the system.
- **Show All Instances by Server:** Select to view each instance of the integrations that exist within the system.
- **Refresh List:** Click **Refresh** to refresh the list.
- **Add** button: Click **Add** to add a new integration to the System Server.
- **Edit** button: Click **Edit** to edit the selected integration.
- **Delete** button: Click **Delete** to delete the selected integration.

Integration Options Dialog Box

The **Integration Options** dialog box allows you to edit the integration settings for the selected integration. The information in this dialog box is specific to the Integration that is selected.

WARNING Modifying parameters in this dialog box affects the functionality of the integration between the System Server and the telephone system. Consult the related Integration Technical Note documentation or Technical Support engineer prior to making changes to the parameters in this dialog box.



The dialog box is titled "Integration Options" and contains the following fields and sections:

- System Switch:** A dropdown menu with "Asterisk Asterisk" selected.
- Integration Type:** A dropdown menu with "SIP Trunk" selected.
- Integration:** A dropdown menu with "Asterisk Asterisk SIP Trunk" selected.
- Name:** A text field containing "Asterisk Asterisk SIP Trunk".
- Buttons:** OK, Apply, Cancel, Help, and ITN... (disabled).
- Local Integration Settings:**
 - View:** A dropdown menu with "Required Parameters" selected.
 - Set Defaults:** A button.
 - Table:**

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

Figure 25. MiCollab AM Configuration - Integration Options Dialog Box

- **System Switch:** Select the name of the telephone system (switch) that you want to integrate with the System Server. Only those switches that are installed are listed here.
- **Integration Type:** Select the method to connect the System Server to the telephone system so the two work closely together. Only those integration types that work with the switch you selected are listed here. See the Integration Technical Note or the documentation for the telephone system to verify the integration type.
- **Integration:** Displays the current system integration.
- **Name:** Type the name you want to give this integration, or accept the default name.
- **Local Integration Settings:**
 - **View:** Select a view from the list to filter the displayed integration settings by type, such as **Required Parameters**, **Integration Specific Parameters**, etc.
 - **Local Integration Settings** table: The Local Integration Settings table lists the settings for the local integration. To change a setting's value, click the **Value** field you want to edit, and then enter a new value. Consult the documentation for the telephone system or the Integration Technical Note for more information about data that you may need to enter here.

NOTE With the exception of any settings in the **Required Parameters** view, you should not need to change many settings. Most default values are the correct settings for the integration.

- **Set Defaults** button: Click **Defaults** to return the integration settings, but not the display name, to their default values.
- **ITN...** button: Click to open the Integration Technical Notes folder, and then select the Integration Technical Note (ITN) for your integration. If the **ITN...** button is unavailable (grayed out), there is no ITN for the selected integration.

Boards Tab

The **Boards** tab allows you to add additional boards (cards) to the system or configure existing ones. To make changes to this tab, the System Server must be shut down.

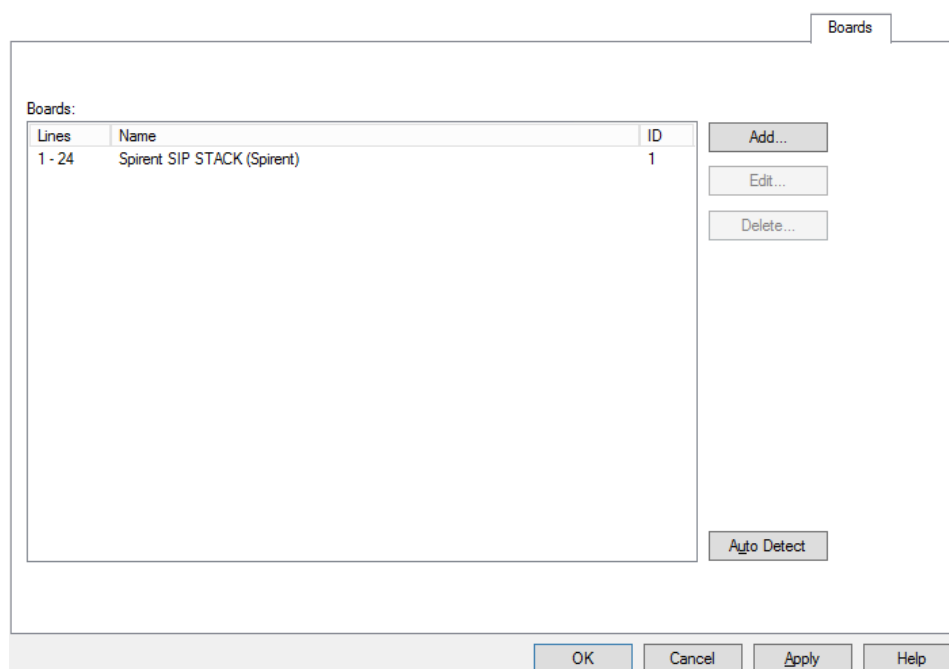


Figure 26. MiCollab AM Configuration - Boards Tab

- **Boards:** Lists the boards that are installed or configured
 - **Lines:** Lists the number of lines on the board, and their physical port numbers in the system
 - **Name:** The name of the board
 - **ID:** The board number in the system
- **Add** button: Click **Add** to add a new board to the System Server.
- **Edit** button: Highlight the board, and then click **Edit** to edit the selected board.
- **Delete** button: Highlight the board, and then click **Delete** to delete the selected board.
- **Auto Detect** button: Click **Auto Detect** to have the system detect a new or replaced (upgraded) Dialogic card automatically. To add a Dialogic card, install the card, configure it using the Dialogic Configuration Manager, and then click the **Auto Detect** button on the Boards tab.

NOTE This button detects Dialogic and Aculab cards that are configured properly in their respective application programs. You must add all other boards manually using the Add button.

Lines Tab

The **Lines** tab allows you to assign extension numbers, switch integrations, and switch sections to individual lines on the system. You can also specify the startup state (open or closed) for each telephone line and specify which lines are enabled for callouts.

Voice line licenses are allocated to the Call Server when the system starts and attempts to open the line. Any line, which is marked as open, consumes a voice line license. Those lines, which are not marked as open, do not consume a license, and are not be put into operation. For example, if you have 24 Dialogic ports installed in one Call Server but you only want to use 12 voice line licenses and assign the remaining voice lines to other Call Servers, uncheck the 12 lines you do not want to open at startup in the **Lines** tab. To make changes to the *Switch Integration Name*, *Switch Section*, and *Open* columns, the System Server must be shut down.

Lines

☒ Busy telephone line when closed

Line	Extension	Switch Integration Name	Section	Callouts	Open
1		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
2		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
3		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
4		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
5		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
6		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
7		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
8		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
9		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
10		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
11		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
12		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
13		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
14		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
15		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
16		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
17		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒
18		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	☒	☒

Figure 27. MiCollab AM Configuration - Lines Tab (Single Tenant System)

Lines

☒ Busy telephone line when closed

Line	Extension	Switch Integration Name	Section	Callouts	Open	Tenant
1		Asterisk Asterisk SIP Trunk	test4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test4
2		Asterisk Asterisk SIP Trunk	test4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test4
3		Asterisk Asterisk SIP Trunk	test4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test4
4		Asterisk Asterisk SIP Trunk	test4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test4
5		Asterisk Asterisk SIP Trunk	test1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test1
6		Asterisk Asterisk SIP Trunk	test1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test1
7		Asterisk Asterisk SIP Trunk	test1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test1
8		Asterisk Asterisk SIP Trunk	test1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	test1
9		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input type="checkbox"/>	<input type="checkbox"/>	test4
10		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input type="checkbox"/>	<input type="checkbox"/>	test4
11		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input type="checkbox"/>	<input type="checkbox"/>	test4
12		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
13		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
14		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
15		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
16		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
17		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
18		Asterisk Asterisk SIP Trunk	Asterisk Asterisk Section	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

< >

Fill Down

OK Cancel Apply Help

Figure 28. MiCollab AM Configuration - Lines Tab (Multi-Tenant System)

- **Busy telephone line when closed:** Select this check box if you want the System Server to take analog, loop-start ports off-hook and cause a busy signal when lines are closed or the system is down. Clear the box to leave ports on-hook, causing a ring no answer (RNA) signal. For changes to this field to take effect, you must restart the Call Server.

NOTE If you are not using an analog loop-start board or a non-Dialogic telephony board (such as an Aculab board), this check box is not applicable. It is only applicable to systems with analog, loop-start Dialogic boards.

- **Line:** Lists the available lines; the information shown in this column cannot be modified.
- **Extension:** Specify an extension number up to 11 digits long for each telephone line. The extension you type must match the extension or logical terminal number (LTN) connected to the System Server port. Consult the Integration Technical Note for more details.

NOTE During installation, if the first extension number was correctly entered, the extensions are set up and you should not need to make changes to this field.

IMPORTANT Integrations cannot function correctly if extension numbers are omitted or incorrect.

- **Switch Integration Name:** Select the name of the switch integration to which you want to assign the MiCollab AM port extension. It is necessary to assign ports to integrations only when you have multiple switches or multiple integrations per switch.
- **Section:** From the list, select the name of the section to which you want to assign the MiCollab AM extension. It is necessary to assign ports to switch sections only when you have multiple switch sections. A typical integration has only one switch section.

- **Callouts:** Check this box for each line you want System Server to use for callouts for message notification, daily message reminders, and so forth.

To enable callout settings, you must have at least one line enabled for callouts, and it is recommended that you enable all lines for callouts.

NOTE The number of callout ports are configured for each Switch section. Be sure the correct number of lines are configured in the corresponding Switch Section.

IMPORTANT If no lines are enabled for callouts, the System Server cannot make callouts and logs an error in the Windows Event Viewer when a callout is attempted. Consult the Integration Technical Note for more details.

- **Open:** This column allows you to set the startup state, Open or Closed, for each telephone line in the system. Clear the box to have a line closed on startup.

NOTE Each Line that is selected to Open requires a Voice Line license.

- **Tenant:** Lists the tenant to which this line is assigned.

NOTE The **Tenant** column only appears in a multi-tenant system. The **Tenant** column does not appear in a single tenant system.

- **Fill Down** button: Copies the contents of the topmost item of a selected range into the lines below. To fill items down, select the item you want to copy, drag down through all the lines you want to fill, and then release the mouse button. Click **Fill Down** to complete the copying process.

VIM Tab

The **VIM** tab allows you to select the connection type and configure the settings of the connection to the Voice Intercept Messaging (VIM) server.

NOTE

1. The **VIM** tab contains the information needed to support VIM for subscribers. VIM is available only on systems that are integrated with specific telephone systems that support the VIM feature. VIM is a licensed feature of Mitel and this tab is available only if the VIM feature is enabled on the license key. For more information about configuring VIM support, see the *Voice Intercept Messaging* online book.
2. The **VIM** tab is not supported on a multi-tenanted system, and must be configured by the tenant administrator on the **VIM** tab of **MiCollab AM Admin**.

Figure 29. MiCollab AM Configuration - VIM Tab (Single Tenant System Only)

- **Connection Type:** Select a serial or TCP/IP connection for transporting messages between the VIM Server and the System Server.
- **Serial Connection:**
 - **Port:** From this list box, select a serial COM port on the System Server to use for connecting to the VIM Server. The parameters you set for this COM port must match the parameters set for the COM port on the VIM Server.
 - **Baud Rate:** Select the transmission baud rate for the COM port.
 - **Data Bits:** Specify the data bits setting for this COM port.
 - **Parity:** Specify the parity setting for this COM port, Odd or Even.
 - **Stop Bits:** Specify the stop bits this COM port.
- **TCP/IP Connection:**
 - **Domain Address:** Type the host name or IP address of the VIM server in the Domain Address box.
 - **Port ID:** Type the port number to use for the connection in the Port ID box. You can also use the up or down arrows to select an ID. Use the default setting of 3001 that displays unless a manufacturer's representative directs you to use a different setting.

Call Progress Tab

The **Call Progress** tab allows you to modify the call progress pattern types (ring back, busy, reorder) on the telephone system connected to the System Server. The default values in the call progress files provided with the System Server are suitable for most telephone systems.

You may never need to make changes to call progress. However, if your system is having problems such as incomplete transfers or false determinations of line status, you might need to make changes to call progress.

WARNING Do not make changes to call progress unless instructed to do so by a Technical Support Engineer.

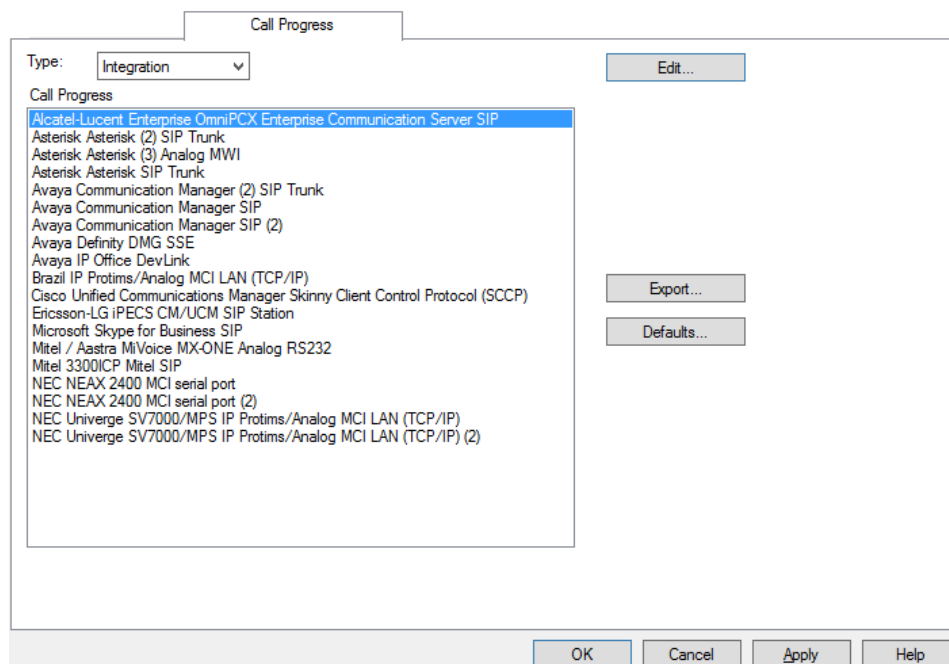


Figure 30. MiCollab AM Configuration - Call Progress Tab

- **Type:** Select **Integration** to see all integration-specific (internal) call progress environments. Select **Country** to see all country-specific (external) call progress environments.
- **Call Progress:** Lists the integrations or the country that are configured.
- **Edit** button: Click **Edit** to edit the selected call progress environment.
- **Export** button: Click **Export** to export a record of the selected call progress environment to a .zip file.
- **Defaults** button: Click **Defaults** to return the settings for this call progress environment to their default values. The call progress environment's display name is not reset.

Language Tab

The **Language** tab is where you select languages, prompt sets, TTS languages and ASR languages. Place a check mark next to the language that will be the default Language Pack. You can customize the prompt set, TTS language, and ASR language for each Language Pack by clicking in the fields next to the Language Pack name and selecting the desired option. You must shut down the server before you can make changes on the **Language** tab.

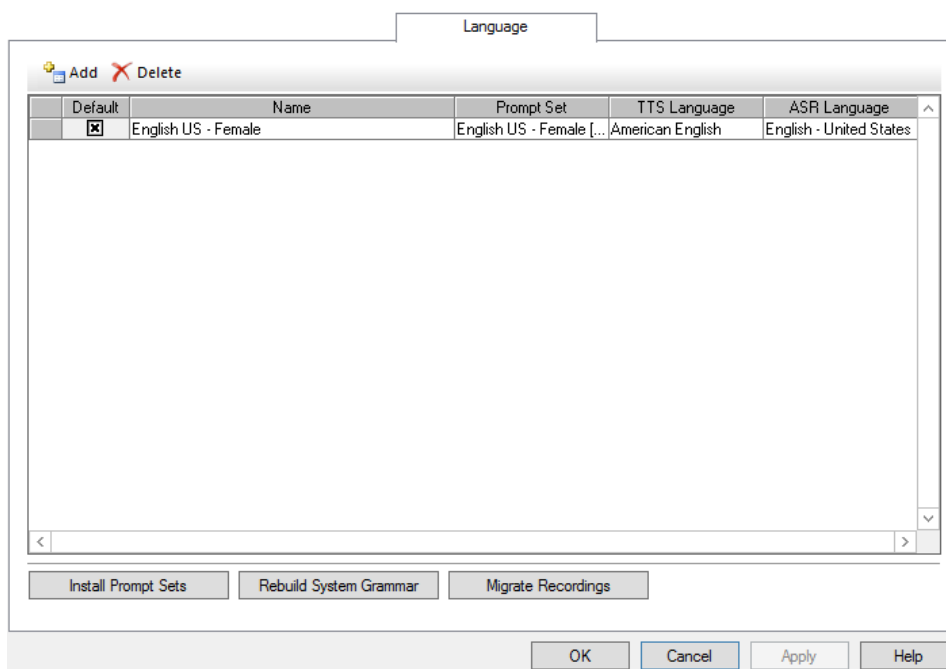


Figure 31. MiCollab AM Configuration - Language Tab

- The **Install Prompt Sets** button brings up a dialog box where you can browse to new prompt sets for installation.
- The **Rebuild System Grammar (Resync System Grammar on Call Servers)** button rebuilds the system grammar if you have made changes in this dialog box.

NOTE This button does not appear when there are multiple tenants. To rebuild the system grammar for multiple tenants, see the *Language tab* section of the *System Administration Guide*.

- The **Migrate Recordings** button allows you to change languages while leaving all system recordings unchanged. This is useful in cases where, for example, one version of English was installed in error. You could change the language prompt set, ASR, and TTS without losing existing recordings.

Reliability Tab

The **Reliability** tab can be configured to send e-mail notification to administrators in the event of a system fault. Reliability e-mails inform administrators of the following:

- Call processing errors
- High CPU usage
- High memory usage
- System startup
- System shutdown
- Power restoration

Figure 32. MiCollab AM Configuration - Reliability Tab

- **System E-Mail Notification:**
 - **Mail Server (SMTP):** Enter the name of the SMTP server that the System Server should use to send e-mail if it detects certain serious system errors.
 - **Encryption Type:** Select the type of encryption to use when sending e-mail messages.
 - None - No encryption method is used.
 - Auto - The encryption method is auto-negotiated between the client and the provider.
 - TLS - Messages are encrypted using Transport Layer Security.
 - SSL - Messages are encrypted using Secure Socket Layer.
 - **Port:** Select the TCP port to use when sending e-mail messages.
 - None – 25
 - Auto – 25
 - SSL – 465
 - TLS – 587
 - **Username:** The Username and Password fields are the credentials for the account used to logon to the SMTP provider. Enter the user's e-mail address in this field.
 - **Password:** Enter the password for the user account to log on to the SMTP server.

- **Urgent:** Select this box to mark the e-mail as urgent. This is particularly useful if the people receiving this message filter or forward their e-mail based on level of importance.
- **From:** Enter an e-mail address, a display name with an e-mail name in brackets, or a display name. To use a display name and an e-mail address together in this field, the e-mail address must be in angle brackets.

For example: System Administrator <sysadmin@company.com>

If only a display name is entered, the system includes an unknown e-mail address.

For example: unknown@defaultsmtp.com.

The default is the site name for this System Server.

- **To:** Enter the e-mail address of the recipients (typically the system administrator) who should receive these messages. Separate multiple e-mail addresses with commas.
- **Subject:** Enter a descriptive subject line for the e-mail or accept the default subject line.
- **Test Line Periodically:** Select this box to allow the System Server to run line tests occasionally. The line test simulates a callout and verifies that the low-level call processing components of the system are working properly. If a critical error is detected, the System Server sends an e-mail notification to the addresses listed in the **To** box under **System E-Mail Notification**.

To allow the system to reboot the System Server platform if it detects a critical error during the line test, select the **On call processing errors** box.

- **Reboot Server:**

- **On Call Processing Errors:** Select this box to allow the System Server to restart the System Server platform if it detects a critical error during its periodic line tests.
- **On High CPU Usage:** Select this box to allow the System Server to restart the System Server platform if it detects that one of the System Server processes is using too much CPU time.

For example: If the system runs at 95% CPU for 5 minutes, the System Server attempts to shut down and restart the Windows operating system.

For information on how to change the threshold values (percentage of CPU usage and length of time at that level), contact Technical Support.

- **On High Memory Usage:** Select this box to allow the System Server to restart the platform if it detects that one of the System Server processes is using too much memory.

For example: If the system runs at 95% memory usage for 5 minutes, the System Server attempts to shut down and restart the Windows operating system if this box is selected.

For information on how to change the threshold values (percentage of memory usage and length of time at that level), contact Technical Support.

Fax Tab

The **Fax** tab allows you to configure a RightFax server to process fax messages and documents for the Telephony Server. To configure a Third Party or XMedius fax server, use the **MiCollab AM Admin** utility. The server must be shut down to make changes on this tab.

NOTE The **Fax** tab only appears in a single tenant system. The **Fax** tab does not appear in a multi-tenant system. Use the **MiCollab AM Admin** utility to configure a fax server in a multi-tenant system.

The fax server application supports Faxtext/Fax on demand and fax mail services. In addition, it provides gateways to popular e-mail servers. The Faxtext/Fax on demand features of the fax server application allows outside callers the ability to request information, such as product literature, and receive it on their fax machines.

NOTE Separate hardware, software, and licensing requirements apply to the fax functionality of MiCollab AM.

The screenshot shows a configuration window titled "Fax" with a tab labeled "Fax". Inside the window, there are three radio buttons for "Fax Type": "RightFax" (selected), "Third Party", and "XMedius". Below these, there is a section titled "RightFax Settings" containing several input fields: "Server Name", "Board Name", "RightFax User ID", and "RightFax Password". To the right of the "Server Name" field is a "Server Protocol" dropdown menu currently set to "TCP / IP". A "Test Connection" button is located to the right of the "Board Name" field. At the bottom of the window are four buttons: "OK", "Cancel", "Apply", and "Help".

Figure 33. MiCollab AM Configuration - Fax Tab (Single Tenant System Only)

- **Fax Type:** Select either RightFax, Third Party, or XMedius depending on the type of fax server you are using.

NOTE Use the **Fax** tab on the **MiCollab AM Admin** utility to configure a Third Party fax server or XMedius fax server.

- **RightFax Settings:**
 - **Server Name:** This box contains the name of the computer system running RightFax.

IMPORTANT You must manually type the RightFax server name so that the two servers can communicate. In addition, the setting in this box does not take effect until after the System Server has been shut down and restarted.

- **Board Name:** If RightFax and its fax linecards reside on separate platforms, specify the name of the platform containing the fax linecards that RightFax uses to exchange fax messages with the System Server. If RightFax and its fax linecards reside on the same platform, specify the name of that platform in the Server Name box and leave this box blank.

IMPORTANT The Named Pipes protocol must be installed and available on both the System Server platform and the platform where the fax linecards are installed for the setting in this box to be used. As a result, this box cannot be used in conjunction with clustered RightFax systems. Note also that the setting in this box cannot take effect until the System Server is shut down and restarted.

- **Server Protocol:** Specify the protocol to use for communication between the System Server and RightFax.

IMPORTANT This setting does not take effect until the System Server has been shut down, and then restarted.

- **RightFax User ID** and **RightFax Password:** To integrate MiCollab AM with RightFax, you must first create an Administrator account in RightFax. Those credentials must then be entered into the **RightFax User ID** and **RightFax Password** fields on MiCollab AM Configuration's **Fax** tab.

NOTE The account used should not be the default RightFax administrator account. For security the account used should have a password. The Test Connection button will verify that the connection and account are valid.

Type one of the identifiers in the following table:

Table 5. System Server and RightFax Communication Options

If the System Server and RightFax communicate using ...	Then type ...
The TCP/IP protocol	The IP address of the RightFax platform
The Named Pipes protocol	The computer name given to the RightFax platform in Windows

Configuring an Online Backup Location

MiCollab AM copies the system backup file it created during the Daily Maintenance routine automatically to an online location, as well as local store messages, name recordings, greeting recordings, announcements, and report data. You can configure MiCollab AM to copy the daily backup files to a local drive, a network location, or an external USB drive. MiCollab AM manages the retention time of the Online Backup Location files based on its server time.

IMPORTANT You must configure the **MiCollab AM File Manager Service** with an administrator-level log on and password to allow MiCollab AM the right to copy the backup to the Online Backup Location. See the help topic, *Configuring Services in a Multi-Server Environment* for more information on how to configure the required Services.

To configure an Online Location for backup storage:

- 1 Start **MiCollab AM Configuration**.
- 2 On the **Main** tab, click the **Daily Maintenance** button. The **Daily Maintenance** dialog box appears.

The screenshot shows the 'Daily Maintenance' dialog box with the 'Online Backup' section selected. The 'Location' field is set to 'D:\Backups'. The 'Backup Status' shows a green progress bar at 100.0%. The 'Retention Properties' section shows various retention settings for messages, reports, and backups.

Daily Maintenance

Schedule
Time of: 2:00 AM

Run Now
Complete Without Message Backup

OK
Cancel
Help

Online Backup

IMPORTANT: By default, the Daily Maintenance routine backs up minimal data to a location on the local drive only, and this default backup generated cannot be used to restore a system. To maintain a full backup that can be used to restore your system, you must specify a valid Location below where you want to store database, message, report, and speech files during the Daily Maintenance routine.

Location: D:\Backups Browse...

Backup Status (Automatic refresh in 56 seconds)
100.0% Refresh

Files Saved: 1545 Files Pending: 0 Show Details...

Retention Properties

Message Retention (in days)
Call Server Msg Caching: 7

Server File Retention (in days)
Daily Backup Retention: 7
Max Diagnostic Log Retention: 14
Speech Utterance Retention: 8

Online Backup Retention (in days)
Report Retention: 31 [] Disable
Backup Retention: 31 [] Disable
☒ Include Messages
☒ Include Greetings, Names, Announcements

- 3 In the **Online Backup Location** field type a drive letter and path name, a UNC path name, or click the **Browse** button to select a location from the list.

NOTE Drive letters are valid for local drives only. The MiCollab AM online backup does not support mapped network drives.

IMPORTANT By default, the Daily Maintenance routine backs up minimal data on the local drive only and this default backup generated cannot be used to restore a system.

To maintain a full backup that can be used to restore your system, you must specify a valid location where you want to store database, message, report, and speech files during the Daily Maintenance routine.

To maximize recovery options in the event of a system failure, it is recommended that you select a different server on the network as the online backup location.

- 4 Click **OK**. Three directories are created in the directory you've defined in the **Location** field in the **Online Backup** box. In addition, subdirectories are created within these directories. Each subdirectory is used to store a particular backup set of files. They are:

- <online_location>\backup
- <online_location>\tenant-data\<tenantID>\reports
- <online_location>\tenant-data\<tenantID>\recordings

Recovering a Database

The **Recover Database** function allows you to restore your system database back to proper operation from a previous online backup created during the Daily Maintenance routine. You perform a database recovery from the **Database** dialog box of the **Main** tab in **MiCollab AM Configuration**. MiCollab AM must be shutdown to recover the database.

In the event of a complete system failure, it may be necessary to re-install the MiCollab AM software prior to recovery. Follow the normal installation steps to re-install the software provided in this guide. Once the software is installed completely, you can initialize the database with a previous online backup <file>.zip.

IMPORTANT The Online Backup Location must be configured in order for the WAV files and report data to be available during the restore process. Otherwise, the WAV files and report data must be copied manually to the new server from the source server.

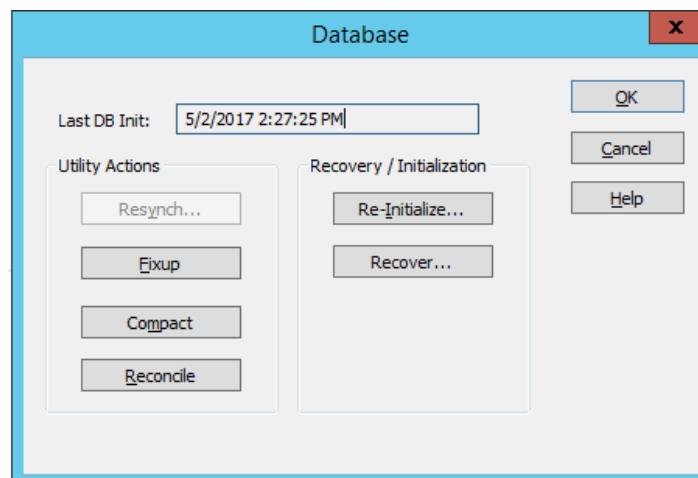
NOTES

1. Unless otherwise stated, the following images and steps are for a System Server but in most cases apply to both the System Server and the Call Server. When the differences are important, additional images and steps specific to a Call Server are also provided.
2. MiCollab AM software must be installed completely before you begin this procedure.

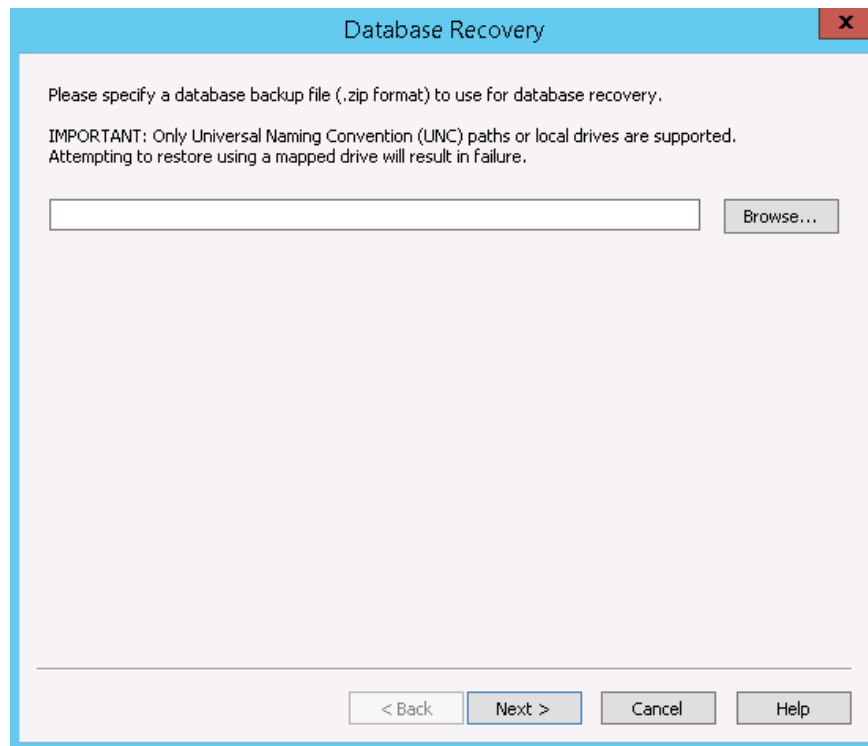
WARNING The following procedure attempts to recover the database and restore the System Server in a like-new condition with a previously stored database. The recovery process uses an existing backup <file>.zip file to perform the recovery. Any changes to the database that occurred between the time of the backup and the recovery are lost in the process. Exercise caution when performing this procedure.

To recover the database using a system recovery backup <file>.zip:

- 1 Shut down the System Server, and then on the **Main** tab, click the **Database** button. The **Database** dialog box appears.



- 2 Click the **Recover** button. When a notification popup window displays, click **OK** to continue.
- 3 The **Database Recovery** dialog box appears.



- 4 Enter the UNC path, the local drive, or click **Browse** to select the backup from the Online Backup Location. If you click **Browse**, the **Select Backup Zip File** dialog box appears.

NOTE This dialog box only supports the Universal Naming Convention (UNC) paths or a local drive; attempting to use a mapped drive may result in failure.

- 5 Select the zip file you want to use for the recovery process, and then click **Open**. The selected path and location are filled in the **Database Recovery** dialog box.
- 6 Click **Next** to continue. One of the following **Database Recovery Server Information** dialog boxes appears, depending on whether the server is a **System Server** or a **Call Server**.

System Server Database Recovery Server Information

Database Recovery Server Information

Local Server Configuration

☐ Use local server configuration settings in the recovery data.

☒ Use local server configuration as specified:

Server Display Name:

Server Role:

Network Address: ☐ IP ☒ DNS

System Options

☐ Remove Call Servers

< Back Next > Cancel Help

Call Server Database Recovery Server Information

Database Recovery Server Information

Local Server Configuration

☐ Use local server configuration settings in the recovery data.

☒ Use local server configuration as specified:

Server Display Name:

Server Role:

Network Address: ☐ IP ☒ DNS

System Options

☐ Remove Call Servers

System Server Configuration

☒ Connect to the same system server as specified in the recovery data.

☐ Connect to the system server specified:

System Server Address:

< Back Next > Cancel Help

- **On a System Server** – From the **Database Recovery Server Information** dialog box, make the following selections:

If you select...

Then...

Local Server Configuration

Use local server configuration settings in the recovery data	The existing configuration in the backup data to configure the local server settings is used. (Typically used if the backup was created on the same server to which it is being restored)
Use local server configuration as specified	Enter the server display name and the network address. If you select IP, enter a TCP/IP address. If you select DNS, enter a DNS name.
System Options	
Remove Call Servers	Select to remove any Call Servers configured in the recovery data. Selecting this option breaks communication between any existing Call Servers and the newly restored System Server.

- **On a Call Server** – From the **Database Recovery Server Information** dialog box, make the following selections:

If you select...	Then...
Local Server Configuration	
Use local server configuration settings in the recovery data	The existing configuration in the backup data to configure the local server settings is used. (Typically used if the backup was created on the same server to which it is being restored)
Use local server configuration as specified	Enter the server display name and the network address. If you select IP, enter a TCP/IP address. If you select DNS, enter a DNS name.
System Server Configuration	
Connect to the same System Server as specified in the recovery data	Use the existing System Server network address in the backup data.
Connect to the System Server specified	Enter the address of the server.

NOTE This option is typically selected only in cases when the restored System Server has a different network address than the local server settings configuration in the backup data.

- 7 Click **Next** to continue. If this is a System Server, skip to Step 10.

NOTE The Call Server attempts to log on to the System Server using the credentials in the backup. If it cannot log on, the **Database Initialization – System Server Information** dialog box appears.

Database Initialization - System Server Information

For this Call Server to become operational, it must belong to a <Product> System. To become part of a system, please specify the network and the login credentials to the system server which to join.

System Server Connection Information

Network Address:

System Administrator:

Password:

Port:

< Back Next > Cancel Help

Enter the **System Server Connection Information**:

- In the **Network Address** field, enter the network address. If you select **IP**, enter a TCP/IP address. If you select **DNS**, enter a DNS name.
- In the **MiCollab AM Admin** field enter the MiCollab AM Administrator's ID
- In the **Password** field, enter the MiCollab AM Administrator's password

8 Click **Next**. The **Database Recovery Options** dialog box appears.

Database Recovery Options

Server Role:

Restore From:

Recovery Options

☒ Restore Messages and Recordings

☒ Restore Report Data

< Back Next > Cancel Help

9 From the **Database Recovery Options** dialog box, select **Restore Messages and Recordings** if you want to include them in the recovery process. Select **Restore Report Data** if you want to include the report data in the recovery process.

IMPORTANT If you want to restore messages and recordings and report data the Online Backup Location must be used. Otherwise, the WAV files and report data must be copied

manually to the server. The restore options are unavailable if the Online Backup Location is not used.

10 Click **Next**. The **Database Recovery Confirmation** dialog box appears.

11 Click **Finish** to start the recovery process.

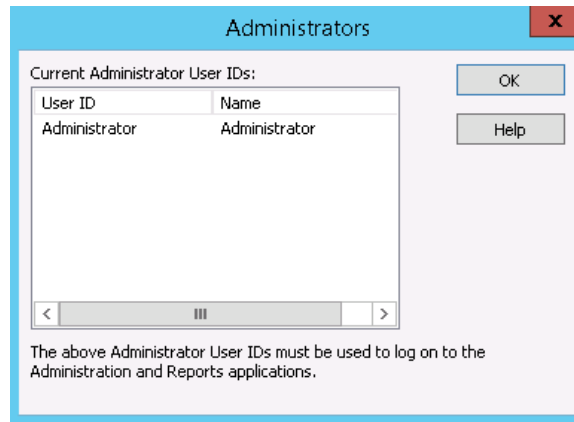
Important Considerations:

- If you are restoring from a directory other than the Online Backup Location, the recovery options are grayed out.
- If you are restoring a System Server from an Online Backup location, it is highly recommended that you select both options, particularly if it is a new install of MiCollab AM software.

12 Follow the steps below for a System Server or a Call Server:

a On a System Server:

- Once the Recovery process completes the **Administrators** dialog box appears and lists the current available administrators. Click **OK** to continue.



- The notification popup dialog box appears indicating the completion of a successful Database System Recovery. Click **OK**.
- The database is validated, Services are restarted, and **MiCollab AM Configuration** opens. The recovery process is complete.

IMPORTANT It is essential to re-synchronize each Call Server in the system to this recovered System Server before proper system operation can resume. See the help topic, *Re-synchronizing a Call Server*, for instructions on how to re-synchronize a Call Server. If the recovered System Server has a different network address than it had prior to the recovery (at the time of its backup), the Re-synch Call Servers function does not work. Instead, you must add each Call Server to the System Server.

b On a **Call Server**:

- The notification popup dialog box appears indicating it is re-synching with the System Server followed by a dialog box indicating it is added to the system. Click **OK**.

- The notification popup window displays indicating the completion of a successful Database System Recovery. Click **OK**.
- The database is validated, Services are restarted, and **MiCollab AM Configuration** appears. The recovery process is complete.

13 Click **OK**.

Configuring Callout Settings

Depending on the call patterns at your site and how your system is configured, you may need to change the default callout settings.

NOTE These settings apply only to lines associated with the switch section for which these settings are modified.

Using the **Maximum Callouts** field in the **Switch Section Options** dialog box, you can limit the total number of lines that are used for simultaneous callouts of all types (message waiting indicator and notification callouts, network callouts, and so forth).

This value cannot exceed the number of lines associated with this switch setting. If you have four lines assigned to this switch section, then you cannot have a value greater than 4 for the maximum.

Additionally, you can limit the number of lines that are used for specific types of callouts. Callouts are also affected by the number of lines reserved for incoming calls, which you set using the Incoming Line Reserve field.

The **Maximum Callouts** field is related to the **Incoming Line Reserve** field in two ways:

- The total number of lines specified for both cannot exceed the number of lines in your system when the combined total would exceed the count of the lines associated with this switch section. (Note that if you increase the **Incoming Line Reserve** field by one, the Maximum Callouts field is decreased by one automatically.)
- Because priority is given to incoming calls, no new callouts are initiated if the number of open (or idle) lines is less than or equal to the number of lines specified in the **Incoming Line Reserve** field, regardless of the number of callouts specified in the **Maximum Callouts** field.

IMPORTANT Desktop callouts (callouts made from a subscriber's PC to MiCollab AM) are not considered outgoing calls and therefore the callout constraints do not apply directly. However, a Desktop callout can only proceed if there is an available line in the specified switch section and the line is permitted to make callouts (**Lines** tab). In addition, the incoming line reserve setting must be satisfied.

Use the following guidelines to configure callout and incoming line settings:

- If you find that you often have lines idle and callouts are backing up, you may want to decrease the value in the Incoming Line Reserve field.
- If your callers often get a busy signal when trying to reach you, you may want to increase the value in the Incoming Line Reserve field.
- If you find that one type of callout is using more than its share of the total in the Maximum Callouts field, you may want to reduce the maximum value for that callout type.

To configure callout settings:

- 1 Start MiCollab AM Configuration.
- 2 Click the **Switch Sections** tab.
- 3 If you have more than one switch section, select the switch section whose callout settings you want to configure from the **Switch Sections** list, and then click **Edit**.
- 4 From the **View** list within the **Switch Section Options** dialog box, select **Callout Limit Settings**.

NOTE The Incoming Line Reserve setting is visible on the Incoming Call Setting view, not the Callout Limit Settings view.

- 5 For the **Maximum Callouts** setting, enter the total (or maximum) number of lines you want occupied with callouts at any one time. To enter a value, click the **Value** field to the right of the setting name, and then enter a value (or use the up and down arrows to select the value).

IMPORTANT Typically, it is recommended that this number be approximately half of the total number of lines in the system. Setting too many lines for callouts can adversely affect the ability of MiCollab AM to handle incoming calls.

- 6 For the **Maximum MWI Callouts** setting, enter the total number of lines you want occupied with message waiting indicator callouts at any one time (MWI callouts are calls MiCollab AM makes to set or clear message-waiting indicators). This value should not exceed the Maximum Callout Setting.
- 7 For the **Maximum Network Callouts** setting, enter the total number of lines you want occupied with network callouts at any one time. It is recommended that this number be approximately half of the number in the **Maximum Callouts** field. This value should not exceed the Maximum Callout Setting.
- 8 For the **Maximum Message Notification Callouts** setting, enter the total number of lines you want occupied with immediate message notification callouts at any one time. It is recommended that this number be approximately half of the number in the **Maximum Callouts** field. This value should not exceed the Maximum Callout Setting.
- 9 For the **Maximum Other Callouts** setting, enter the total number of lines you want occupied with other types of callouts at any one time. It is recommended that this number be approximately half of the number in the **Maximum Callouts** field. This value should not exceed the Maximum Callout Setting.
- 10 From the **View** list, select **Incoming Call Settings**.
- 11 For the **Incoming Line Reserve** setting, enter the total (or maximum) number of lines you want to reserve for taking incoming calls. To enter a value, click the **Value** field to the right of the setting name, and then enter a value (or use the up and down arrows to select the value).

NOTE The incoming line reserve should be set to 0 or 1 to avoid delayed IMN callouts.

- 12 Click **OK**.
- 13 Click the **Lines** tab.

- 14 To enable callout settings, verify that one or more lines are enabled for callouts.

NOTE When you add a new switch section, there are no lines assigned to it. Before you can configure the new switch section, you must first assign lines to it. Mitel recommends that you enable lines for callouts starting from the last line first to avoid line collisions.

- 15 Click **Apply**.

- 16 Click the **Main** tab, and then click the **Startup** button to start MiCollab AM.

Resetting the System Time

The System Server and its Call Servers uses the time and date settings of the Windows operating system. You should not ever need to change the system time and date, even if the server platform experiences a power failure, because the server platform's clock is backed up with an internal battery. The clock was also set during installation to adjust automatically for daylight savings time and your local time zone. The server platform uses the clock to track the dates and times at which voice messages are received.

In addition, date and time information is used for diagnosing errors logged during normal operation. If your site is using Unified Messaging, it is important for the System Server and the E-mail server to synchronize system times. The Windows operating system includes a time synchronization service. Refer to the Microsoft operating system documentation for more information.

IMPORTANT You should not change the time randomly because it can affect message posting (causing late message complaints) or even result in lost messages. Before changing the system date, consult with the MiCollab AM dealer or Technical Support.

Shutting Down the Operating System

You might need to shut down or restart the Windows operating system to update it. You should shut the operating system down before powering off the server platform and servicing its components or moving it to another location.

Shutting down the operating system also shuts down the MiCollab AM software processes. However, Mitel recommends shutting down the MiCollab AM processes separately before you shut down the operating system.

IMPORTANT Do not use the hardware reset button on the server platform at any time. Also, do not just power off the server platform. Shut down the MiCollab AM software processes by clicking shutdown from the **Main** tab of **MiCollab AM Configuration**, and then the operating system. Allow the operating system to power off the system. If you do not properly shut down both, you can lose important data.

To shut down the operating system:

- 1 From the Start menu, select **Shut Down**.
- 2 At the **Shut Down** Windows dialog box, select **Shutdown**.
- 3 Complete the Event Tracker information if required, and then click **OK**.
- 4 Wait for the computer to shut itself down, or wait for the message *You can now safely turn off your computer* to appear on the monitor.

IMPORTANT If you must turn off your computer manually, do not turn it off until the above message appears.

Setting Keep Private Messages Local

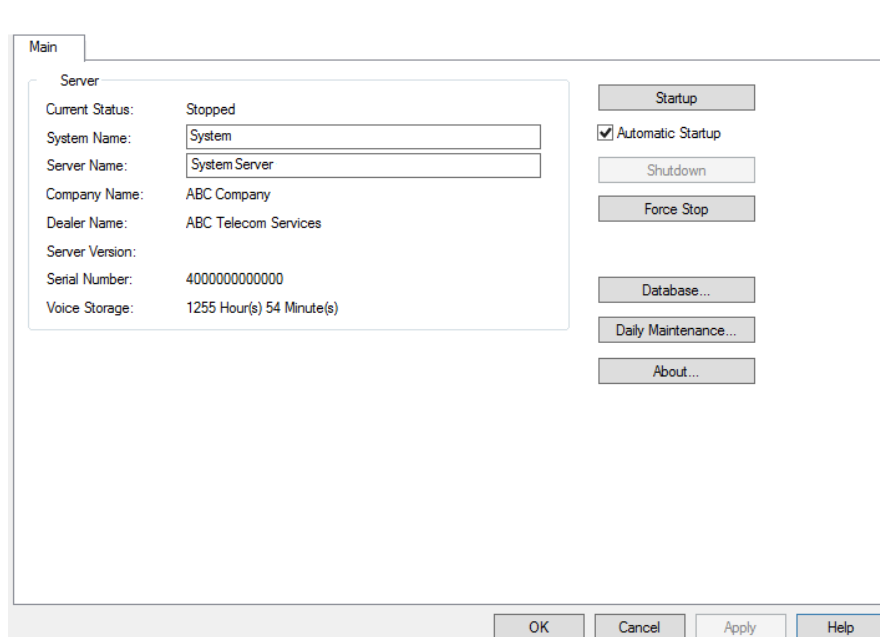
NOTE **Keep Private Messages Local** is currently only supported for Microsoft Exchange Server versions 2010 or later.

There may be a case where a system administrator would wish to keep private messages on the local server and prevent them from being forwarded to other users on the same server or other remote system servers. Exchange doesn't restrict forwarding, and therefore isn't secure when using Unified Messaging to store messages on the Exchange Server. When enabled, this allows non-private messages to be delivered to the subscriber's Exchange inbox. For private messages, a notification message is sent to the subscriber's Exchange inbox informing them of the private message and instructing them to use a phone to retrieve the message.

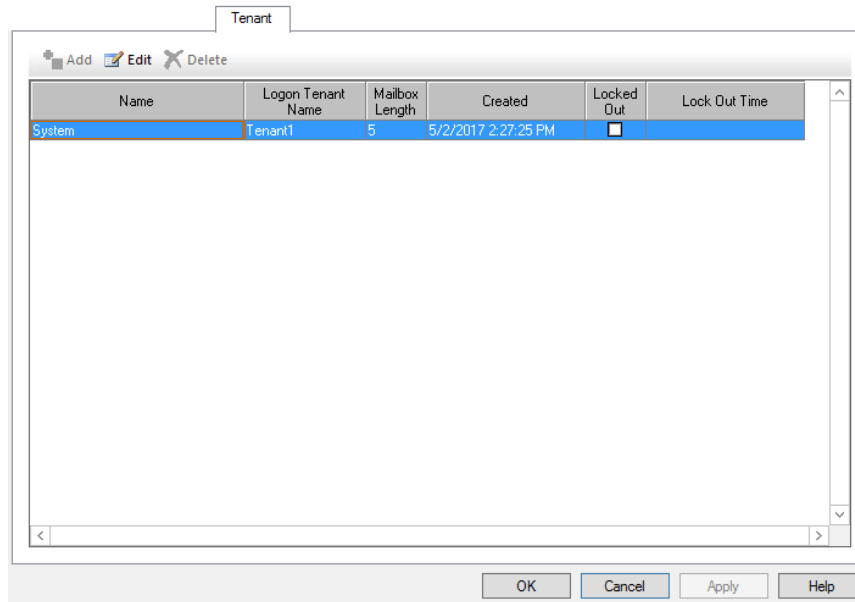
To locate and activate Keep Private Messages Local:

- 1 Open **MiCollab AM Configuration** by double-clicking the desktop icon or navigating to **Start > All Programs > MiCollab AM Desktop > MiCollab AM Configuration**.
- 2 On the **Main** tab, click **Shutdown** if MiCollab AM is running.

NOTE The server must be shut down to enable or disable **Keep Private Messages Local**.



- 3 Once **Current Status** displays **Stopped**, click the **Tenant** tab.



- 4 Select a Tenant and then click the **Edit** button. The **Tenant Summary** dialog box appears.

Tenant Summary

Display Name: **DOCTEST System** Created: **5/2/2017 2:27:25 PM**

Logon Tenant Name (no spaces): **Tenant1**

Mailbox Length: **4** ☐ Allow Trusted (Auto) Logon

☐ Locked Out Lock Out Time:

☐ Message Archiving

Messaging

☐ Keep Private Messages Local

Default Recording Format: **PCM MU-LAW (G.711)**

E-Mail Cache Size (MBytes): **200**

Licence Management

	In Use	Tenant's Limit	Available
Personal Assistant:	1	500	0
UM and ICA:	0	500	0
Subscribers:	6	Unlimited	Unlimited
TeamQ Supervisors:	0	20	0
TeamQ Agents:	0	100	0

Message Retention (in days)

Default Msg Retention: **10** ☐ Unlimited

Adv Notification (Hours): **48** ☒ None

Purge Message Header: **10**

Report Data Retention (in days)

Msg Log Retention: **7** ☐ Disable

Mailbox Usage Retention: **7**

Web Services Impersonation

User ID: **- None -**

Purge

☐ Reports

☐ Mailboxes

☐ Dist. Lists

☐ Network

☐ MWI

☐ Schedule

☐ Groups

Purge

Notes:

OK **Cancel** **Help**

- 5 To enable or disable, select or clear the **Keep Private Messages Local** check box.
- 6 Click **OK**.
- 7 Click **Startup** on the **Main** tab to start the server.

NOTE Instead of delivering the private message to an external store, such as Microsoft Exchange, the message is stored locally and a notification is sent via email. This process uses the **DefaultExternalStoreNotificationMessage.xml** phrase template to generate the notification message's body and subject. Instead of the locally stored message, the Notification Message triggers the MWI indicator for private messages.

About MiCollab AM Admin

MiCollab AM Admin allows you to manage the system's mailboxes that make up the site's applications, and to manage the system configuration parameters necessary to the administrative functions of the system.

MiCollab AM Admin can run on client workstations as well as from the System Server platform, allowing remote administration of the system.

For more information on **MiCollab AM Admin**, configuring mailboxes, recording names and greeting, configuring auto attendant scheduling, creating Speech commands, assigning subscribers to groups, see the *System Administration Guide*.

Integrating MiCollab AM with the Telephone System

This section describes the typical hardware and software required to support the integration, or connection, of a Call Server to a telephone system so that the two work closely together.

The telephone system could be a private branch exchange (PBX), key system, hybrid, VoIP telephony system, or Centrex central office. When integrated, the distinction between the features provided by MiCollab AM and the features provided by the telephone system is transparent to the caller. An inbound telephone call is automatically directed to the correct greeting, announcement, or action.

When the telephone system receives an inbound call, it sends two forms of important information to the Call Server: the call type and the digits that identify the calling and/or called party.

The digits can be one or more of the following:

- Calling station extension number
- Automatic Number Identification (ANI) number, which is also known as Calling Line Identification (CLI) number or Calling Party Identification (CPID).
- Called station extension number
- Trunk number
- Called party Dialed Number Identification Service (DNIS) number. This call type originates from the Publicly Switched Telephone Network (PSTN).

Based on the call type and the identification of the calling and/or called party, the Call Server directs the caller to the appropriate greeting, announcement, action, or set of options. The Call Server can also send a Message Waiting Indicator (MWI) enable command to the telephone system to notify the subscriber of new messages.

MiCollab AM Integration Features

In most integrations, MiCollab AM offers the following features:

IMPORTANT Telephone systems provide different levels of integration from one manufacturer to another as well as from one model or software level to another. Although MiCollab AM has the capacity to provide each of the following described features, not every telephone system has the ability to present the data necessary to meet the requirements of each feature.

- **Automatic logon** - The Call Server recognizes a Direct Station call or Direct External Call (ANI number), identifies the caller's extension or PSTN number, and prompts the caller to enter the security code of the Subscriber mailbox associated with that extension number.

- **Call Forwarding** - The telephone system forwards a call to a subscriber's personal greeting if an extension is busy or not answered, or if it is set on Do Not Disturb or Forward All. Both internal and external callers can be forwarded to the subscriber's personal greeting. Depending on how the subscriber's mailbox is configured and on the information provided by the telephone system, an appropriate greeting can be played for both a Busy and a Ring No Answer (RNA) condition. Callers can then leave messages in the subscriber's mailbox or be presented with another list of options.
- **Call Routing** - Call Routing is based on the trunk number, DNIS number, or forwarded PBX extension number. These types of calls can be routed to a specific subscriber, department, application, audio library, ACD agent, or call center.
- **Calling Party Identification** - This feature allows a subscriber to reply directly to, or transfer to, the sender of messages.
- **Escape to Operator** - This feature allows the caller to reach a subscriber-specific or general operator by dialing zero (0).
- **Message Waiting Indicator (MWI)** - This feature can be configured to set automatically when new messages are left by callers and canceled when new messages are reviewed by subscribers.
- **Signaled disconnect** - This feature allows the Call Server to terminate a call when signaled by the switch integrated to it, thereby improving system efficiency by reducing the amount of time each telephone line remains in use after the end of a call.

Integrating the Telephone System and MiCollab AM

This section describes procedures that are common to all integrations. For specific instructions for the telephone system you are integrating, refer to the appropriate text file for an inband integration and the Integration Technical Note for an outband integration.

Integrating the telephone system and MiCollab AM consists of the following steps:

- Programming the telephone system to recognize and communicate with MiCollab AM
- Performing advanced integration, if necessary
- Testing the integration (refer to the [Testing the Telephone System Integration](#) section)
- Troubleshooting the integration, if necessary (refer to the [Testing the Telephone System Integration](#) section)

Programming the Telephone System to Recognize and Communicate with MiCollab AM

The installing technician should be technically familiar with the telephone system before attempting to program it. If your organization is not responsible for the telephone system, arrange for the telephone system vendor's representative to program it.

- **For outband integrations**, telephone system programming instructions are provided in the Integration Technical Note.

- **For inband integrations**, telephone system programming instructions are provided in text file format only. Text files can be found in the D:\CX\Bin\Pbxinfo directory on the server platform. The name of the file is *.txt, where * represents the name of the telephone system. You can also click the **ITN...** button on the Integration Options dialog box to view the Integration Technical Note for the integration.

In addition to the Integration Technical Note, you may need the telephone system documentation.

Adding an Additional Telephone Switch

After the telephone system has been programmed to recognize and communicate with MiCollab AM, you may need to perform additional tasks, such as adding another telephone switch and integrating it.

IMPORTANT Before you implement multiple switch configurations; please contact Mitel Technical Support for configuration assistance.

This section describes how to add another telephone switch and integrate it. It also describes how to add or update a board, assign extension numbers to telephone lines, and configure callout settings.

For additional information about values that you need to enter for the switch, see the online Help, the Integration Technical Note (or integration text file) and the documentation for the telephone system (switch).

MiCollab AM supports concurrent integration with multiple telephone systems (switches). MiCollab AM supports the following multiple switch configurations:

- Two circuit-switched telephone system and one IP telephone system
- Up to three different circuit-switched telephone systems

Read the Integration Technical Note and the documentation for the telephone system you are integrating with MiCollab AM before performing this procedure.

To add an additional telephone switch:

- 1 Shut down MiCollab AM.
- 2 Click the **Switches** tab, and then click **Add**.
- 3 In the **Switch Integration Data Setup** dialog box, select the telephone system (switch) manufacturer from the **Manufacturer** list, the switch model from the **Model** list, the Integration Type from the **Integration** list, and then click **OK**.
- 4 Enter a name for the switch in the **Name** box or accept the default name.
- 5 From the **View** list, select **All Settings**. Configure the remaining switch settings as needed. Enter values for the switch settings. To enter a value for a switch setting, click the **Value** field you want to edit, and then enter a value.
- 6 Click **OK**. The **Switch Sections** tab appears.
- 7 In the **Switch Section Options** dialog box, select the telephone system (switch) for which you are creating the switch section from the **Switch Name** list.

- 8 Enter a name for the switch section in the **Name** box or accept the default name.
- 9 Enter the **PBX node code**, if it is a requirement of your networked PBX. Leave the field blank unless it is required.
- 10 Enter the **PBX location code**, if it is a requirement of your networked PBX. Leave the field blank unless it is required.
- 11 In the **Required Parameters** view, enter values for the required switch section settings. To enter a value for a switch setting, click the **Value** field you want to edit, and then enter a value.
- 12 Configure the remaining switch section settings as needed.
- 13 Click **OK**, the **Integrations** tab appears.
- 14 From the **Switch Name** list in the **Integrations Options** dialog box, select the telephone system (switch) for which you are creating the integration.
- 15 From the **Type** list, select the type of integration.
- 16 Enter a name for the integration in the **Name** box or accept the default name.

NOTE To complete the following steps, you need the Integration Technical Note and the documentation for the telephone system (switch) for which you are creating the integration.

- 17 From the **View** list, select **Required Parameters**. Enter values for the required integration settings. To enter a value for a setting, click the **Value** field you want to edit, and then enter a value.
- 18 Configure the remaining settings as required.
- 19 Click **OK**.

Assigning Lines to the Integration

Assign the lines to the new integration as needed. Configure each line to serve the specific integration and switch section you require in the **Lines** tab.

To assign lines to the integration:

- 1 Shut down MiCollab AM.
- 2 Click the **Lines** tab.
- 3 Click the **Switch Integration Name** field for the line you want to assign a new integration.
- 4 Select the new integration the line from the drop-down list.
- 5 Click the related **Section** field, and then select the switch section to which the integration is assigned.
- 6 Click **Apply**.

Adding or Updating a Dialogic or Aculab Linecard

Use the following procedure if you are adding another board to the MiCollab AM platform (such as an Aculab board) or if you are replacing or updating an existing board (for example, if you are replacing a 16-line Dialogic board with a 32-line linecard).

NOTE Auto Detect detects Dialogic linecards and Aculab boards that have been approved for use with MiCollab AM. It does not detect boards by any other manufacturer or unsupported linecards.

For more information, refer to the documentation that came with your new board.

To add a Dialogic or Aculab board:

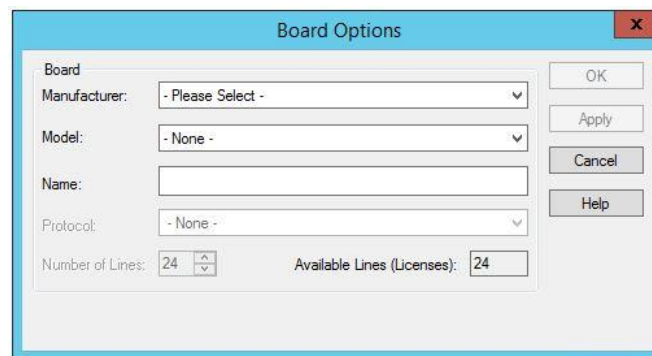
- 1 Shut down MiCollab AM.
- 2 Click the **Boards** tab.
- 3 To update an Aculab or a Dialogic board, make sure the board has been properly installed and configured, and then click the **Auto Detect** button.
- 4 Click **Apply**.

Adding a Virtual Board

This section describes how to add a virtual board. Virtual line cards must be configured manually.

To add a virtual board:

- 1 Start **MiCollab AM Configuration**, and then shutdown MiCollab AM if it is running.
- 2 Click the **Boards** tab, and then click **Add**. The **Board Options** dialog box appears.



- 3 Select a Board Manufacturer from the **Manufacturer** drop-down menu. (See the related ITN for the correct board type.)
- 4 The **Model** field is filled automatically based on your board Manufacturer selection.
- 5 The **Protocol** field is filled automatically based on your board Manufacturer selection.
- 6 Select the number of lines you want to configure for your virtual board.

IMPORTANT Be sure that the MiCollab AM feature file supports the additional lines and board types that you require when you add or update a board and that the Line displays the correct number of lines.

- 7 Click **OK**. Setup displays the progress popup showing that your virtual board is being created.
- 8 Once the virtual board is created, you can continue with the configuration of your MiCollab AM server.

Assigning Extension Numbers to Lines

The installation program can assign extension numbers to lines for you, so you typically do not need to perform this procedure. Depending on the integration type, you may however, need to assign extension numbers to lines in the following situations:

- After installing MiCollab AM, if you did not specify the first extension in your system during installation.
- If the extension numbers in your system are not contiguous and the installation program was unable to assign extension numbers to lines for you.
- After adding additional lines to your system

To assign extension numbers to lines:

- 1 Shut down MiCollab AM.
- 2 Click the **Lines** tab.
- 3 Click the **Extension** box next to the line for which you want to assign an extension number, and then enter the extension number.
- 4 Repeat step three for each additional line that needs an extension number assigned to it.

NOTE If your extensions are numbered contiguously, you can use the Fill Down button to quickly assign extension numbers to lines. To fill extension numbers down, select the last extension number you entered, drag down through all the lines you want to fill, and then release the mouse button. Click **Fill Down** to complete the process.

- 5 If you want a busy signal instead of a ring no answer (RNA) signal when lines are closed or the system is down, select the **Busy telephone line when closed** box.

NOTE The Busy telephone line when closed setting effects Dialogic analog linecards only and is effective only when MiCollab AM is running. The setting has no effect if the server platform is shutdown.

- 6 When you are finished, click **Apply**.
- 7 Click the **Main** tab, and then start MiCollab AM.

Testing the Telephone System Integration

After programming the telephone system and completing the MiCollab AM integration, you must test the installation to verify that the integration functions correctly.

NOTE Instructions in this section assume that you are using the MiCollab AM standard database. Not all telephone systems support the features described in this testing section. Further, the text file or Integration Technical Note for the telephone system may contain additional testing information.

The following basic integration features must be tested

- Message Waiting Indicator (MWI) set and cancel
- Direct subscriber logon to a mailbox
- Call forward to a personal greeting and reply to an internally forwarded caller
- Transfers
- Direct call from operator
- Disconnect test

Because these tests may uncover problems with the telephone system as well as the MiCollab AM system, Mitel recommends that someone who is technically competent with both the MiCollab AM system and the telephone system perform these procedures.

If your company is not responsible for the telephone system, arrange to have a technical representative from the telephone system vendor available for these tests. Mitel also recommends that you perform these tests without subscribers accessing the MiCollab AM system so that the tests can be completed more quickly.

You need the following items for testing and problem resolution:

- Two working DTMF test telephone extensions within visual range of the server console.
- For inband integrations, a telephone test set capable of monitoring calls. A test set with signal detection and measurement capabilities (digit grabber) such as the ZIAD PhD may be necessary to test all of the integration functions completely.
- Two unassigned Subscriber mailbox numbers with primary extensions matching your two test telephones (the integration testing procedure requires two Subscriber mailboxes).

Before you begin the integration tests, verify the telephone system programming. For programming specifics, refer to the Integration Technical Note for your particular telephone system.

Preparing the Software for Testing

NOTE If a call fails any of the following tests, refer to the [Troubleshooting the Integration](#) section.

To prepare the software for testing:

- 1 Create two subscriber mailboxes, one for each test telephone station, and verify the following:
 - The **Primary Extension** box matches the actual extension number.
 - The **Set MWI** box is set to **Yes**.
 - The **Clear MWI mode** box is set to **First**, **Last**, or **Empty**, depending on the text file or Integration Technical Note for the telephone system.
- 2 Record a personal greeting and a busy personal greeting (if supported by your telephone system), provide names for both mailboxes, and verify that the recordings are present. If you are using busy personal greetings, be sure to program the subscriber mailbox appropriately.
- 3 At the **Lines** tab in MiCollab AM Configuration, for inband integrations, make sure at least one port has been designated for Callouts.

Message Waiting Indicator Set and Cancel Test

Follow these steps to test the MWI set and cancel functions.

To test MWI Set/Cancel:

- 1 Verify that the test station being used has MWI capabilities and that the MWI is currently not set.
- 2 Place a call to the server platform from the second test station and do the following:
 - a Log on to the second test subscriber mailbox, record a message, and send it to the first test mailbox.
 - b Press **5** to send the message.
 - c Log off and hang up.
- 3 From the first test station, call the server platform.
- 4 After the Call Server answers, log on to the mailbox and listen to the test message.
- 5 Save or discard the message as desired.
- 6 Log off and hang up.
- 7 After the Call Server hangs up, check the test station to confirm that the MWI has been canceled.

Direct Subscriber Logon Test

Follow these steps to test the direct subscriber logon.

NOTE This test may not be supported by your telephone system.

To test direct subscriber logon:

- 1 Verify that the telephone system is programmed appropriately.
- 2 From the test station, place a call to the lead number of the MiCollab AM system and do the following:
 - a Monitor the Line Status screen to verify which mailbox is accessed when the Call Server answers.
 - b When you hear Please enter your security code, enter the appropriate security code and make sure you are in the correct mailbox.
 - c Log off and hang up.

Call Forward on Ring No Answer

This test explains how to test call forwarding to a personal greeting. It also tests the ability of a subscriber to reply directly to a message left by an internally forwarded caller.

NOTE This test may not be supported by your telephone system.

To test call forwarding on Ring No Answer (RNA):

- 1 Set a test station so that it call forwards on RNA and rings to the lead number of the MiCollab AM system.
- 2 From another test station that has a subscriber mailbox in the system, place an internal call to the forwarded station. After the designated number of rings at the test station, the call should forward to the server platform.
- 3 Observe the **Line Status** screen to make sure that the Call Server answers the forwarded call with the appropriate subscriber's mailbox. After the Call Server answers the call, you should hear the personal greeting of the called station.
- 4 After the personal greeting ends, leave the subscriber a short message, and then hang up (just as a non-subscriber would do).
- 5 Repeat Steps two through four, but call into the Call Server using an outside line. If the telephone system is equipped with Direct Inward Dial (DID) trunks, this functionality should also be tested. Again, the call should forward to the Call Server and to the personal greeting of the called station.

Call Forwarding on Busy Test

Leave the telephone programmed as in the previous test.

NOTE This test may not be supported by your telephone system.

To test call forward on busy:

- 1 Make the station busy and place an internal call to that busy station. The call should immediately forward to the Call Server.
- 2 Observe the Line Status screen to make sure the Call Server answers the forwarded call with the appropriate subscriber's mailbox. You should hear the busy personal greeting of the called station.
- 3 Log off the Call Server at the personal greeting and hang up.
- 4 Repeat Steps 2 and 3, but call into the MiCollab AM system using an outside line. Again, the call should forward to the Call Server and to the busy personal greeting of the called station.

Transfer Testing

Follow these steps to test transfers in your system.

To transfer a call:

- 1 Call MiCollab AM and request a transfer to another extension that you know is available.
- 2 Repeat the transfer with a line that is busy.
- 3 Repeat the transfer with outside calls into the automated attendant.

Reply to a Message from an Internally Forwarded Caller Test

Leave the telephone programmed as in the previous test.

NOTE This test may not be supported by your telephone system.

To reply to a message from an internally forwarded caller:

- 1 With the MWI set at the called test station, make a direct call to the lead number of the MiCollab AM system from this station.
- 2 After entering the security code, press 1 to listen to new messages.
- 3 After listening to the first message left through internal forwarding, press 8 to reply to the message.

The system informs you that this reply will be sent to the calling test station. No other action is required by you for the system to know which mailbox to send the reply to.

NOTE If you press **8** to reply to the second test message, you will notice that single-key reply is not available for messages left through external forwarding.

- 4 Record a short reply and press **5** to send the message. Then log off and hang up.

Direct Operator Call from an Attendant Console to MiCollab AM Test

Follow these steps to test a direct operator call to the Call Server.

This test requires a Subscriber mailbox for the operator console. Additional programming may be required for the telephone system. See the telephone system programming documentation for details.

To direct operator call to the Call Server:

- 1 At the operator console, dial the MiCollab AM lead number.
- 2 Turn on DTMF (end-to-end signaling) by pressing the appropriate programmed button on the console, or by using the external tone generator, if required.
- 3 Listen for the prompt *Enter the extension of the person you wish to reach, followed by the pound sign key*.
- 4 Press the **Release** key.

Disconnect Test

To make the best use of the Call Server ports, it is important that you verify the server's ability to disconnect when a caller hangs up. Because disconnect signaling varies greatly among telephone systems, only general guidelines are offered.

To test disconnect:

- 1 Start the Line Status utility.
- 2 Call the MiCollab AM hunt group and enter the target extension number. After several seconds, you are prompted to leave a message.
- 3 Begin speaking at the tone and leave a five-second message.
- 4 When you are finished, hang up without pressing any DTMF keys.
- 5 Watch the Line Status window. The line status should change to on hook a few seconds after you hang up.

If you encounter a problem, repeat the test while monitoring the MiCollab AM line with a telephone test set to determine the disconnect signaling used by the telephone system, then adjust the values in the

Switch Options dialog box and the Disconnect and Answer Settings in the Integration Options dialog box from MiCollab AM Configuration. If DTMF digits are sent by the PBX as a disconnect code, enter those digits in the DTMF Disconnect String field

Table 6. Disconnect Test Indications

If the telephone system indicates a disconnect by...	From MiCollab AM Configuration, check the value of the following setting...
Dial tone or Reorder tone	Disconnect recognition settings in the Call Progress Environment dialog box
DTMF digit string	DTMF Disconnect String box in the Integration Options dialog box (Available on some inband integrations)
Open loop Current	Current length in millisecond in the Disconnect Loop Current Length (ms) box in the Switch Options dialog box

NOTE If the telephone system sends an inband string such as 55 as the disconnect string, type that disconnect DTMF string in the DTMF string box.

Last, check the silence timeout setting in the **Silence Timeout** box in the **Messaging** tab of the **MiCollab AM Admin's System Configuration** dialog box.

This is the end of the integration test procedures. Be sure to remove any mailboxes that were created for the sole purpose of running the integration tests. Also, verify that any configuration parameters changed for testing purposes have been changed back to realistic working values.

Troubleshooting the Integration

If the integration does not function properly after you install and configure it, review the following common integration mistakes and problems before calling Technical Support.

The Call Server

- On the **Switches** and **Integrations** tabs, do the parameters have the recommended values found in the text file or Integration Technical Note?
- In the **Lines** tab of MiCollab AM Configuration, have the correct extension or position logical terminal numbers (LTNs) been assigned to each MiCollab AM port?
- If the integration is a Datalink integration; is the data link connected to the serial port correctly? Is the serial port configured properly under the Communication Settings view in the Integrations Options dialog box of the Integrations tab?
- Do all Subscriber mailboxes that require MWI functions have the Set MWI box selected?
- For inband integrations, check the callout log report to see MWI set and clear actions.

The Telephone System

- Is the telephone system correctly programmed to provide the MiCollab AM system with the requirements listed in the Programming the Telephone System section of the Integration Technical Note?
- Is all forwarding from subscriber telephones configured to forward to the MiCollab AM system correctly?
- Have you made sure there are no line appearances of the MiCollab AM system ports on any other station?
- Are all bridge clips, jacks, line cords, and other types of wiring correctly terminated and properly connected?

Solutions to Common Problems

The following table suggests steps that you can take to help troubleshoot common problems. Check these tables and the documents mentioned earlier in this chapter before contacting your dealer or Technical Support.

Table 7. Solutions to Common Problems

Problem	Suggestion
The Archive utility cannot back up information to the desired disk drive or data storage device.	Map the drive or device to a Windows drive letter. If you launch the Archive utility from the DailyMaintUser.bat file and you do not want to leave the drive letter assigned permanently, add the net use command to the beginning and end of the DailyMaintUser.bat file to assign a letter temporarily. See the Archive online help for more information.
MiCollab AM Configuration cannot import/export network information from another System Server.	If the information was exported in Backup / Restore format, ask the other server's administrator to export it again in Zip format. If this is not possible, contact Technical Support for assistance.

Configuring Firewalls

If you intend to use a firewall to protect your MiCollab AM system, you must create openings at the firewall so that programs have access to the software ports that MiCollab AM uses. The number, size, and location of these openings depend on the following decisions:

- How you deploy the firewall in your organization
- Whether or not the MiCollab AM system should be able to exchange mailbox and server information through Global User Administration or MiCollab AM Digital Networking
- Whether or not MiCollab AM subscribers should be able to use client programs, such as Unified Messaging and Integrated Client Access, to log on to MiCollab AM from the other side of the firewall
- Whether or not MiCollab AM administrators should be able to use the administrative utilities to log on from the other side of the firewall

If the users in your organization log on to MiCollab AM using such features as Unified Messaging, NetConnect Digital Networking, and the **MiCollab AM Admin** utilities, you need to open the additional ports that those programs need to communicate with the various software processes that make up MiCollab AM.

In addition, if you want to enable the built-in firewall provided with the operating system on the server platforms that host the components of the MiCollab AM system (for example, the Digital Networking and UCCconnect servers, as well as the main System Server platform), you must open all of the ports that the MiCollab AM processes require.

The following tables list the ports that MiCollab AM components use. These tables are organized into groups of Services. Each table provides the necessary information for you to configure the appropriate firewall settings that enable Services for that particular group. If a Service or a service-group does not apply to your installation, no configuration is required.

Table 8. System Services

Service Description	Server	Client(s)	Port(s)
SOAP Interface for System Services	System Server	AD Snap-In	18276 (HTTP)
		Call Server	18277 (HTTPS)
		MiCollab AM Admin	
		Digital Networking Configurator	
		Integrated Client Access Server	
		Line Status	
		Reports	
		Web PhoneManager	
		Unified Messaging Clients	
		Message Cache Manager	

MiCollab AM API Interface	System Server	RightFax Work Server MiCollab AM Admin Digital Networking Server Diagnostics utility	5321 (TCP)
NetBIOS connections	System Server	Call Server	139 (TCP)
		Reports	445 (TCP)
My SQL Database	System Server	Call Server	3310 (TCP)

Table 9. Call Services

Service Description	Server	Client(s)	Port(s)
SOAP Interface for Call Services	Call Server	System Server Other Call Servers (only for Split Integrations) Line Status	18276 (HTTP) 18277 (HTTPS)
MiCollab AM API Interface	Call Server	Diagnostics utility	5321 (TCP)
NetBIOS connections	Call Server	System Server	139 (TCP) and 445 (TCP)
My SQL Database	System Server	Call Server	3310 (TCP)

Table 10. Integration Services

Service Description	Server	Client(s)	Port(s)
SIP integrations	Call Server / System Server with call services	Various IP PBX	5060 (UDP and TCP) 5061 (TCP) (Can be configured differently)
Cisco SCCP integration	Cisco Unified CallManager / Cisco Unified CallManager Express / Cisco Unified SRST	Call Server / System Server with call services	2000 (TCP)
Media Streaming Ports	Call Server / System Server with call services	Various IP PBX and IP phones	Configurable base port: 10000 (UDP) Range: Base Port to (Base Port + 10*Number of Lines)

MITEL SIP Convertor (For IP integration)	Call Server / System Server with call services	MITEL MX-ONE /	1090-1120 (UDP) 1720 (TCP)
Outband Datalink for VM and CAS integrations	System Server / Call Server	MITEL / MX-ONE	2555 (TCP)
Outband Datalink	Fujitsu 9600	System Server / Call Server	Configurable (TCP)
Outband Datalink (For MCI LAN integration)	NEC PBX	System Server / Call Server	60020 (TCP)
MWI (Devlink)	System Server / Call Server	Avaya IP Office	50791 (UDP)
MWI (Devlink)	Avaya IP Office	System Server / Call Server	Dependent on PBX version (UDP)

Table 11. Integration Services

Service Description	Server	Client(s)	Port(s)
MITEL SIP Convertor (For IT integration)	Call Server / System Server with call services	Local Processes only	5060 (UDP)
NEC IP Protims (NEC Only)	Call Server / System Server with call services	Various NEC PBX systems which support IP Protims	Base port 15000 (UDP) Range: Base Port to (Base Port + 3 * Number of lines) Base port 16000 (TCP) Range: Base Port to (Base Port + 2 * Number of lines) Additionally, there are ephemeral client ports: the range of these ports depend on the operating system in use

Table 12. Other Services on System Server and Call Servers

Service Description	Server	Client(s)	Port(s)
Administrator Alerts	E-mail Server	System/Call Server	SMTP Port 25, 465, or 587

SMS over SMTP	E-mail Server	System Server	SMTP Port 25, 465, or 587
Simple UM	E-mail Server	System Server	SMTP Port 25, 465, or 587
UCConnect Services	System Server/ Call Server	Local or Remote Applications	5323 (TCP)
Live Diagnostic Process logging	Diagnostics utility	System Server Call Server Directory Propagation Master	Base Port 49800 (TCP). Range: Base Port to (Base Port + X) Where X is the max number of simultaneous live diagnostic sessions that are allowed
MITEL VIM	MITEL	System Server	3001 (TCP)
MWI for Exchange or Domino	System Server	Exchange or Domino Server	60000 (TCP)
Exchange 2010 Listener Service	System Server	Exchange 2010	8877 (TCP)
Microsoft Office 365 Listener Service	System Server	Microsoft Office 365	8877 (TCP)
MWI for Exchange	MWI for Exchange Component	System Server	60001 (TCP)
Office 365 Listener Service	System Server	Exchange 2010/2013/2016/2019	
Exchange 2010 MWI Service	System Server	Local Processes only	8870 (TCP)
Microsoft Office 365 MWI Service	System Server	Local Processes only	8870 (TCP)
Exchange 2010 Auto Discover Service	System Server / Call Server	Local Processes only	8731 (TCP)
UM for IMAP	E-mail Server	System Server and all Call Servers	IMAP port 143 or 993

Message Delivery for UM for IMAP	E-mail Server	System Server and all Call Servers	SMTP Port 25, 465, or 587
System Grammar Service (HTTP)	System Server	Call Servers	9070 (TCP)
Presence	System Server	Call Servers	9080 (TCP)
Channel Management	Call Server / System Server w/ Call Services	Call Server / System Server w/ Call Services	Base Port 9081 (TCP) Range: Base Port to (Base Port + Number of lines)
Call Server Grammar Service (HTTP)	Call Server	Local Processes only	9070 (TCP)
Grammar Service	System Server / Call Server	Local Processes only	10111 (TCP)
Nuance	System Server / Call Server	Local Processes only	6060 (TCP) 4900 (TCP)

Table 13. Digital Networking Services

Service Description	Server	Client(s)	Port(s)
SOAP Interface for Directory Propagation Master	Directory Propagation Master	MiCollab AM System Server MiCollab AM Server Digital Networking Configuration	18276 (HTTP) 18277 (HTTPS)
Digital Networking Administration	Digital Networking Server	Digital Networking MiCollab AM Admin	445 (TCP)
Message Delivery	Digital Networking Server	Other Digital Networking Servers in the network	25 (TCP)
MySQL Database	Directory Propagation Master	Local Processes Only	3311 (TCP)

Table 14. Message Cache Management

Service Description	Server	Client(s)	Port(s)
Soap Interface for Message access	Message Cache Manager	Web PhoneManager	18276 (HTTP) 18277 (HTTPS)

Table 15. Web Phone Manager Services

Service Description	Server	Client(s)	Port(s)
HTTP	Web Server	Browsers over the LAN/Internet	80 (TCP)
Secure HTTP (HTTPS)	Web Server	Browsers over the LAN/Internet	443 (TCP)

Table 16. Integrated Client Access Services

Service Description	Server	Client(s)	Port(s)
IMAP	Integrated Client Access Server	e-mail clients over the LAN/Internet	143 (TCP)
Secure IMAP (IMAPS)	Integrated Client Access Server	e-mail clients over the LAN/Internet	993 (TCP)

Table 17. TeamQ Services

Service Description	Server	Client(s)	Port(s)
SOAP Interface for TeamQ	System Server / TeamQ Server	TeamQ Client	18276 (HTTP) 18277 (HTTPS)

Firewall Setup for Licensing

For software-based licensing to work properly, certain IP addresses must allow outbound traffic from the MiCollab AM server to port 443 of several IP addresses. These addresses may change over time. As part of the installation process, you must set up firewall automation to resolve the following URLs to their underlying IP addresses. A possible tool for identifying the underlying IPs on Windows OS is lookup.

- *yps-ws.sentinelcloud.com* (required for software-based licensing).
- *licensing.avst.com* (required to run License Management Utility).
- *pdx02-cloud.prod.sentinelcloud.com* (required for software-based licensing).

Installing Client Utilities

This chapter explains how to install **MiCollab AM Admin**, **Digital Networking Configurator**, and the **Reports** client utilities on other computers connected to the System Server by a LAN. Installing these client applications on administrators' workstations allows those administrators to manage the System Server from their own desks, provided they have been granted sufficient permissions.

To support the **MiCollab AM Admin**, **Digital Networking Configurator**, or **Reports** client utilities, a computer must run one of the following Microsoft operating systems:

- Windows Server 2012 R2
- Windows Server 2016 (Server with Desktop Experience)
- Windows Server 2019 (Server with Desktop Experience)
- Windows 7
- Windows 8/8.1
- Windows 10

IMPORTANT Because any computer running **MiCollab AM Admin** is potentially able to attach to the System Server, be sure to change the password of the Administrator account from its default. For additional information on changing this password, see the online help topic or the *System Administration Guide*.

Configuring the System Server to Support Client Utilities

The following items must be configured on the System Server before you install the client utilities.

Sharing the Reports Directory

In MiCollab AM version 9.2, if system administrators generate reports using the client **Reports** utility, it is no longer necessary to share the Reports directory. The **Reports** utility communicates directly with the SOAP server and uses your logon credentials to access data.

Granting System Admin Access

To use the **MiCollab AM Admin** and **Reports** utilities, system administrators must be granted appropriate access rights. You can grant such rights by creating a User ID account for each administrator. For more information on creating administrator accounts, see the online help topic or see the *System Administration Guide*.

NOTE

1. You must have the correct permission in Microsoft Windows to create a shared directory on the network.
2. The connection to **MiCollab AM Admin** defaults using Secure Sockets Layer (SSL). If you do not want to use SSL to connect to **MiCollab AM Admin**, you must append `http://` to the server's address to force an unencrypted connection, for example `http://systemserver.domain.com`. SSL connections are supported to the home server only. If you are using Global Administration to administer multiple systems, you must append remote server addresses with `http://`.

If the server does not support SSL, you are prompted to try logging again using an unencrypted connection. If this connection succeeds, the application remembers to use the unencrypted connection in the future. The `http://` prefix can be removed at any time once the server is upgraded to a version that supports SSL, and you want to use SSL by default.

Client Utility Resources

The MiCollab AM client utilities can be installed from either of the following locations:

- The MiCollab AM Installation Media
- A shared directory on the LAN or WAN

If you want to install these programs from a shared directory, you must have access to a directory on your LAN or WAN that contains the client installation files and has appropriate permissions set. This directory normally displays under the name **ClientNetInstall**. For information on setting up such a shared directory, see the administrator responsible for the System Server platform.

NOTE Certain versions of Windows, such as Windows 8/8.1, Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience) may not allow MiCollab AM to install .NET 3.5 SP1. In those cases, you may need to manually install .NET 3.5 to use full MiCollab AM functionality.

Starting Setup from the MiCollab AM Installation Media

To start the setup wizard for the MiCollab AM Client Application:

- 1 Log on to the platform using a Windows Administrator account.
- 2 Shut down all running programs.
- 3 Insert the MiCollab AM Installation Media into the appropriate drive.
- 4 Do one of the following.

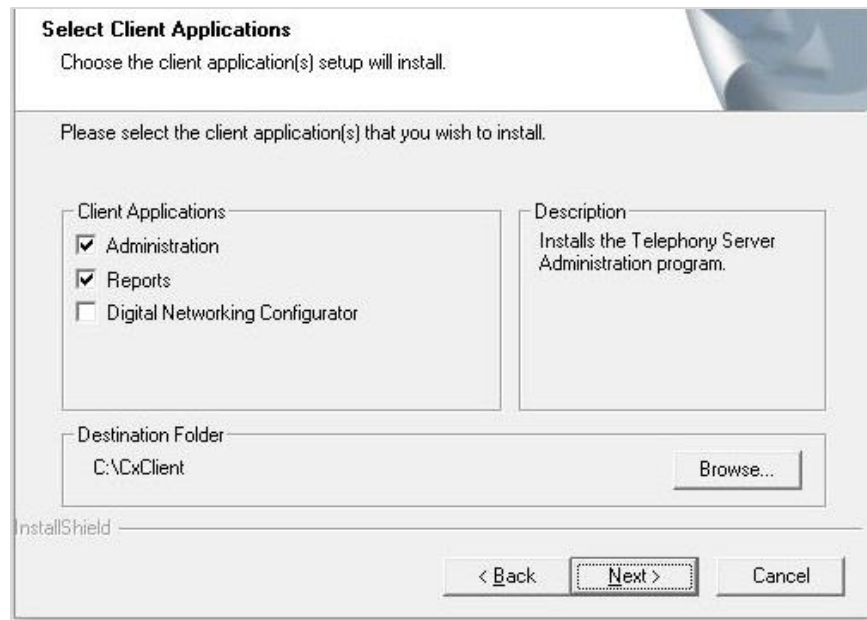
If autorun is...	Then...
Enabled	In the MiCollab AM Installation Media Administrative Clients area, click MiCollab AM Administrative Clients , and then go to step 6.
Disabled	On the taskbar go to Start > Run > Browse , and then go to step 5.

- 5 Locate and open the **Client Installs\Telephony Server Client Applications** folder, and then double-click **Setup.exe**.

Name	Date modified	Type	Size
Client	5/22/2017 1:54 AM	File folder	
System	5/22/2017 1:54 AM	File folder	
AT_InstallUtil.dll	5/21/2017 10:02 PM	Application extens...	84 KB
AT_Oem.dll	5/21/2017 9:34 PM	Application extens...	4,697 KB
data1.cab	5/22/2017 1:21 AM	Cabinet File	1,185 KB
data1.hdr	5/22/2017 1:21 AM	HDR File	777 KB
data2.cab	5/22/2017 1:21 AM	Cabinet File	1 KB
ikernel.ex_	9/5/2001 4:24 AM	EX_ File	337 KB
layout.bin	5/22/2017 1:21 AM	BIN File	2 KB
setup.bmp	7/24/2015 1:55 PM	Bitmap image	901 KB
Setup.exe	5/22/2017 1:54 AM	Application	62 KB
Setup.ini	5/22/2017 1:54 AM	Configuration sett...	1 KB
setup.inx	5/22/2017 1:15 AM	INX File	1,250 KB

- 6 In the **Welcome** page, click **Next**.
- 7 In the **License Agreement** dialog box, click **Yes** to accept the License Agreement.
- 8 In the **Select Components** page, select the client application you want to install.

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



- **Administration** - Installs **MiCollab AM Admin**, which allows administrators to configure MiCollab AM remotely. See the *System Administration Guide* for more information.
 - **Report** - Installs the Reports utility. See the online help topic or *Reports Administration Guide* for more information.
 - **Digital Networking Configurator** - Installs the Digital Networking Configurator. See the *Managing an Enterprise System* online book for more information.
- 9 If you want to change the default destination folder, click **Browse**, and then enter the location or select it from the list.
 - 10 Click **Next**. The **Start Copying Files** page appears.
 - 11 Click **Next** to continue. The installation completes. The **Installation Wizard Complete** page appears.
 - 12 Select **Yes, I want to restart my computer now**, and then click **Finish** to restart the platform and complete the installation.

IMPORTANT You must restart your platform to complete the installation.

Starting Setup from the Shared Directory

Exit any Windows programs before running the **Setup** program.

To start Setup using the shared directory:

- 1 Connect to the shared directory on the network containing the MiCollab AM client files. This shared directory is the one that you specified in the **Network Client Installation Path** dialog box during MiCollab AM Setup.
- 2 Double-click **Setup**.
- 3 Read the instructions shown in the **Welcome** dialog box, and then click **Next**.
- 4 Click **Yes** to accept the **License Agreement**. You must read and accept the terms of the license agreement to continue with Setup.
- 5 Select the check boxes in the **Components** list to choose the following individual components:
 - **Client Administration** - Installs **MiCollab AM Admin**, which allows administrators to configure MiCollab AM remotely. See the *System Administration Guide* for more information.
 - **Client Report** - Installs the Reports utility. See the *System Administration Guide* for more information.
 - **Digital Networking Configurator** - Installs the Digital Networking Configurator. See the *Managing an Enterprise System* online book for more information.
- 6 Change the destination folder, if necessary.
- 7 Click **Next**.
- 8 In the **Start Copying Files** dialog box, review the items on the **Current Settings** list and click **Next** to accept them and begin copying files. The installation begins.
- 9 Remove all disks from the computer's drives, select **Yes**, I want to restart my computer now, and then click **Finish** to restart the platform and complete the installation.

IMPORTANT You must restart your platform to complete the installation.

Installing the OpenText RightFax Fax Server

See the *RightFax Fax Board Guide* and the *RightFax Administrator's Guide* for instructions on installing the RightFax fax server software on another computer. Two additional documents explain how to configure advanced applications with MiCollab AM: the *Faxtext for RightFax Administration Guide* and *Fax Messaging for RightFax* online books.

NOTES

1. RightFax is required to support Fax Over IP (FoIP). MiCollab AM does not natively support FoIP.
2. You must install RightFax on a separate platform. The RightFax Server and the System Server must be networked together. Separate hardware, software, and licensing requirements apply to the fax functionality of MiCollab AM.

Installing Anti-Virus Software

Mitel recognizes that most company policies require the installation of virus-scanning software on all servers including MiCollab AM. However, as a real-time system performing business-critical functions, do not expect MiCollab AM to perform to specification if a third-party application periodically makes essential CPU, memory, and disk resources unavailable. Accordingly, virus-scanning software on MiCollab AM servers is usually configured differently than other IT applications such as Internet, mail, and ftp servers.

IMPORTANT If Neverfail is installed with MiCollab AM, refer to *knowledgebase article #104* on the Neverfail extranet. Follow their anti-virus guidelines in addition to the Mitel guidelines described in this document.

Recommendations

A preferred solution is to schedule virus scanning on a daily basis during low server activity. The selected time should not coincide with scheduled daily maintenance. Should a periodic scan not be acceptable, the virus scanning software may have multiple configurations or approaches for continuous or active scanning.

All virus scan solutions including periodic, active, and continuous background scans of directories or disks may significantly impede operating system resources, and prevent MiCollab AM from responding to calls. It is the customer's responsibility to test the virus scanning software in conjunction with MiCollab AM during a high load condition to assure correct system operation.

When configuring the virus scan software, the preferred choice is the one that uses the least amount of CPU and generates the least amount of disk activity. The following guidelines help minimize the impact of virus scanning on the MiCollab AM server.

Directory Exclusions

Often, virus scan software allows the configuration of a specific set of directories for exclusion from the virus scans. Directories that include any files that are part of MiCollab AM operation, including product files such as executable files, and operational files such as WAV files, should be excluded from virus scanning.

System Server Exclusions

- D:\CX
- C:\Program Files\Microsoft SQL Server
- C:\Program Files\MySQL

- C:\Program Files\Nuance
- C:\Program Files\ScanSoft

Call Server Exclusions

- D:\CX
- C:\Program Files\Microsoft SQL Server
- C:\Program Files\MySQL
- C:\Program Files\Nuance
- C:\Program Files\ScanSoft
- C:\Program Files\Dialogic (If installed)
- C:\Program Files\Aculab (if installed)

System Server with Neverfail (Both primary and secondary)

- D:\CX
- C:\Program Files\Microsoft SQL Server
- C:\Program Files\MySQL
- C:\Program Files\Nuance
- C:\Program Files\ScanSoft
- C:\Neverfail\R2\logs
- C:\Neverfail\r2\log
- C:\Neverfail\R2\FSMTemp

Integrated Client Access (ICA) Server

- D:\Mitel\Integrated Client Access

Digital Networking Server

- D:\CX

Digital Networking Propagation Master

- C:\Program Files (x86)\MySQL
- D:\Mitel\DirPropServer

Process Exclusions

Some virus scan software allows the exclusion of processes:

- If process exclusion is available, exclude the processes that comprise the MiCollab AM, Nuance, ScanSoft, MySQL, and Neverfail applications.
- If Dialogic cards are installed in the system, exclude the processes that comprise the Dialogic application.
- If Aculab cards are installed in the system, exclude the processes that comprise the Aculab application.

Customer IT personnel should recognize that some anti-virus utilities may generate false-positive warnings on a perfectly clean MiCollab AM system. Accordingly, we advise onsite monitoring of the first few scans by an administrator or technician.

NOTE Mitel will expend a good faith, reasonable effort to support MiCollab AM with virus-scanning software installed. However, Mitel cannot guarantee compatibility or interoperability between MiCollab AM and any particular virus-scanning product.

Enabling Encryption of Stored Messages

Introduction

MiCollab AM can support encryption of messages at rest on the system server and call server using the Encrypting File System (EFS) on Microsoft® Windows®. You can encrypt stored messages on the system server and call server in the tenant-data directory. By enabling EFS on the tenant-data directory, messages will remain encrypted after they are copied to the online backup location. You can also encrypt archived messages. You must first change the service account logon before encrypting a folder. Refer to the procedures in [Changing the Service Account Logon](#) and [Encrypting a Folder](#).

NOTES

1. Message encryption of stored messages is NOT enabled by default on all new systems.
2. Depending on the number of messages in your system, encrypting stored messages may take a considerable amount of time. You do not need to stop MiCollab AM before enabling EFS, however you may encounter files in use that could interrupt the encryption process requiring manual intervention.
3. If you intend to use online backup, you must first enable trust delegation for the destination computer account in Active Directory before you deploy EFS on the telephony server.

How EFS Works

The EFS works by encrypting a file with a symmetric key, also known as the File Encryption Key. The symmetric encryption algorithm used will vary depending on the version and the configuration of the operating system. The File Encryption Key or symmetric key that is used to encrypt the file is then encrypted with an EFS certificate or a public key that is associated with the user who encrypted the file.

To decrypt the file, the EFS component driver first uses the private key that matches the EFS certificate (used to encrypt the file) to decrypt the symmetric key that is stored; then the EFS component driver uses the symmetric key to decrypt the file.

Encryption and decryption operations are transparent to the user and all of their applications because these operations are performed at a layer below the New Technology File System (NTFS), which is the default file system of the Windows NT. Folders whose contents are to be encrypted by the file system are marked with an encryption attribute. The EFS component driver treats this encryption attribute in a way that is analogous to the inheritance of file permissions in NTFS. If a folder is marked for encryption, all files and subfolders that are created under the folder are also encrypted by default.

IMPORTANT

1. It is strongly recommended that you create at least one Data Recovery Agent (DRA) who is another user who can access any encrypted files in case the original account or credentials used to encrypt data with EFS become unavailable. It is also essential to back up your user certificates and recovery

key before you use EFS to encrypt anything on your computer or the server. Once you have backed up these certificates, you can encrypt folders and files either directly or using group policy.

2. When encrypted files are moved within an NTFS volume, the files remain encrypted. When encrypted files are moved to other file systems such as File Allocation Table (FAT) or Network File System (NFS), the encryption will be removed.

For more information, please refer to the following Microsoft websites:

Help Secure your Business Information using Encrypting File System

<https://blogs.technet.microsoft.com/sbs/2010/03/09/help-secure-your-business-information-using-encrypting-file-system/>

The Encrypting File System

<https://technet.microsoft.com/en-us/library/cc700811.aspx>

Best practices for the Encrypting File System

<https://support.microsoft.com/en-us/help/223316/best-practices-for-the-encrypting-file-system>

WARNING Failure to follow these procedures or deviate from them may result in an unrecoverable system. It is expected that the implementer has a complete understanding of the EFS system and its deployment.

Changing the Service Account Logon

Prior to enabling EFS, the service account for the following MiCollab AM services on both the System Server and Call Server has to be changed and run under the same account that you intend to use for encrypting folders/files:

- MiCollab AM
- MiCollab AM SOAP Server
- MiCollab AM File Manager
- MiCollab AM Exchange Web Services

To change the service account logon for the above MiCollab AM services:

- 1 Open the Windows Services Manager.
- 2 Double-click **MiCollab AM** in the **Name** column. The **MiCollab AM Properties** dialog box appears.
- 3 Select the **Log On** tab.
- 4 Select **This account** and type the username and password.
- 5 Click **Apply**.
- 6 Repeat Steps 2 through 5 for the **MiCollab AM SOAP Server**, **MiCollab AM File Manager**, and **MiCollab AM Exchange Web Services** on all System Servers and Call Servers.

Encrypting a Folder

You can encrypt stored messages on the system server and the call server in the:

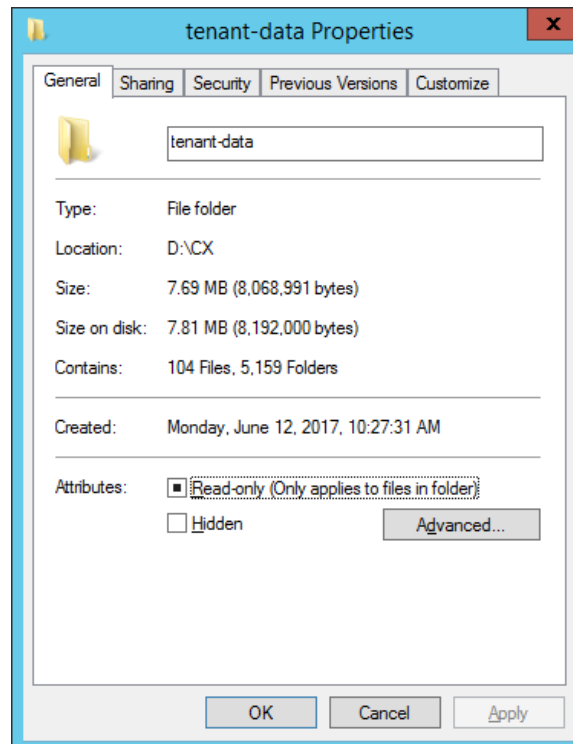
- CX\tenant-data directory
- archived messages

To encrypt a folder:

- 1 Log in with the account you intend to use for encrypting with EFS.

IMPORTANT This must be the same as the service account you assigned for MiCollab AM services in the previous section.

- 2 In Windows Explorer, right-click the folder or files you want to encrypt, and then click **Properties**. The **Properties** window for the folder or file appears. The following example shows the **Properties** window for the **tenant-data** folder.



- 3 On the **General** tab, click the **Advanced** button. The **Advanced Attributes** dialog box appears.



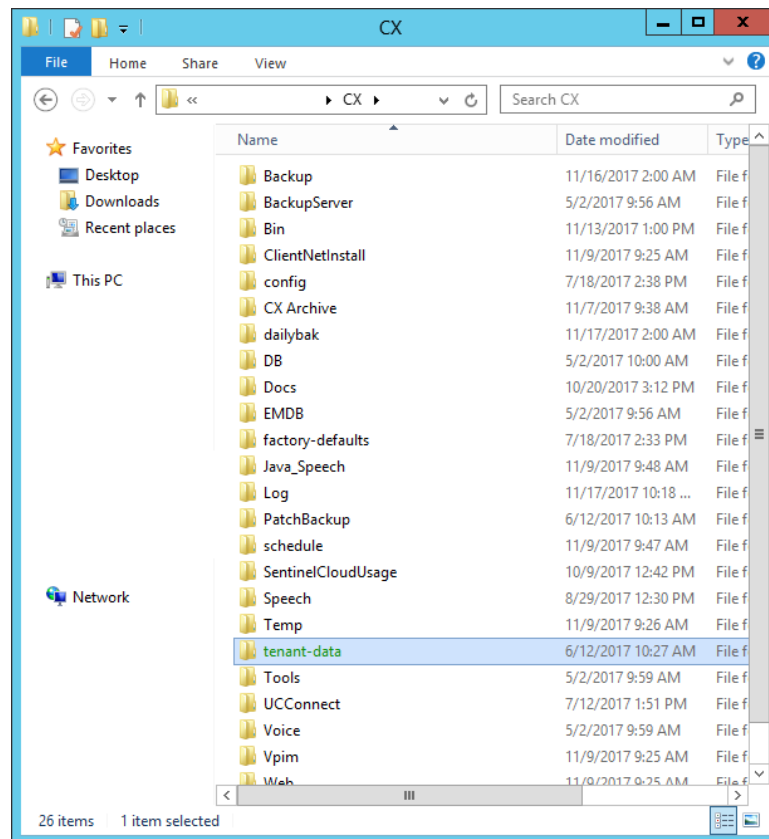
- 4 Select the **Encrypt contents to secure data** check box, and then click **OK** to return to the **Properties** window.
- 5 Click **OK** or **Apply** to enable the encryption. A confirmation dialog box appears.



NOTE Depending on the number of messages in your system, encrypting stored messages may take a considerable amount of time. You do not need to stop MiCollab AM before enabling EFS, however you may encounter files in use that could interrupt the encryption process requiring manual intervention.

- 6 Select **Apply changes to this folder, subfolders and files**, and then click **OK**.

NOTE The folder names and file names will turn green when encrypted successfully. If the folder names and file names do not turn green, be sure that the **Show encrypted or compressed NTFS files in color** check box is selected on the **View** tab of the **Windows Folder Options**.



Appendix A: Tools and Applications

Built in MiCollab AM Configuration, MiCollab AM Admin, and Maintenance Tools

The following utilities enable installers and administrators to configure, administer, and maintain a system:

- **MiCollab AM Admin** is a system administrator's main point of contact with the server. It is used to create and edit mailboxes that make up the site's applications and to change the call handling schedule as well as perform other administrative functions. This utility can be installed on other computers that are connected to the system server through the network.
- **MiCollab AM Configuration** provides control over such fundamental server configuration settings as telephone system setup, database management, and integration setup. It also allows system administrators to shut down and start up the server's main call handling Service. MiCollab AM Configuration is a Control Panel utility; it can run on the server platform only.
- **Diagnostics** allows administrators and technicians to monitor the activity of server processes, start and stop event and process logging for troubleshooting and diagnostic purposes.
- **License Management** allows the administrators to download the latest license file for the MiCollab AM system, and allows server registration with the cloud license provider for software-licensed systems.
- **Line Status** provides status information on the system's telephony ports and processes, as well as the status of your call servers. You can also use this utility to open and close lines, stop and start Services on your call servers as well as reboot individual call servers.
- **Mailbox Archive** backs up and restores voice and fax messages that are stored locally, mailboxes with their associated audio files. Archive supports all of the media types that the operating system supports, allowing system administrators to use the backup media that work best in their specific companies. This utility must have direct access to the backup devices available to the System Server platform.
- **Reports** generate, display, and print a number of reports that are useful in administering the system. The utility can also save generated reports in many popular file formats, allowing system administrators to import and analyze the reported data using a wide range of programs. This utility can be installed on other computers that are connected to the system server through the network.
- **System Status** allows administrators to view the real time status of the System Server, each Call Server in the system, and the connection between them. In addition, the utility provides information about:
 - The node ID of each server
 - The software version and build number each server is running
 - The Switch locations
 - The Switch Section locations

- The Integration locations
- Neverfail topology and Neverfail failover status (if installed)

The setup program places applications, such as **MiCollab AM Admin**, **Line Status**, **Reports**, **Archive**, **Diagnostics**, and **System Status** utilities in a new program folder that it creates, named **MiCollab AM Desktop**; it also adds a **MiCollab AM Configuration** icon to the Control Panel.

MiCollab AM Admin, **Diagnostics**, **Line Status**, **Mailbox Archive**, **Reports**, **System Status**, and **Digital Network Configurator** can be installed and run from other clients connected to the system through a LAN or WAN. Multiple copies of these utilities can run simultaneously.

Several of the advanced applications discussed later in this chapter add utilities of their own to the system and rely on options in the basic utilities to set up and configure their features. For information about these applications, see the appropriate online book.

System Administration

MiCollab AM Admin is performed through the System Server. When the System Server database is changed, the changes are replicated to the corresponding Call Servers.

Administrative tasks can be performed on the System server, through Remote Desktop, or by installing the **MiCollab AM Admin** client software on administrators' workstations.

Administrators can dynamically monitor the system status of all servers through the Line Status utility and use the notification tools to keep informed of system faults. The Reports utility can also be used to proactively diagnose problems, monitor system usage, and troubleshoot applications.

Administrative alerts notify MiCollab AM administrators of communication failures between the System Server and any Call Server through an SMTP server, the SNMP module, the Reliability tab of MiCollab AM, and the Windows Event logs of both the System Server and the Call Servers.

Line Status

The Line Status information of each Call Server can be viewed from the System Server using the **Line Status** utility, or you can view the lines of each Call Server from each individual Call Server.

NOTE Because lines are tied to tenants, using tenant administrator credentials for multi-tenant systems will give access to monitor only the lines assigned to that tenant. The system administrator will not have access to view all the lines of the system, and will only be able to view lines for which they are granted a separate tenant administrator account.

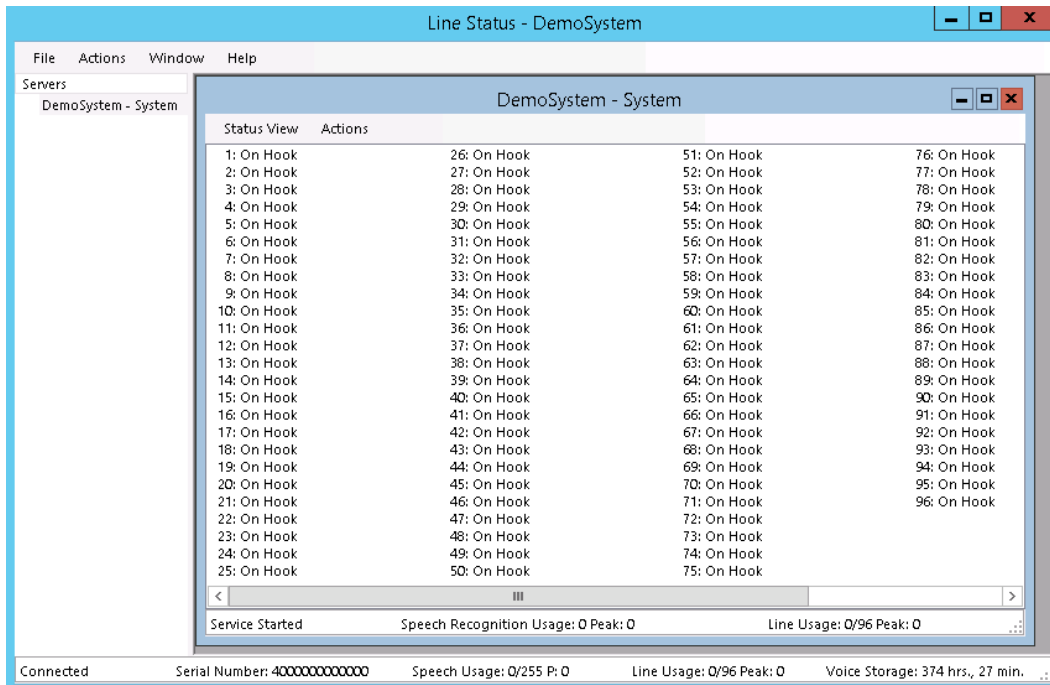
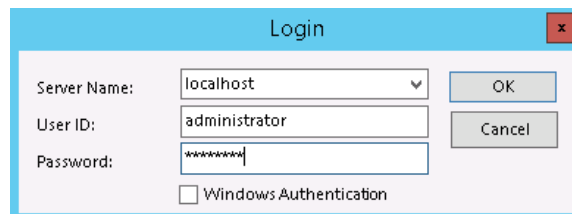


Figure 34. Line Status Window

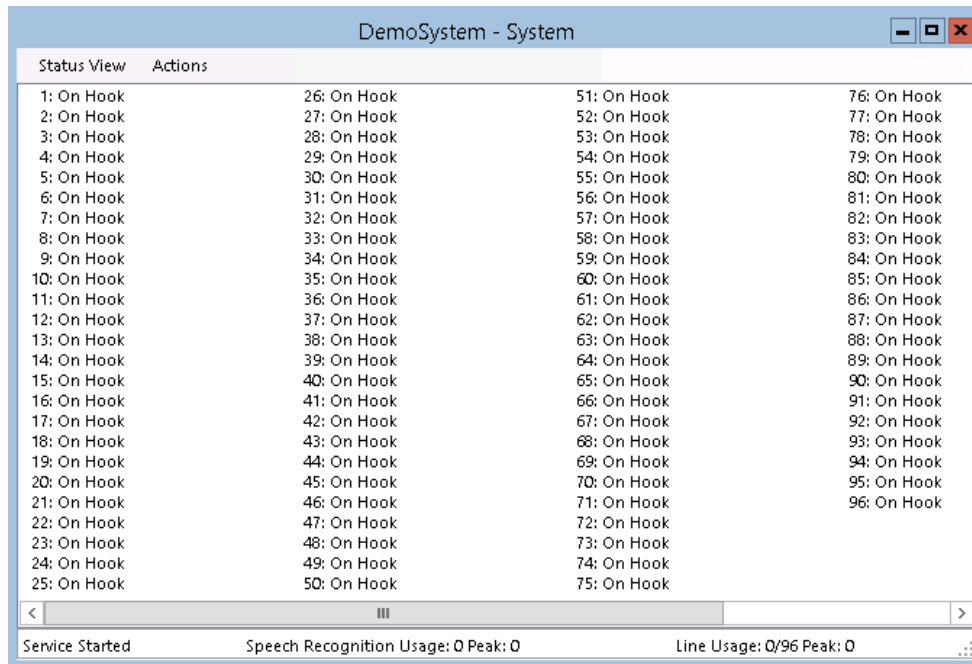
The **Line Status** utility provides status information of the Call Server's telephony ports for each Call Server in the system. This utility runs from the Call Server or System Server platform only; it is not a client utility. Line Status can run from each individual Call Server or the Line Status of all Call Servers can be viewed from the System Server.

To start the Line Status Utility:

- 1 Go to **Start > All Programs > MiCollab AM Desktop > Line Status**
- 2 On the **Login** dialog box, enter the *Server Name*, the administrator's *User ID*, and the *Password* in the Line Status **Login** dialog box, and then click **OK**.



- 3 The **Line Status** utility window appears.
- 4 On the left pane, double-click the name of the Server you want to view.
- 5 The Line Status of the Server appears.



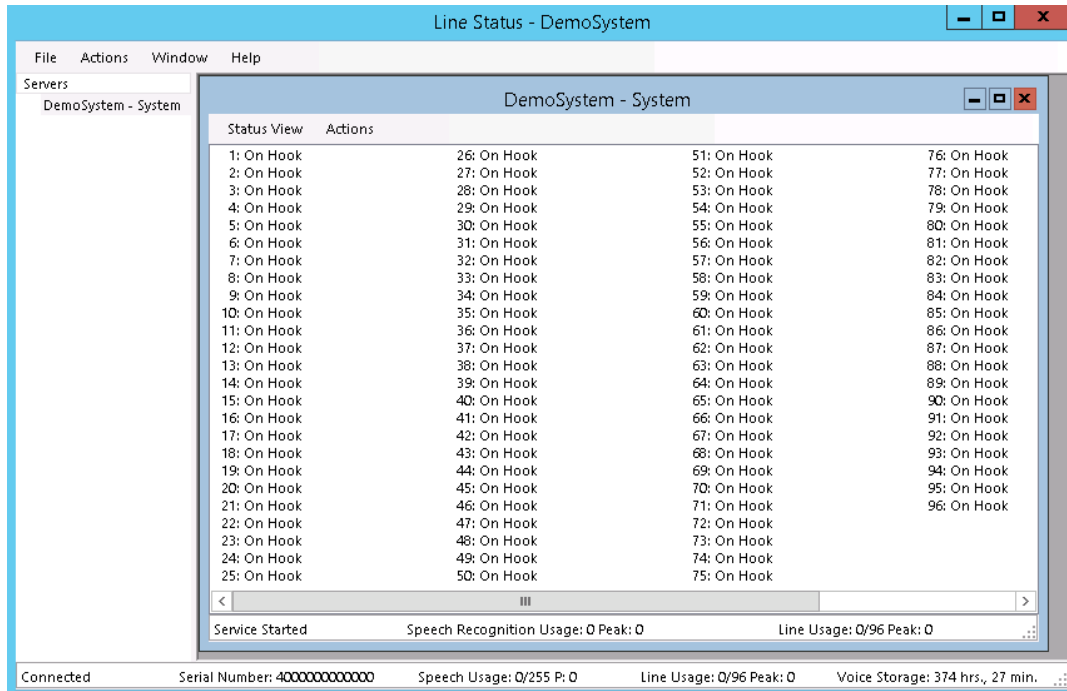
Checking System Activity

Periodically, you might want to check the activity of the Call Server to make sure it is answering calls properly. Use the Line Status utility to:

- Display activity of lines
- Display the **Status Information** dialog box, which shows activity of lines and server processes.

The bottom of the Line Status window features a status bar that displays the following information about the Call Server:

- Its operating status (Starting, Running, Stopping, or Stopped)
- Its serial number
- The estimated total amount of voice storage, in hours and minutes, that the current amount of disk space supports
- The current system time



You can reach the application menu for the **Line Status** utility by right clicking anywhere on the Line Status title bar. The menu displays the following options:

- **Show Line Status** - Displays the operating status of all lines; this is the default option.
- **Show Debug Info** - On some outband integrations, troubleshooting information that may be useful to Customer Support appears.
- **Show Process IDs** - Displays the ID number that the operating system has assigned to the copy of the **AT_Phone** process currently executing on the line. You can use this ID number within the **Windows Task Manager** to help troubleshoot problems with specific lines. (This information is displayed only for active ports.)
- **Show Extensions** - Displays the telephone number associated with the line on the Voice Lines **Configuration** tab of the **Hardware Configuration** property sheet in **MiCollab AM Admin**.
- **Show Call Durations** - Displays three state durations per line in the format X:MMM:SS, where MMM represents the minutes and SS represents the seconds. X represents one of the following status indicators:
 - **S** indicates that the line has been in the state displayed on the Line Status display or the indicated amount of time.
 - **C** indicates that the line has been active for the indicated amount of time.
 - **L** indicates that the line has been **Open**, **Closed**, or **Out of Service** for the indicated amount of time.
- **About System Server, Line Status** - Displays the version number and specific revision of MiCollab AM software, as well as related copyright information.

As each call progresses, the **Line Status** utility and the **Status Information** dialog box in **MiCollab AM Admin** display a sequence of messages to indicate what is happening at the port that the call is using. The following table lists the messages that the utilities can display for each line port.

Table 18. Message Status

Status	The line is...
Access XXXX	In use by a Call Processor or subscriber mailbox numbered XXXX
AMIS in XXXX	Communicating with an AMIS-compliant node that called in; XXXX is the local AMIS mailbox
AMIS out XXXX	Communicating with an AMIS-compliant node called by local AMIS mailbox XXXX
Call Mgr XXXX	In use by subscriber mailbox XXXX using Desktop Call Manager (existing Desktop Call Manager systems only)
CallOut	Beginning a network callout; it has not logged on to the remote system yet
Closed	Closed from the Status Information dialog box in MiCollab AM Admin
CM Xfer XXXX	Transferring a call to a subscriber who is currently logged on to Desktop Call Manager (existing Desktop Call Manager systems only); XXXX is the subscriber's mailbox number
Dir	In use by a caller accessing the automated attendant directory
Down	Down (displayed during shutdown)
Incoming	Receiving a call
LiveRec XXXX	Recording a telephone conversation by a subscriber using the Live Record feature; XXXX is the subscriber mailbox that receives the finished recording
LiveRec Paused	In use by a subscriber who is using the Live Record feature to record a telephone conversation but has stopped recording temporarily
Logon XXXX	In use by a subscriber who is currently logging on to subscriber mailbox XXXX
Msg XXXX	In use by a caller leaving a message for subscriber XXXX from a message center
MWI+ XXXX	Transmitting a command sequence to the telephone system to set the message-waiting indicator (MWI) device XXXX
MWI- XXXX	Transmitting a command sequence to the telephone system to clear the message-waiting indicator (MWI) for device XXXX
Net in XXXX	Communicating with a voice messaging network node that called in; XXXX is a local network mailbox

Net out XXXX	Communicating with a voice messaging network node after calling it; XXXX is the local network mailbox that initiated the callout
Notify XXXX	Calling out to subscriber XXXX for message notification to pager or other number
On hook	Idle, available for a call
Outbnd XXXX	Calling out for an outbound mailbox; XXXX is the subscriber mailbox that sent the message
Out of Service	Port placed out of service by the telephone system due to an error
Play XXXX	Playing the contents of announcement mailbox XXXX
Record XXXX	In use by a caller leaving a message for subscriber XXXX; uses the Record action on a Call Processor mailbox
Remind XXXX	Calling out for daily message reminder for subscriber mailbox XXXX
Set Lang XXXX	In use by a caller who has selected a language as part of an automated attendant session
Starting	Starting up
SubScr Fax XXXX	Receiving a fax for subscriber mailbox XXXX
SubScr Msg XXXX	In use by a subscriber recording a message; XXXX is the subscriber mailbox
Transact XXXX	In use by a caller accessing XXXX, an interactive mailbox
UCConnect scriptname	Running UCConnect script scriptname
Xfer XXXX	Transferring a call to device XXXX, or taking a message after an incomplete transfer to that device

Changing the Line Status View

The Line Status utility displays the line status of each port on each Call Server. The Line Status window of each Call Server includes a Status bar at the bottom of the window. In addition, a Status View menu is provided for each Call Server that is attached to toggle between the display the line status, extension number, call timer, the process ID of each line, or the System Manager view.

To change the line status view:

- 1 Go to **Start > All Programs > MiCollab AM Desktop > Line Status**.

- 2 Enter the *Server Name*, the administrator's *User ID*, and the *Password* in the Line Status **Login** dialog box, and then click **OK**.
- 3 Double-click the name of the Server you want to view.
- 4 The Line Status of the Server appears.
- 5 Click the **Status View**, and then select any of the following options:
 - **Line Status** - Displays the operating status of all lines; this is the default option.
 - **Extensions** - Displays the extension number associated with the line on the **Lines** tab of **MiCollab AM Configuration**.
 - **Call Timers** - Display three state durations per line in the format X:MMM:SS, where MMM represents the minutes and SS represents the seconds. X represents one of the following status indicators:
 - **S** indicates that the line has been in the state displayed on the Line Status display or the indicated amount of time.
 - **C** indicates that the line has been active for the indicated amount of time.
 - **L** indicates that the line has been Open, Closed, or Out of Service for the indicated amount of time.

NOTE If the duration exceeds 999:59 seconds, then the duration displays as *****:*****.

- **Process IDs** - Displays the ID number that the operating system has assigned to the copy of the **AT_Phone** process currently executing on the line. You can use this ID number within the Windows Task Manager to help troubleshoot problems with specific lines. (This information displays for active ports only.)
- **System Manager** - Displays the current system processes of the Call Server.

Live Update

The Live Update utility allows you to configure each server in the system to connect with the Live Update Server during Daily Maintenance and check for software updates. If an update is available, a message is posted to the server's desktop tray and a pop-up message displays on the desktop. Administrators can quickly determine if an update is available when they log on to the server. In addition, you can configure the Service to send an e-mail if new updates are available.

NOTE You must configure the Live Update utility to run on Remember to always update the System Server first, and then update the Call Servers in the system.

To start the Software update utility from the desktop:

- 1 Log on to the System Server.
- 2 From the taskbar, go to **Start > Programs > MiCollab AM Desktop**, and then click **Live Update**. The **Live Update** utility appears.

Here is the brief description of the **Live Update** Utility window.

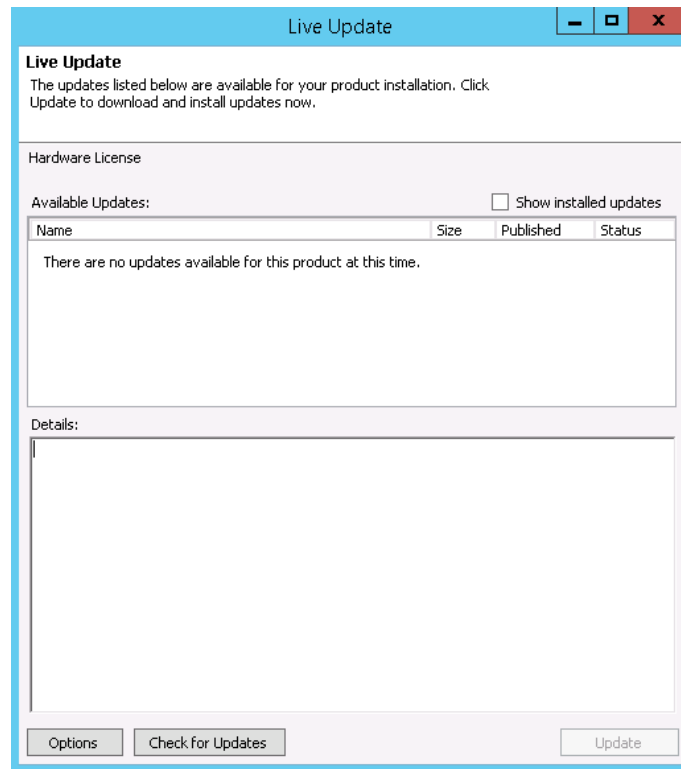


Figure 35. Live Update Utility

- **Show Installed Updates** – Check the **Show Installed Updates** box to display the list of installed updates on the server.
- **Options** – Click the **Options** button to configure an Internet proxy, a schedule, e-mail notification, or test the connection to the SUS. The **Live Update** dialog box displays the **General** tab (see [Figure 36. Live Update Utility - Options](#)).
- **Check for Updates button** – Click the **Check for Updates** button to connect with the Live Update Server and check for new software updates. If an update is available, it displays in the Available Updates area of the window. A short description of the update displays in the Details area of the window.

NOTE If multiple updates are available, highlight an update to view its description.

- **Update button** – The **Update** button is grayed out unless an update is available. Click **Update** to begin the update installation process.

Clicking the **Options** button opens up the second **Live Update** dialog box displayed in the **General** tab.

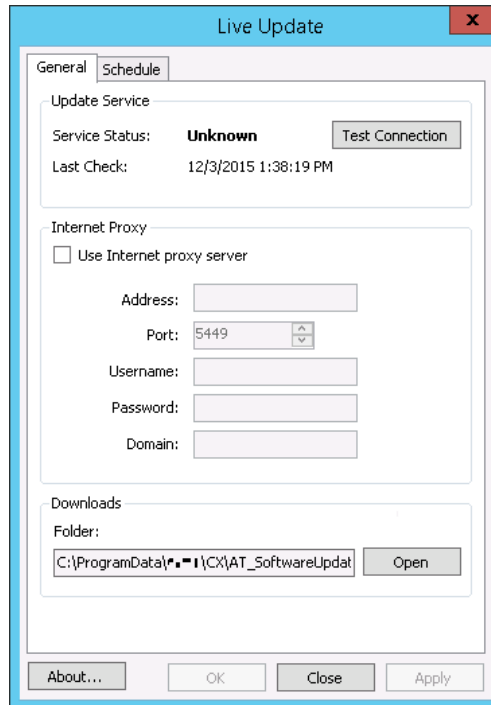


Figure 36. Live Update Utility - Options

Update Service

- **Service Status** – Displays the Service status found during the last check
- **Last Check** – Displays the date and time of the last Service check
- **Test Connection** – Click **Test Connection** to test the connection between the System Server and the Update Server

Internet Proxy

- **Use Internet proxy server** - Select this box if the connection to the update Server requires a proxy server
- **Address** – Enter the IP Address or server name of the proxy server
- **Port** – Enter the port number to connect to the proxy server. The default port number is 5449.
- **Username** – Enter the user account name to log on to the proxy server
- **Password** – Enter the user's password
- **Domain** – Enter the domain name of which the proxy server is a member

Downloads

- **Folder** – Displays the default location in which the software updates are downloaded
- **Open** – Click **Open** to display the folder in Explorer view or to change folders

Here is the brief description of the **Schedule** tab of the second **Live Update** dialog box.

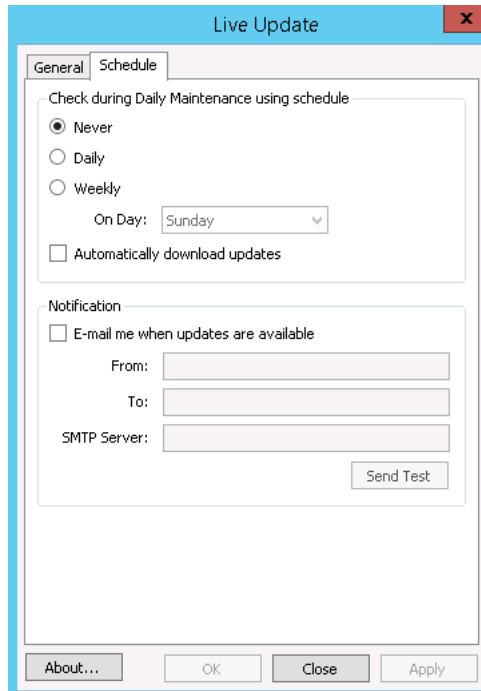


Figure 37. Live Update Utility - Schedule Tab

Check during Daily Maintenance using schedule

- **Never** – Select **Never** if you do not want to use the automatic update service
- **Daily** – Select **Daily** if you want the server to check daily for updates during Daily Maintenance
- **Weekly** – Select **Weekly** if you want the server to check weekly for updates during Daily Maintenance, and then select the day you want the server to check for updates from the list.
- **Automatically download updates** – Select to download updates automatically if available

Notification

- **E-mail me when updates are available** – Select this box if you want the server to send an e-mail when updates are available.
- **From** – Enter the sender's valid e-mail address
- **To** – Enter the recipient's valid e-mail address. Separate multiple addresses with a semi-colon.
- **SMTP Server** – Enter the FQDN of the SMTP Server
- **Send Test** – Click **Send Test** to verify the notification settings.

Configuring the DailyMaintUser.bat File

When you configure the Live Update utility to run on a daily or weekly basis the system creates the **DailyMaintUser.bat** file automatically. If the **DailyMaintUser.bat** file already exists, a line is added to the existing batch file to run the software update service based on the schedule you created on the **Schedule** tab. The executable file, **AT_SoftwareUpdate.exe** starts the software update. This file is located in the **CX\Bin** directory.

In addition, there are two command line arguments you can add manually to the executable in the **DailyMaintUser.bat** file:

- **-silent** - Instructs the application to run windowless
- **-quiet** - Instructs the application to run windowless during startup. If updates are available, the application displays an icon in the system tray and generates pop-up notification message.

Configuring the Utility to Start at Logon

You must manually configure Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience) to run the **Live Update** utility at user log on. The User Account Control (UAC) restrictions on Windows Server 2012, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience) servers blocks the program from starting by default.

To start the **Live Update** utility at user log on, you must configure Task Scheduler. You must be logged on as an administrator to configure Task Scheduler.

Windows Server 2012 R2

To configure Task Scheduler on Windows Server 2012 R2:

- 1 Navigate to **Start > Apps > Task Scheduler**, or search for *Task Scheduler*. The **Task Scheduler** window appears.
- 2 On the menu bar, click **Action > Create Task...**. The **Create Task** window appears.
- 3 On the menu tabs, click the **Triggers** tab and then click the **New...** button. The **New Trigger** window appears.
- 4 From the **Begin the task** drop-down list, choose **At log on**. Click **OK**.
- 5 On the menu tabs, click the **Actions** tab and then click the **New...** button. The **New Action** window appears.
- 6 From the **Action** drop-down list, choose **Start a program**.
- 7 In the **Program/script** field under the **Settings** group, type the path or click **Browse** to locate the **AT_SoftwareUpdate.exe** file and then click **Open**. The default path is *D:\CX\Bin\AT_SoftwareUpdate.exe*.

NOTE To run the utility without opening a window, add the **-quiet** switch to the end of the path.
Example: *D:\CX\Bin\AT_SoftwareUpdate.exe -quiet*

- 8 Click **OK**.

Windows Server 2016 / 2019

To configure Task Scheduler on Windows Server 2016 / 2019:

- 1 Navigate to **Start** and search for *Task Scheduler*. The **Task Scheduler** window appears.
- 2 On the menu bar, click **Action > Create Task...**. The **Create Task** window appears.

- 3 On the menu tabs, click the **Triggers** tab and then click the **New...** button. The **New Trigger** window appears.
- 4 From the **Begin the task** drop-down list, choose **At log on**. Click **OK**.
- 5 On the menu tabs, click the **Actions** tab and then click the **New...** button. The **New Action** window appears.
- 6 From the **Action** drop-down list, choose **Start a program**.
- 7 In the **Program/script** field under the **Settings** group, type the path or click **Browse** to locate the **AT_SoftwareUpdate.exe** file and then click **Open**. The default path is *D:\CX\Bin\AT_SoftwareUpdate.exe*.

NOTE To run the utility without opening a window, add the **-quiet** switch to the end of the path.
Example: *D:\CX\Bin\AT_SoftwareUpdate.exe -quiet*

- 8 Click **OK**.
- 9 On the menu tabs, click the **General** tab, type a name for the task in the **Name** field, select the server in the **Configure for** drop-down list, and then click **OK**.

NOTE For more information on configuring Task Scheduler, press **F1** for help while in Task Scheduler.

Additional Applications

Each system includes automated attendant and voice mail features to provide the system's internal callers, external callers, and subscribers with call routing and messaging capabilities. A number of advanced applications expand the system's available features. Any of these applications can be purchased separately for systems that do not include them. Licensing requirements apply for all of the additional applications.

Automatic Speech Recognition

The Automatic Speech Recognition (ASR) capability of MiCollab AM provides the Speech enabled automated attendant and Voice User Interface (VUI) features that allow callers to navigate through the automated attendant and the Subscriber mailbox features of MiCollab AM using speech commands. ASR simplifies the use of MiCollab AM and enables other features that are impractical using DTMF input. The use of speech commands allows callers to interact with MiCollab AM hands free through the Voice User Interface (VUI). Automatic Speech Recognition features include:

- **Subscribers** – Speech commands provide the capabilities of the traditional telephone user interface (TUI) for subscribers and enhance the usability of new features within the Subscriber mailbox. Subscribers can log on to their mailboxes using speech commands to manage their availability, messages, calls, calendars, and contacts. ASR allows callers to use the find me/follow me feature of the Subscriber mailbox to locate or leave messages for subscribers hands free, simply by speaking their names.
- **Automated Attendant** – Speech enabled automated attendant is based on Call Processor mailbox architecture. Speech commands are created based on the application and used within the Call Processor mailbox to perform the same action types as DTMF commands.

- **Directory** – The Speech Directory enables callers to locate and transfer to subscribers by speaking the name of the subscriber. These names are referenced from Subscriber mailbox name fields. Custom directories are created based on Group affiliations of subscribers.

NOTE Licenses are allocated within the system on a per-port basis. A caller can use the Speech Recognition feature only if there is a license currently available.

Global User Administration

Global User Administration (GUA) provides centralized management of multiple digitally networked MiCollab AM systems. Each centrally managed MiCollab AM system must be equipped with both MiCollab AM Digital Networking and MiCollab AM GUA. GUA makes it possible to view and change mailboxes and configuration elements on several System Servers simultaneously from one location. Global User Administration allows administrators to manage systems in different geographic locations while at the same time requiring its work force to be familiar with only one group of mailbox numbers. The following diagram shows how such a system is laid out.

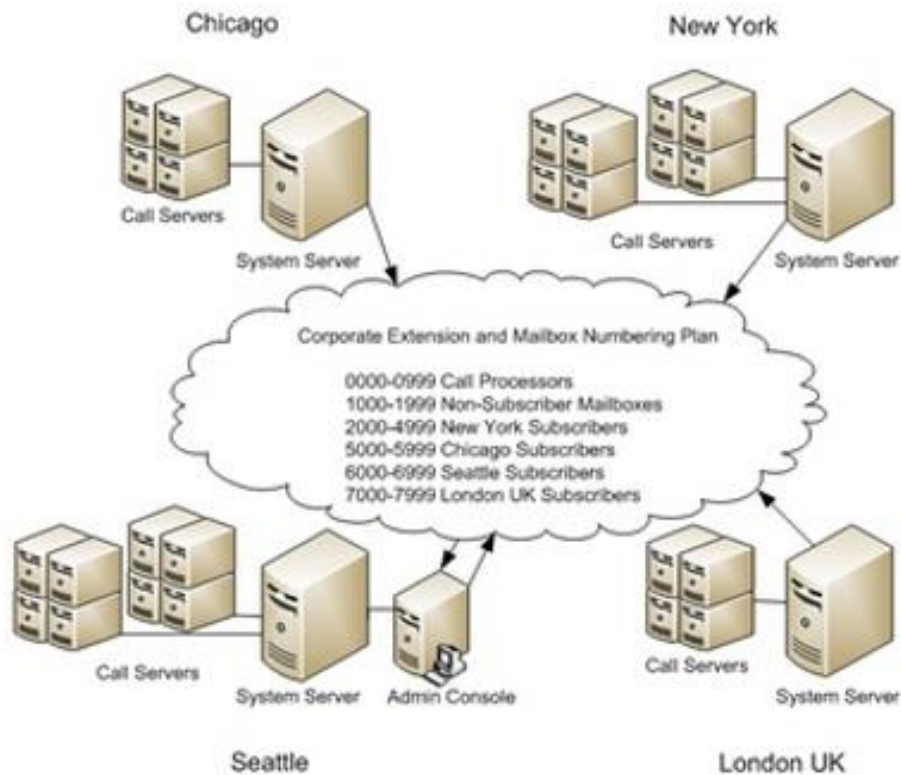


Figure 38. Global User Administration System Setup

Networking

The networking application available for MiCollab AM provides companies with the ability to link together voice mail systems at different sites. It supports two different networking methods:

- NetConnect Digital Networking allows MiCollab AM systems to exchange messages with one another or with VPIM-compatible voice mail systems using TCP/IP-based networks or the Internet.

NOTE NetConnect Digital Networking is not supported in a multi-tenanted system.

- Analog and AMIS networking support allows MiCollab AM systems to coordinate with one another or with AMIS-compatible voice mail systems using telephone connections.

MiCollab AM Notify

NOTE MiCollab AM Notify is not supported in a multi-tenanted system.

MiCollab AM Notify is an UCCconnect application that uses the MiCollab AM notification engine to place outbound calls based on external events. MiCollab AM Notify provides the ability to tie outbound notification into your MiCollab AM application. Some MiCollab AM Notify applications are:

- Appointment reminders
- Emergency message notification
- Status of service order information
- Closure notifications

Personal Assistant

Personal Assistant is a licensed set of features that is intended to provide additional value for end-users that require the advanced functionality that Personal Assistant provides. These features include:

- **Availability (Presence)** – Availability is the combined subscriber's ability to receive calls at their location. Subscribers can use a default weekly schedule or customize their "presence" based on their current availability.
- **Find-me / Follow-me** - A list of telephone numbers from which the subscriber can be located. MiCollab AM offers the caller the choice of locating the subscriber or taking a message. MiCollab AM continues to descend the list to locate the subscriber at the caller's request while offering to take a message from the caller.
- **Contact Management / Dialing** - Subscribers can access contact information from popular groupware applications like Microsoft Exchange and IBM Domino allowing subscribers to manage their contacts from within MiCollab AM. It also provides services like contact dialing and ANI lookup.
- **Calendar Management** - Subscribers can access calendar information from popular groupware applications like Microsoft Exchange and IBM Domino, allowing subscribers to manage their calendar from within MiCollab AM.
- **Call Waiting** - A feature that allows a subscriber to be notified of an incoming call when the subscriber is already connected to MiCollab AM. When a subscriber is not in a hands-free or joined call conversation with another person, the call waiting notification is "whispered" to the subscriber. When the subscriber is not connected to another call, their session is interrupted with the call waiting notification.

- **Acknowledge** - A Call Screening feature that allows the recipient of a call to record a message, which is played to the caller followed by the leave a message process. The subscriber acknowledges the caller but does not take the call.
- **Call Divert** - A Call Screening feature that allows a subscriber to re-direct an incoming call to another subscriber, the operator, or one of the subscriber's other devices. For example, diverting a telephone call from the user's desk phone to the user's mobile device
- **Call Transfer** - Call Transfer is a feature that allows for the hands-free transfer of a call while the call is in progress. MiCollab AM must be listening in on the call. The subscriber directs MiCollab AM to place the call on hold and then to transfer to another subscriber, the operator, or one of the subscriber's other devices. For example, diverting from the user's desk phone to the user's mobile device
- **Call Recording** - The ability to record a conversation and then deposit the recorded conversation into the subscriber's mailbox.
- **Missed Call Notification** - MiCollab AM sends an automatic missed call notification message to the subscriber to notify of an unanswered incoming call.

NOTE Personal Assistant is licensed on a per-user basis. Subscribers can use the Personal Assistant features if they have been allocated a license for it.

SNMP Management Console

The SNMP management console supports management info base (.mib) or trap definition (.tdf) files. The SNMP management console is a Windows support application; it is installed and configured as part of the operating system. Once the SNMP management console is configured, the system administrator can manage MiCollab AM from another computer on the same LAN or WAN, including the ability to stop and start MiCollab AM Services. MiCollab AM pushes the following types of information to the SNMP console:

- Server status (stopped, started, pending, etc.)
- Traps (errors, warning, informational messages, etc.)
- Current software versions
- Remaining message storage space on the server

TUI (Telephone User Interface) Emulation

Subscribers can use a TUI emulation they are most familiar with when navigating through their Subscriber mailbox. In addition to the original and alternate MiCollab AM TUI, the following TUI emulations are supported:

- Adomo
- Intuity AUDIX
- Intuity AUDIX Alternate
- Centigram
- Kinesis/UM8500

- Meridian Mail/CallPilot
- Octel Aria®
- Octel Aria Alternate
- Octel Serenade® 200/300
- Octel Serenade® 200/300 Alternate
- Repartee/UM4730

TUI emulation is a licensed feature.

UCConnect

For sites where the MiCollab AM system needs to exchange information with callers automatically, an interactive voice response (IVR) application called UCConnect is available.

UCConnect enables companies to provide routine information from a host database over a telephone or fax machine or to gather information from callers. UCConnect supports the Microsoft Visual Basic® standard, enabling Visual Basic programmers to write and modify IVR scripts quickly and easily.

Unified Messaging

The unified messaging applications available for MiCollab AM provide its subscribers with seamless access to all of their messages. Whether the subscribers manage their messages over their telephones or at their computers, they can find all of their voice, fax, and e-mail messages in one convenient place.

- The **MiCollab AM Unified Messaging** application enables subscribers to manage their voice and fax messages at their workstations. Unified Messaging supports the management of voice and fax messages using the popular e-mail programs Microsoft Outlook, IBM Notes, and Novell GroupWise, and other IMAP-compatible e-mail programs.
- **E-mail Access™** enables subscribers to be notified of e-mail messages using Immediate Message Notification. On MiCollab AM systems with the text-to-speech option installed, subscribers can listen to their e-mail messages from any telephone.
- The **XMediusFAX Fax Server** enables fax messaging when teamed with MiCollab AM. It also offers such features as fax forward, fax printing, and fax on demand (also known as Faxtext) applications.
- The **RightFax Fax Server** enables fax messaging when teamed with MiCollab AM. It also offers such features as fax store and forward, fax broadcasting, and fax on demand (also known as Faxtext) applications.

NOTE Unified Messaging is licensed on a per user basis. Subscribers can use the unified messaging feature only if they are allocated a license for it.

Appendix B: Multi-Server Architecture

MiCollab AM is designed to provide reliability and scalability through a multi-server architecture that minimizes a single point of failure.

MiCollab AM is comprised of two primary components; a single *System Server* and one or more *Call Servers*.

- The *System Server* hosts the master database, manages the **MiCollab AM Admin** interface and the licensing of all assigned *Call Servers*.
- *Call Servers* provide the telephony and speech interface; they perform the call handling, message taking, MWI, and callout tasks of the system.

The *System Server/Call Server* architecture uses the LAN/WAN to communicate directly with each other. This multi-*Call Server* environment reduces the possibility of a catastrophic failure and creates a high standard of availability.

A MiCollab AM *System Server* and *Call Server* can be run on a single server computer for small call processing applications or be expanded to run on multiple *Call Servers* to serve as large capacity systems.

High availability and high survivability are achieved through port distribution across multiple *Call Servers*. *Call Servers* configured in multi-server environment can share call traffic to ensure continuous call processing should a single *Call Server* fail.

Call Servers can be configured to share the load of high traffic situations, perform specific roles, serve specific telephone systems, or a combination of configurations. The ability to configure the *Call Server* to meet specific needs creates a flexible and powerful application environment.

Reliability and Scalability

MiCollab AM provides reliability and scalability by using distributed processing; multiple servers configured as one MiCollab AM system.

A single *System Server* can control up to twenty *Call Servers*. These servers can be arranged as redundant to one another, or in a load-sharing configuration, each server separately processing calls, messaging, TUI, and Speech recognition applications. In this configuration, no one *Call Server* failure can cause a complete system failure.

Multiple *Call Servers* greatly increases reliability. When a *Call Server* fails or network communication fails, the *System Server* recognizes the service interruption. Meanwhile other *Call Servers* continue to process calls. When the *Call Server* returns to service and communication to the *System Server* is restored, the *System Server* updates the *Call Server* with any new database information.

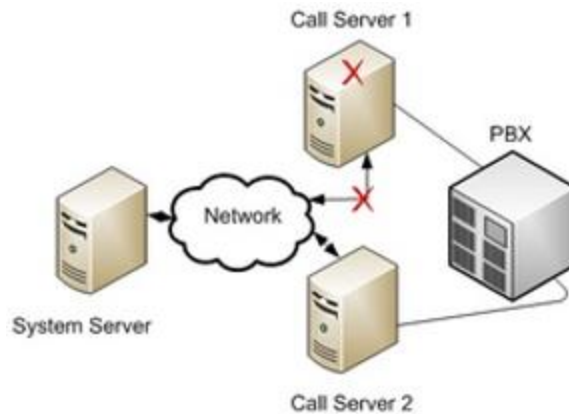


Figure 39. Reliability Example, One Call Server Failure

If a System Server fails, call processing continues on each Call Server until the System Server is restored. When the System Server is restored, the Call Servers pass any queued messages to the System Server for deposit into subscriber mailboxes.

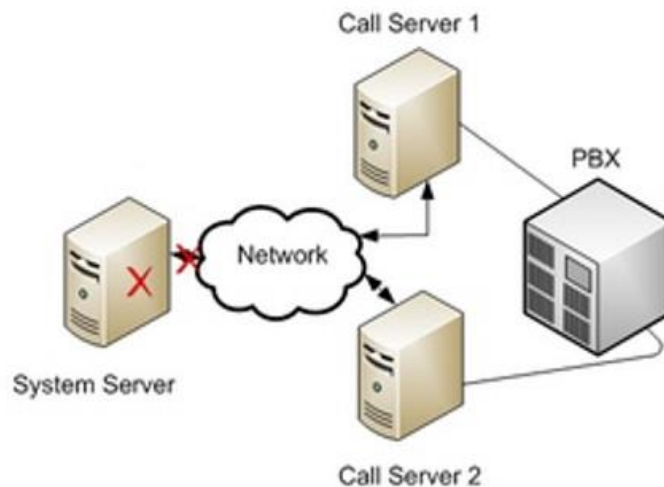


Figure 40. System Server Failure, Call Servers Continue to Take Calls

Neverfail – High Availability and Disaster Recovery for the System Server

The Neverfail Replicator and Engine software is used with MiCollab AM to provide a High Availability and Disaster Recovery solution for the System Server. The System Server is configured as a pair or trio of servers that communicate with each other through network connections, referred to as Neverfail Engine channels. MiCollab AM version 9.2 with Neverfail supports three types of Neverfail configurations.

- **High Availability**—the Primary and Secondary System Servers share the same IP address on the same LAN. In this configuration, the Secondary System Server performs an automatic fail-over in the event the Primary System Server fails.

- Disaster Recovery—the Primary and Secondary System Servers do not share the same IP address. Fail-over to the Secondary server is performed manually. The Secondary System Server is typically located on a WAN, at a remote disaster ready site.
- High Availability and Disaster Recovery—the Primary and Secondary System Servers share the same IP address on the same LAN. In this configuration, the Secondary System Server performs an automatic fail-over in the event the Primary System Server fails. Fail-over to the Tertiary System Server is performed manually. The Tertiary System Server is typically located on a WAN, at a remote disaster ready site.

System Server and Call Server Roles

The System Server controls the Call Servers. It is the central store of the database and messages. It controls licensing, and provides the **MiCollab AM Admin** interface for the system while the Call Server's purpose is to perform all of the telephony functions of the system: the telephone user interface (TUI), the voice user interface (VUI) for automatic speech recognition, automated attendant, and interactive voice response (IVR).

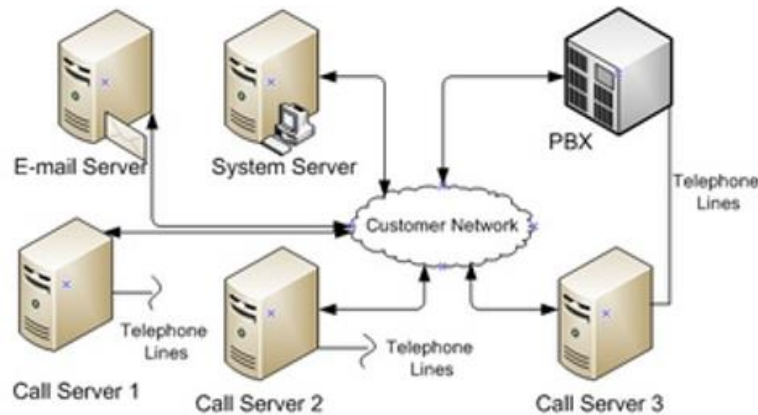


Figure 41. Example of System Server Setup

The following list describes the division of operation for both the System Server and the Call Server.

Table 19. Operations Supported by System and Call Servers

The System Server supports...	The Call Server supports
MiCollab AM Application software	MiCollab AM Application software
Master Database <ul style="list-style-type: none"> • System Server Configuration • Messaging • Mailboxes • Names, Greetings, Announcements 	Replicated database <ul style="list-style-type: none"> • Integrates to System Server for message fetch/delivery
MiCollab AM Admin Interface	Telephony linecards or IP Channels

Reports, Licensing, USB Hardware Lock	Telephony Interface <ul style="list-style-type: none"> • Integration • Call handling • Speech Recognition • TTS Engine • IVR
Client Interfaces <ul style="list-style-type: none"> • Unified Messaging (e-mail Store) • Client Based Unified Messaging (ICA) • Web PhoneManager 	Server based UM (fetch and retrieve) <div> NOTE Access to Server-based UM messages happen directly from the Call Servers </div>
Internal Services <ul style="list-style-type: none"> • MWI and Callouts (commands are sent to individual call servers) • Backup and Restore 	Client based UM e-mail (fetch and retrieve)
Digital Networking	

System Server with Call Services Configuration

In a single server environment, the System Server runs with Call Services on the same platform. This combined configuration provides the same functionality as the multiple server configuration with the following capacities:

- Maximum port capacity is 144 ports without Automatic Speech Recognition (ASR).
- Maximum port capacity is 96 ports with ASR.
- Supports a maximum of 15,000 users without ASR or 10,000 with ASR.
- Supports 3 TDM PBX integrations or 2 TDM PBX integrations and 1 IP integration.
- Supports 3 SIP integration types with up to 10 integration instances total per call server.

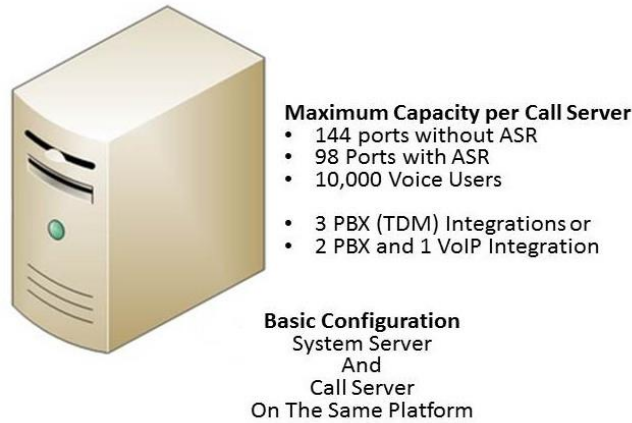


Figure 42. Single Server Specifications

Multiple Call Server Configuration

One System Server supports up to twenty Call Servers in a single MiCollab AM configuration. The maximum port capacity of MiCollab AM is 800 ports. These ports (lines) can be shared between twenty Call Servers but the maximum port capacity of any Call Server is 144 ports without ASR or 96 ports if utilizing the ASR feature.

The intent to allow for a 20 Call Server capacity is to provide for system redundancy and high availability. Call Servers in a warm stand-by mode do not require line licenses until lines are assigned to them; they are replicating with the System Server but have no lines assigned to them. Assigning and opening lines on these warm stand-by servers requires manual intervention.

A fully implemented MiCollab AM system supports a maximum of 60,000 users. The following table provides a list of capacities per Call Server in a MiCollab AM system.

Table 20. Multiple Call Server Capabilities

Call Servers (Includes one System Server)	Max Ports without ASR	Max Ports with ASR	Text to Speech Channels	Max Users without ASR (Approx.)	Max Users with ASR (Approx.)
1	144	96	96	15,000	10,000
2	288	192	192	30,000	20,000
3	432	288	288	40,000	30,000
4	576	384	384	40,000	40,000
5	720	480	480	40,000	40,000
6-20	800	800	800	60,000	60,000

NOTES

1. Each Call Server can support up to three PBX (TDM) integrations, or two PBX and one VoIP integration. Each Call Server supports 3 SIP integration types with up to 10 integration instances total per call server.
2. Each Call Server can support up to 10 Dialogic DMG devices for a maximum of 80 ports.

Call Servers can serve separate PBX or VoIP integrations or they can serve multiple integrations on each platform. Call Servers can be configured as redundant at a disaster recovery site. Call Server licenses are required if redundant Call Servers are in a warm-standby mode, but line licenses are not required if they are not taking calls.

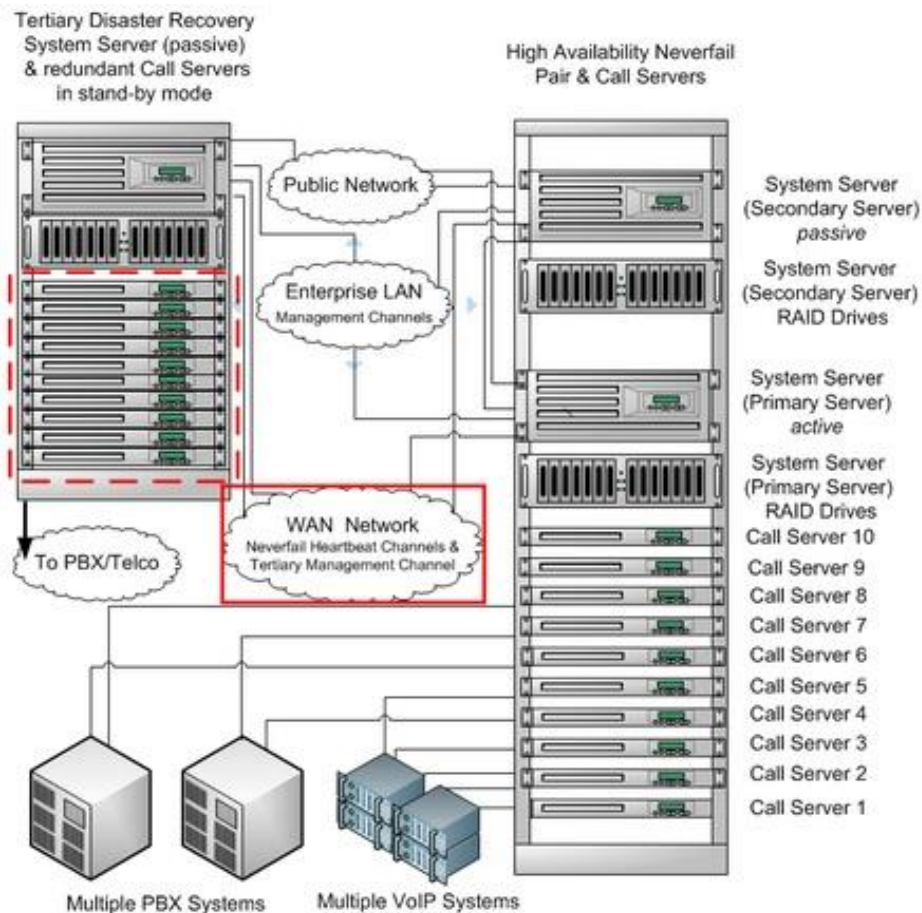


Figure 43. High Availability and Disaster Recovery Neverfail Environment

Call Servers can be configured for maximum port distribution to provide a high availability/high survivability load sharing arrangement of ports for continuous call processing in the event of a Call Server failure.

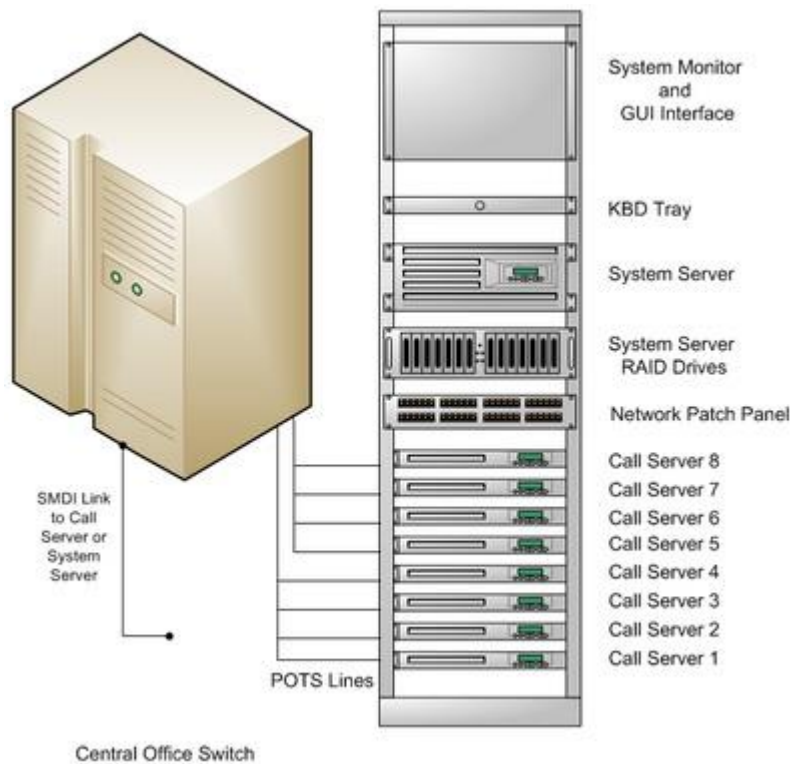


Figure 44. Call Servers in a High Survivability/High Availability Configuration

Remote Call Server Configuration

Call Servers can be located in remote locations and connected to the System Server through the enterprise LAN/WAN network. For example, Call Servers can also be distributed:

- Throughout a campus environment to serve individual departments or to create a de-centralized environment
- Located in a branch office and served by its own telephone system
- On warm-stand-by at a disaster recovery site

IMPORTANT A reliable network with sufficient bandwidth is required between the System Server and the Call Servers to provide an adequate response time.

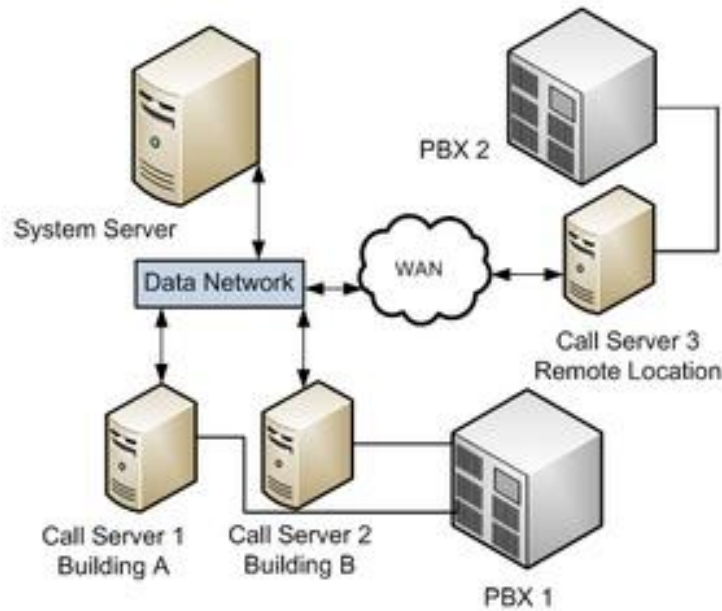


Figure 45. Call Server Configuration to Serve a Remote Location

Deployment Considerations

There are many caveats to be aware of when deploying a Call Server in a remote location. Designing a multi-Call Server installation requires careful consideration of the design before a system is installed, particularly if more than one telephone system and integration is involved. Depending on the proximity and location of Call Servers to the System Server, some installations may require multi-vendor support and WAN connections between locations. Reliability requirements for each Call Server also play a significant role in the system design.

Network Considerations

Call Servers communicate with the System Server through an Ethernet network. MiCollab AM is a real-time application that provides an optimum end user experience with a low latency (<1 ms) medium bandwidth (100 Mbps or greater) LAN connection. Acceptable performance can be achieved over medium latency (60 ms) low bandwidth (1 Mbps) WAN connections with a slight degradation in TUI responsiveness. Communication between servers includes:

- **Messages** - Messages are stored on the System Server, transmitted to a Call Server, or are moved from the System Server to the UM message store.
- **MWI and Callouts** - The System Server schedules MWI and callouts then sends the commands to the respective Call Server to perform. The System Server can be configured to perform all MWI for the system in some integrations. This eliminates the Call Servers from the process.
- **Master Database** - The Master database is stored on the System Server. Call Servers must be able to retrieve database information from the System Server.
- **Licensing** - The System Server manages licensing for all Call Servers. Call Servers receive licensing certificates from the System Server.

IPv6

IPv6 is supported as long as all core MiCollab AM components, System Servers and Call Servers, use the same protocol, with certain limitations:

IMPORTANT For any system supporting the following, IPV4 must be supported on the system.

- Aculab/Prosody require IPv4 for RTP streams to MiCollab AM
- Installations using Neverfail will require IPv4
- Cisco and any integration with an IP data link are not supported via IPv6.

Telephony Considerations

The location of the Call Server must be considered in relationship to the telephone system. Each Call Server may require a different telephone system integration and may be serviced by a different vendor. PBX integrations using either 2500-type stations or digital station set emulations have specific wire length limitations. RS-232 (serial port) connections also have specific cable length restrictions. Careful design and planning prior to implementation ensures a successful installation. Some important considerations when planning a multi-Call Server installation are:

- **Voice Bandwidth** - IP integrations may require a separate network interface card if the VoIP network is separate from the enterprise data network. A separate subnet or VLAN may be required for security or if a particular Quality of Service (QoS), is required. The location of the Call Server and the IP telephone system must be considered when designing the physical network and bandwidth must be allocated for voice transmission through the network. Even small delays in voice transmission are apparent to callers. See the PBX manufacturer's network requirements for VoIP traffic.
- **Telephony Architecture** - The telephone system architecture must be considered in the design of a multi-server environment.
- When multiple Call Servers serve the same telephone system integration, multiple data links or network connections providing data for the integration may be required. Ancillary hardware such as COM port multiplex devices or network switches may be integral to the design and installation. If port capacity is shared between Call Servers, the telephone system must be capable of providing data for ports on all of the Call Servers.
- When multi-Call Server configurations are served by the same integration, line groups and hunt groups must be able to continue processing calls when group members are out of service. In the event of a Call Server failure, the lines may be busied out for such a duration that the telephone system takes them out of service. Hunt group members in service on remaining Call Servers must continue to process calls.
- Hybrid integrations such as the Dialogic Media Gateway that host circuit based PBX integrations yet integrate to MiCollab AM with IP integrations require consideration of the telephone system, the physical network, and network bandwidth requirements.
- **Uniform Numbering Plans** - Numbering plans should be planned carefully. Using discreet numbering plans can avoid confusion. Duplicate extension numbers cannot exist within MiCollab AM unless they are shared extensions, or are within separate switch sections. If Inter-Switch

Connectivity Groups are assigned, duplicate extensions within separate switch sections become shared extensions.

NOTES

1. Uniform Numbering Plans can be grouped using the Inter-switch Group Assignment section of the Switch tab in MiCollab AM Configuration.
 2. When working with a uniform numbering plan (unique extensions across all PBX nodes), be sure group your PBX switches together if you want to use the Subscriber Msg action and address by extension number features. If you do not have a uniform numbering plan, (i.e. you have overlapping extension numbers) or if you do not want to group your switches together, then be sure to use a Message Center mailbox so you can address the message by mailbox number instead.
- **Call Traffic** - Call volume and traffic patterns should be considered when designing multi-Call Server environments. Multiple Call Servers can be used to handle high volumes of call traffic and increase the Grade of Service (GoS). Call Servers serving unique application or department needs can be sized to handle overflow traffic of other departments during peak periods.
 - **Auto Attendant Scheduling Configuration** - If the remote Call Server shares call handling with other Call Servers, the auto attendant scheduling configuration must be identical with the Call Servers that serve the same call handling application.
 - **Networked PBX** - If the PBX is networked to serve a remote location, a properly sized and configured network must be established prior to deployment.

E-Mail Considerations

Unified Messaging Applications require communication with the System Server and the Call Servers. The e-mail server location, the domain structure, network bandwidth, and necessary domain permissions require consideration when locating and configuring the System Server and Call Servers.

Remote Locations and Multi-Vendor Installations

Installing Call Servers in remote locations may require other service organizations to perform installations, provide both telephone, and network facilities in the remote location. Consider building a working relationship with the other vendor and establish a cooperative communication network with the technical staff prior to system installation and cutover.

Fault Tolerance

Build System Servers with high quality server platforms using RAID redundant components. In the event of a System Server failure, call processing continues on each Call Server. When the System Server returns online, the Call Servers update the System Server with any new database information.

When communication with the System Server fails, subscribers lose some feature capability and access to the message database store until the server is restored. New messages are stored on the Call Server until

the System Server is restored. Once restored, the System Server re-establishes communications with the Call Servers. Messages held by Call Servers are retrieved; the message database is updated and synchronized with all the Call Servers.

When a Call Server fails or network communication fails in a multi-Call Server architecture, call processing continues through the other Call Servers. However, the PBX or IP telephone system must be able to recognize when ports are out of service and continue to process calls through ports that remain in service. Normal call processing and subscriber functionality continues through the operational Call Servers until the failed Call Server is restored and brought back online.

Call Servers run with replicated versions of the master database. They continue to process calls and take messages when the System Server is down. Messages stored locally are queued until the System Server is restored. Subscribers using Server Based Unified Messaging mail servers can retrieve existing messages from their e-mail client, however new messages are queued until the System Server is restored.

The following table describes the affected call processing functions of MiCollab AM when a System Server fails, or when a Call Server fails (assuming multiple Call Servers are processing the same calls).

Table 21. Functionality Impacts from System and Call Server Failure

A System Server failure affects the following...		A Call Server failure affects the following...	
Functionality	Impact	Functionality	Impact 2
Voice and Fax Messaging	Affected 1	Voice and Fax Messaging	None
Automated Attendant	None	Automated Attendant	None
IVR	None	IVR	None
Personal Assistant	None	Personal Assistant	None
Callouts	Affected 1	Callouts	None

NOTES

1. When the System Server is down the Call Servers continue to take messages and queue them for delivery until the System Server is restored. Once operational, the System Server posts the messages to Subscriber mailboxes or to the subscriber's e-mail Inbox if the Subscriber mailbox is configured for external store. Message notification (MWI, Immediate Message Notification, Daily Message Reminder, SMS, and SMTP) does not take place until the message is delivered to the subscriber's mailbox and therefore is affected until the System Server is restored.
2. A Call Server failure does not affect functionality, but does affect overall port capacity.

Maintenance and Prevention Policies

Data loss and corresponding system downtime can be prevented by performing regular backups of the system. Despite the reliability of RAID drives and a multi-server environment, maintenance routines remain an important task of the MiCollab AM administrator. Administrators must establish sound backup routines for all systems involved in the enterprise. Implement an administrative routine:

- To create backups capable of doing full system restores
- To configure automatic scheduled backups of system files and database files on MiCollab AM, e-mail servers, telephone systems
- To store system backups in multiple locations
- To backup mission critical messages

Appendix C: VMware and Virtual Servers

Virtualized server implementations of MiCollab AM applications are supported at the following VMware versions:

- vSphere/ESXi 6.7
- vSphere/ESXi 6.5
- vSphere/ESXi 6.0 Update 2
- vSphere/ESXi 5.5 Update 2
- vSphere/ESXi 5.1

These environments require the following components:

- **Hardware Platform running the VMware® ESXi™ Hypervisor™**

Throughout this section we will refer to it as the *Hypervisor* or *Host*. The Hypervisor hosts the virtual machines and provides the necessary resources to the virtual machines. See the *VMware Compatibility Guide* for additional information about hardware platform configuration.

- **VMware vSphere Web or Desktop Client**

VMware client applications provide the administrator the means to provision, monitor, and manage virtual machines in both standalone and managed environments. The vSphere Desktop Client is used to manage legacy standalone ESXi Hosts. The vSphere Web Client is used in larger managed vSphere deployments.

NOTE The vSphere Desktop Client is superseded in version 6.5 by the VMware Host Client.

For detailed information about setting up and managing VMware virtual environments and provisioning, monitoring, and managing virtual machines, see the online documentation for your version of VMware or contact your VMware Sales representative.

VMware Feature Support

The following features are supported for virtualized MiCollab AM components deployed in all supported versions of VMware:

NOTE When running UCConnect on a virtual machine, you can't pass microphone inputs directly from the host machine to the virtual machine. However, the prompts may be recorded elsewhere then copied to the virtual machine.

Table 22. Features Supported for MiCollab AM on ESXi

Feature	Supported	Details
vMotion	Yes	<ul style="list-style-type: none"> • There may be instances of degraded audio (including DTMF) for brief periods as the system transfers. • Only supported in LAN environments, not WAN. • For Software Based Licensing, the hosts must be identical.
VMware Distributed Resources Scheduler (DRS)	Yes	<ul style="list-style-type: none"> • VMware DRS is supported with Software Based Licensing.
Dynamic Resources	Yes	
VMware Availability	Yes	<ul style="list-style-type: none"> • Mitel recommends that systems should be set to auto-start. • Calls in-progress may be dropped or may just hang with no indication that they have failed. • Monitoring of specific applications is not supported, the transfer will only occur of the operating system, host, or hardware fails. • VMware Availability includes High Availability and Fault Tolerance • VMware Availability does not support device passthrough of any type, including USB. Refer to the Licensing MiCollab AM in a VMware Virtual Environment section for additional information.
Latency Sensitivity	Yes	<ul style="list-style-type: none"> • Only supported on High.
Flash Read Cache	Yes	

Virtualizing MiCollab AM Components

Application virtualization changes, to a great extent, the concept of hardware usage and requirements as follows:

- In **non-virtual environments**, all hardware resources (CPU, memory, power, storage, and network resources) are applied toward the operating system running the application.
- In **virtual environments**, the Hypervisor likely provides resources to multiple virtual machines. As a result, resource allocation can be complicated.

In a **virtual environment**, the following considerations apply:

- The Hypervisor distributes the hardware resources to one or more virtual machines.

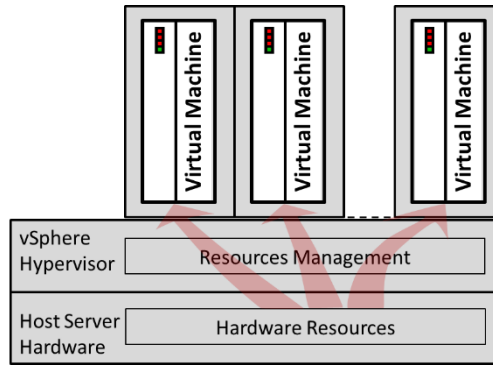


Figure 46. Diagram of Virtual Machine Setup

- The total hardware resources available to the Hypervisor are larger than the needs of any of the virtual machines on the system.
- When evaluating the resource requirements for a specific virtual machine, the focus moves from the actual hardware on which the Hypervisor is running to the virtual machine performance counters.

The Hypervisor administrator monitors virtual machine performance metrics, such as the average CPU usage of virtual machines (see [Figure 47. Virtual Machine Performance Reading](#)), to determine whether the virtual machines have sufficient resources. Refer to [MiCollab AM Component Virtual Machine Resource Reservation](#) for information about how to allocate resources to the virtualized MiCollab AM components.

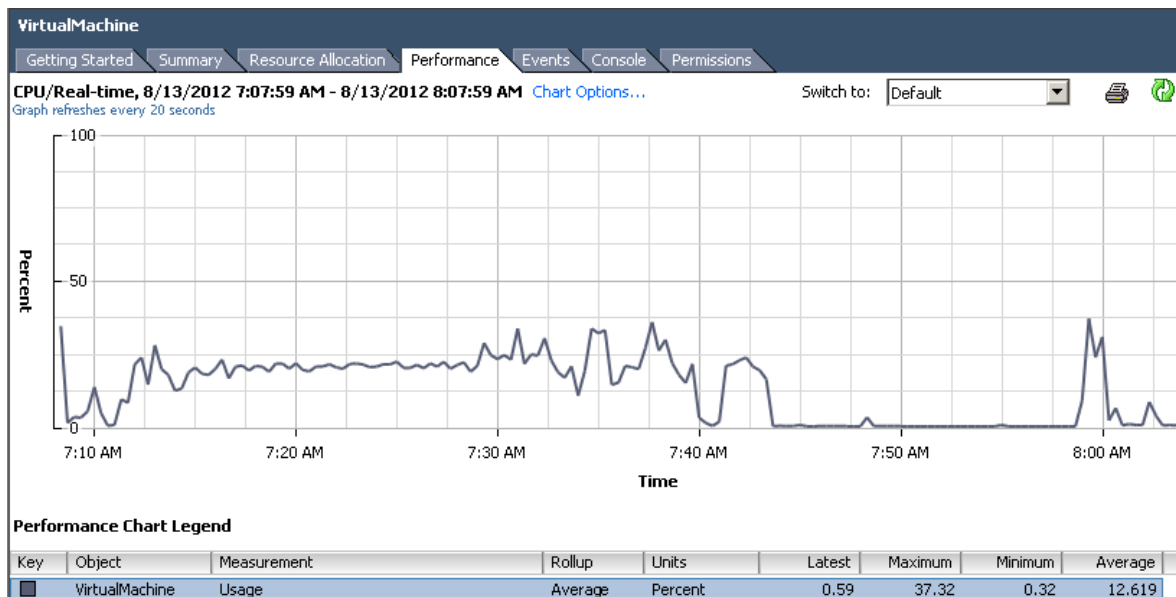


Figure 47. Virtual Machine Performance Reading

Host Server and Hypervisor Requirements

In order for a Hypervisor platform to support virtualization of the MiCollab AM components, the server hardware the Hypervisor runs on must meet the following requirements:

- The hardware platform must be VMware approved.
- All virtualization options must be enabled for the hardware platform.

- The Hypervisor must be a supported version.

MiCollab AM Component Virtual Machine Resource Reservation

A virtualization host is able to run multiple virtual servers by sharing its computing resources with its resident VMs based on demand. MiCollab AM server classes are designed to use a fixed amount of RAM and number of CPUs. To successfully run MiCollab AM in a virtual environment, you must reserve sufficient resources for the virtualized MiCollab AM components.

Because resources are not assigned to a VM until it is powered up, the host distributes resources needed by the MiCollab AM VM. To ensure that sufficient resources are available for the MiCollab AM VM to start and operate properly, Mitel recommends setting resource reservations in the host server.

The minimum MiCollab AM resource requirements for the various server classes are listed in the Server Class Configurations section of the MiCollab AM *Software Release Notice* (SRN). Note the values for your server class for use in the following procedure.

The following procedure sets the number of CPUs and assigns a fixed amount of RAM to the MiCollab AM VM. Please refer to [VMware Monitoring and Performance documentation](#) for detailed information about modifying reservations, shares, and limits to obtain the best VM performance in your environment.

To reserve resources for the virtualized MiCollab AM components:

- 1 Review the resource requirements in the SRN (CPU and memory) for your server class.
- 2 Set the resources assigned to the new MiCollab AM component virtual machine based on the resource requirements in the SRN.
 - a Right-click on the **MiCollab AM VM** and then select **Edit Settings**.
 - b Click the **CPU** listed in the component tree.
 - c Enter the number of CPUs from the SRN in the **CPU** drop-down list.
 - d Enter the number of cores per CPU from the SRN in the **Cores per CPU** drop-down list.
 - e Click **Memory** in the component tree.
 - f Enter the amount of RAM in megabytes from the SRN in the **Memory** drop-down list.
 - g Select the **Reserve all guest memory** check box.
 - h Click **OK** to save the settings and exit.
- 3 Install the desired MiCollab AM components and monitor the virtual machine CPU resource utilization.

Installing a New Virtual System

To set up a new MiCollab AM virtual system:

- 1 Create and configure the virtual server that MiCollab AM will run on.

NOTE Review the tables in the current *MiCollab AM Software Release Notice* (SRN) to determine the number of CPUs and the amount of RAM needed to support a MiCollab AM system of your size, and then use these values when creating the new MiCollab AM virtual machine.

- 2 Install MiCollab AM on the new virtual server.
- 3 Power up the new VM and install and configure the operating system, and install and configure the desired MiCollab AM components. The VMware Hypervisor will automatically assign the necessary computing resources based on the CPU and RAM configuration of the new VMs. Refer to [MiCollab AM Component Virtual Machine Resource Reservation](#) for information about how to reserve resources to the virtualized MiCollab AM components.

Converting a Non-Virtualized System

If you are virtualizing an operational MiCollab AM component or system manually, use the same CPU, RAM, and local storage as the existing system. You can also use the VMware Standalone Converter to create a configured virtual system from the hardware MiCollab AM server.

Licensing MiCollab AM in a VMware Virtual Environment

The VMware virtual environment can be licensed through two methods, **Software Licensing** and **Hardware Licensing**, as follows:

- **If using Software Licensing:**

Follow the procedure in the [Licensing the Messaging System](#) section to license the system and refer to [Managing Software-Based Licensing in a VMWare Environment](#) for information about how to manage software-based licensing in a VMware environment.

- **If using Hardware Licensing:**

Digi AnywhereUSB® may be used for connecting the MiCollab AM USB dongle to the System Server via the customer network.

NOTE AnywhereUSB devices are not sold by Mitel, and are not supported by Mitel Technical Support.

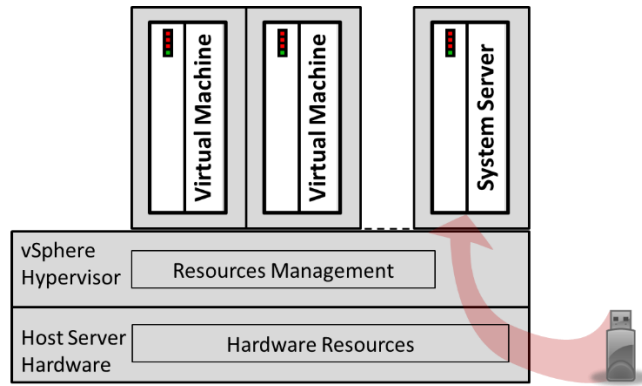


Figure 48. Virtualization with AnywhereUSB

AnywhereUSB network-attached USB hubs are VMware certified and supported in standard and Neverfail topologies.

Use the Digi installation and configuration instructions to setup the AnywhereUSB network appliance, and install the necessary software on the MiCollab AM installation. For solution description and configuration details, see the white paper, [esx_anywhereusb2.pdf](#).

NOTE All AnywhereUSB devices supported by VMWare may be used for associating the USB dongle with the System Server. Mitel validated the AnywhereUSB solution with the AnywhereUSB/5 Gen2 device.

System Server Configuration with Neverfail

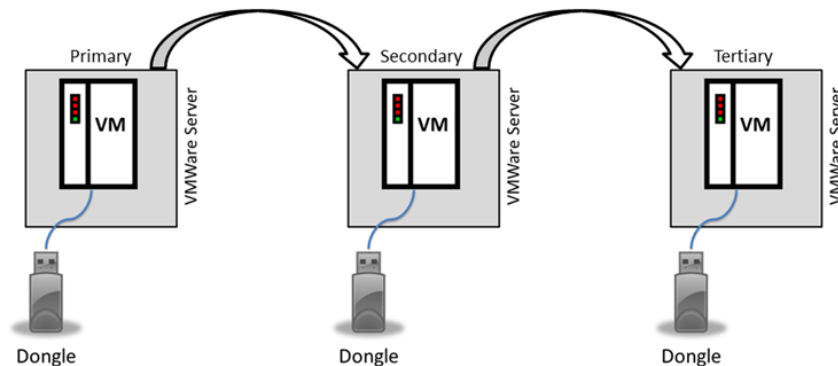


Figure 49. Server Configuration with Neverfail

System Servers can be configured on individual virtual machines using Neverfail.

The VMware virtual machine installation steps are identical to the single Host configuration topology. For more information about installing Neverfail, see the Neverfail Documentation in the Docs directory of your installation media.

AnywhereUSB network attached USB hubs are supported for Neverfail topologies. When using Neverfail topologies, it is highly recommended that at least two AnywhereUSB devices are used, in order to avoid

situations where the entire Neverfail enabled MiCollab AM system stops functioning because all USB dongles are connected to a failed AnywhereUSB device:

Table 23. Necessary AnywhereUSB Devices

Topology	AnywhereUSB devices
Single System Server	1
Two System Servers (Neverfail)	2
Three System Servers (Neverfail)	3

Benefits

Using this topology offers the following benefits:

- Allows for more efficient hardware resource utilization.
- Minimizes downtime during maintenance by allowing for an alternate System Server (Secondary System Server) to operate while the other is undergoing maintenance.
- Minimizes downtime in the event of a VMware host failure by allowing the System Server services to be available on the other Hosts (Secondary System Server for automated fail-over or Tertiary System Server for disaster recovery).
- Allows for automatic failover to the Secondary System Server in the event of a software or host failure.
- Allows for geographical failover (disaster recovery via the Tertiary System Server)
- Protects enterprise from both hardware and software failures through the real-time replication occurring between the System Servers.
- Allows for quick re-deployment of the application software on a new host, if required.

Limitations

- If you choose to run multiple MiCollab AM virtual machines on a single host, Technical Support may require you to relocate a specific MiCollab AM virtual machine to a separate physical host server for troubleshooting purposes.
- Telephony hardware integrations are not supported in a virtual environment. MiCollab AM Call Servers may be run in a VMware environment using IP integrations only.
- Although not presently supported, installations using USB pass-through should continue to work. However, the currently supported and recommended licensing procedure for virtual machines is to use Software Licensing.

Choosing the Right High Availability Technology

As customers choose to implement high availability, they come across a decision point regarding the right technology to use. Customer expectations might include all or some of the following benefits:

- Continuous Availability
- Maximize uptime and SLA
- Automatic Recovery
- Prevent Failure
- Local Survivability
- Geographical Survivability
- Keep Mission Critical Systems Running

When considering the technologies that enable High Availability (HA), the following two approaches can be identified.

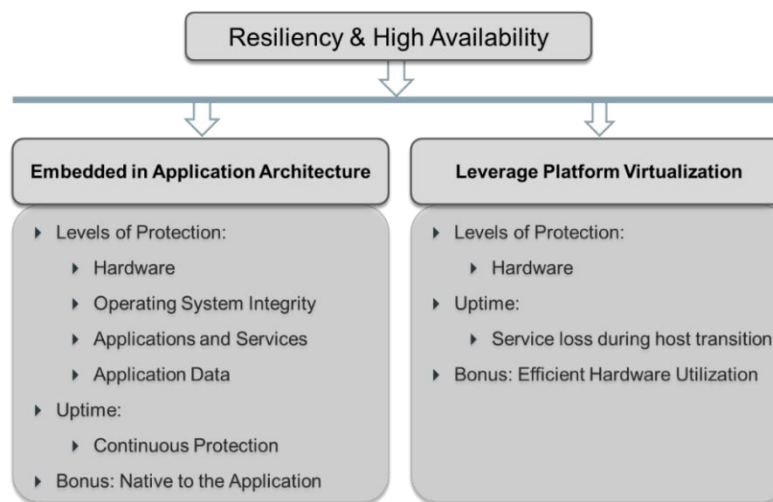


Figure 50. Resiliency and High Availability Approaches

As illustrated above, while virtualization provides for quick and reliable High Availability implementation, the investment some vendors such as Mitel make in native technology significantly improves the system reliability and minimizes down time during a High Availability event.

The main differences between VMWare HA and Neverfail HA stem from the technology with two solutions as follows:

- **Resiliency**
 - **VMware server hardware level protection:**

VMWare HA can only protect for server hardware failures as VMware HA 'moves' the System Server virtual machine from one physical host to the other.
 - **Neverfail complete protection of server hardware, operating system, services, applications, and application data:**

As opposed to VMware, given its design, Neverfail protects the system down to the data level.

Neverfail implies 2 or 3 independent System Server physical (or virtual) installations with the System Server data being replicated among them. Regardless of what happens with the components of one server (hardware problems, operating system issues, installed services and applications malfunction), the other System Server instances will continue to function.

By monitoring the health of all server components Neverfail maintains continuous services should any of the Active System Server components fail (server hardware, operating system, applications, or services).

- **Uptime**

- Neverfail HA provides for immediate (within minutes) System Server services availability, as all the System Servers in the environment are fully operational, and their data is kept up to date all the time. In case of a System Server failure, the Call servers automatically connect to the new active System Server.
- In case of a System Server failure, VMWare HA automatically restarts the virtual machine on the other host.

Depending on the context of the failure, restarting the virtual machine and all required services on the other host takes significantly longer than the Neverfail failover, and in some cases the restart might be problematic should the failure triggering the failover has caused any data corruption.

Example:

- Data being written to the HDD at the time of the failure
- Data being written to the database at the time of the failure, etc.

A side effect of this can be extended down time due to Call Servers getting out of sync with the System Server which might requires data re-synchronization between the Call Servers and System Server.

Table 24. High Availability Protection Chart

Protection	Neverfail HA/DR	VMware
Continuous Up Time	No	Yes ¹
VM Corruption	Yes	No
Host Server Failure	Yes	Yes
Operating System Failure	Yes	Yes ²
Services and Applications Failure	Yes	No
Services and Applications Monitoring	Yes	No
Network Outage Monitoring	Yes	Yes ³
Snap Shots	No	Yes

¹ Available with Fault Tolerance.

² Available with High Availability but not Fault Tolerance.

³ Available with High Availability or Fault Tolerance.

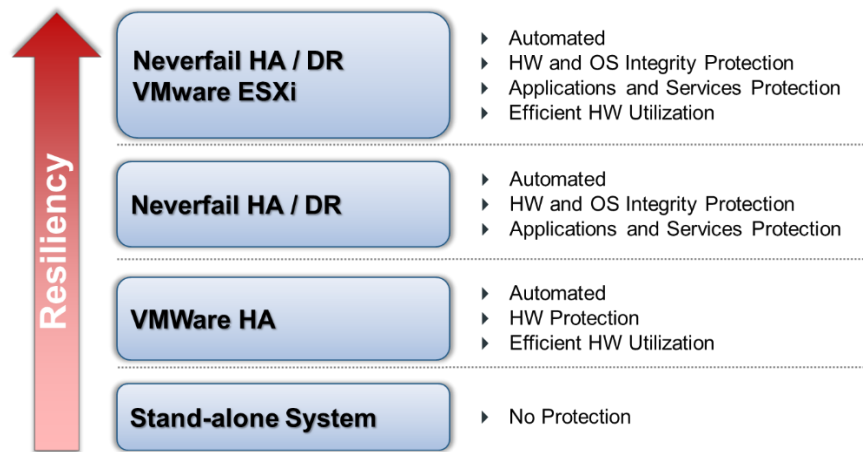


Figure 51. High Availability Deployment Recommendations

Managing Software-Based Licensing in a VMWare Environment

Definitions

The following definitions are provided for the terms used in this section.

Clone: Make an identical running copy of a virtual machine.

CPU Feature Set: The capabilities of the physical CPUs in the ESXi Host. A VMware Virtual Machine does not have its own CPU. It inherits its CPU features from the ESXI host where it resides. A licensed VM's inherited CPU feature set becomes part of its fingerprint.

Distributed Resource Scheduler (DRS): The DRS spreads the virtual machine workloads across vSphere hosts inside a cluster and monitors available resources. Based on the automation level, DRS will use VMware vSphere vMotion to migrate virtual machines to other hosts within the cluster to maximize performance.

Enhanced vMotion Compatibility (EVC): VMware's proprietary technology for guaranteeing the CPU feature set a VM inherits from its host remains constant across host-to-host moves. There are two EVC modes:

- *Cluster-based EVC* is a vSphere attribute that standardizes the CPU features presented to VMs by clustered ESXi hosts. Cluster-based EVC is available only in vSphere environments and is managed by the vCenter server. It is not available to non-clustered hosts.
- *Per-VM EVC* is an attribute of the VM that defines the CPU feature set the VM must inherit from its host in order to operate.

Cluster-based EVC is available in all currently supported versions of VMware. Per-VM EVC is available starting with VMware 6.7, hardware version 14.

Move: Manually relocate a powered-off VM to a different ESXi Host. The UUID of the relocated VM may change.

Migrate: Relocate a powered-on VM to a different ESXi Host. Also called **Live Migration**. Universal Unique Identifier (UUID): A 128-bit integer assigned to each VM. The UUID is based on the physical computer's identifier and the path to the VM's configuration file. This UUID is generated when you power on or reset the VM. As long as you do not move or copy the VM to another location, the UUID remains constant.

Universal Unique Identifier (UUID): A 128-bit integer assigned to each VM. The UUID is based on the physical computer's identifier and the path to the VM's configuration file. This UUID is generated when you power on or reset the VM. As long as you do not move or copy the VM to another location, the UUID remains constant.

vMotion: VMware's zero downtime live migration of workloads from one ESXi Host to another.

Maintaining License Validity

IMPORTANT VMware virtual machines do not have their own CPUs. Their CPU features inherit from the VMware host where they reside. The inheritance updates every time a VM is powered up and changes if the VM is moved to a host with a different CPU feature set than the VM's previous host.

Copying or Cloning a Licensed VM

When a licensed virtual machine is copied or cloned, the copies all receive new UUIDs. Each generates a new fingerprint. This causes the MiCollab AM copy on the cloned or copied VMs to be blocked from running. **WARNING** Copying or cloning a licensed VM will invalidate the license on all of the copies or clones.

Moving a Licensed VM to a new ESXi Host

When a powered-off licensed VM is moved to a new host and then powered up, the administrator is given the choice to keep or replace the UUID. Generating a new UUID will invalidate the license. The administrator should choose to keep the original UUID. The license may also be invalidated if the CPU feature sets between the source and destination ESXi Hosts differ too greatly.

Migrating a Licensed VM to a new ESXi Host

When a licensed VM is migrated, vMotion maintains the operational state of the VM during the relocation process. The VM UUID remains the same as long as the VM is not powered down after the migration. Migrating a software-based licensed VM should not affect its license status, unless the VM was migrated to a host with a significantly different CPU feature set. In this case, when the VM is power-cycled it inherits the new host's feature set and changes its UUID and invalidates the license.

To avoid SBL license problems in a VMWare environment:

- For all VMware environments:
Do not copy or clone MiCollab AM VM clustered ESXi hosts
- For standalone or unmanaged host environments:
Ensure all hosts in your environment have identical CPUs or limit a VM's destination hosts to hosts with identical or very similar CPUs.
- For vSphere environments lower than version 6.7:
Enable Cluster-based EVC to ensure the UUID does not change when VMs are moved or vMotioned within a cluster.

NOTE: Cluster-based EVC mode is a cluster-only feature. Out-of-cluster migrations or moves may invalidate the license if the destination host CPU differs greatly from the source cluster's EVC setting.

- For vSphere version 6.7 or higher environments:

Enable Cluster-based EVC to ensure the UUID does not change when non-EVC-enabled VMs are moved or vMotioned within a cluster.

Enable Per-VM EVC on any VMs that may be migrated out of cluster. Ensure the Per-VM EVC mode is set equal or lower than that of the lowest-capability destination host.

NOTE Per-VM EVC-enabled VMs can be hosted by Cluster-enabled EVC hosts or non-EVC enabled hosts. If the Per-VM mode is set correctly, it's possible the VM may be moved or migrated to any host, regardless of the host's CPU features or EVC capabilities.

Enhanced vMotion Capability (EVC) is a complex technology. Refer to the following VMware articles for information about setting and managing Cluster-based and Per-VM EVC.:

VMware Docs: "CPU Compatibility and EVC"

- <https://docs.vmware.com/en/VMware-vSphere/6.7/com.vmware.vsphere.vcenterhost.doc/GUID-03E7E5F9-06D9-463F-A64F-D4EC20DAF22E.html>
- <https://blogs.vmware.com/vsphere/2019/06/enhanced-vmotion-compatibility-evc-explained.html>

More information is available from the VMware Knowledge Base and Documentation Library.

Overview

Software-based licensing relies on a fingerprint built from a set of parameters that in combination uniquely identify the server to be licensed. That fingerprint is associated with an entitlement that allows MiCollab AM to run on the server. Maintaining license validity in a dynamic virtual environment is all about ensuring that a given VM's critical parameters are not modified by changes to the VM or its operational surroundings. Two parameters that contribute to the fingerprint and are particularly susceptible to change are the Universal Unique Identifier (UUID) of the VM and the CPU Feature Set of the ESXi Host server. The following sections offer guidance to avoid accidental changes to these parameters that may invalidate your MiCollab AM license.

Maintaining License Validity

Copying or Cloning a Licensed VM

When a licensed virtual machine is copied or cloned, the copies all receive new UUIDs. Each generates a new fingerprint. This causes the MiCollab AM copy on the cloned or copied VMs to be blocked from running.

WARNING Copying or cloning a licensed VM will invalidate the license on all of the copies or clones.

Moving a Licensed VM to a new ESXi Host

When a powered-off licensed VM is moved to a new host and then powered up, the administrator is given the choice to keep or replace the UUID. The administrator should choose to keep the original UUID.

WARNING Generating a new UUID will invalidate the license.

NOTE The license may also be invalidated if the CPU feature sets between the source and destination ESXi Hosts differ too greatly. Ensure the physical CPUs in the source and destination hosts are from the same family of processors.

Migrating a Licensed VM to a new ESXi Host

When a licensed VM is migrated, vMotion is used to maintain the operational state of the VM during the relocation process. The VM UUID remains the same. In most cases, migrating a software-based licensed VM should not affect its license status.

NOTE Moving or migrating a licensed VM to a destination ESXi Host whose CPU feature set differs significantly from that of its source Host can cause the license to be invalidated.

To avoid SBL license problems in a VMWare environment:

- Do not copy or clone MiCollab AM VMs.
- Deploy MiCollab AM VMs to vSphere resource clusters.
- Set up a private vMotion network for the cluster.
- Ensure all cluster members have identical CPUs or enable EVC at the cluster level.
- Enable DRS for automatic load balancing if desired. DRS uses vMotion to move VMs within the cluster.

NOTE To use resource clustering, vMotion, and DRS, all ESXi Hosts must belong to a vSphere environment.

Reverting System or Call Servers to a Snapshot

While MiCollab AM makes a complete system backup of the System Server and each Call Server to the online backup location every day during the Daily Maintenance routine, it is sometimes necessary to take a Virtual Machine (VM) snapshot of the System/Call Server. This is usually done before applying a patch or a software update.

NOTE This process should not be used in place of online backups.

The following guidelines should be observed when reverting system or call servers to a snapshot.

- Single Server Environment – If reverting a System Server to a snapshot, there are no additional steps necessary.
- Multi Server Environment – If reverting a System Server to a snapshot, there are no additional steps necessary on the System Server itself. However, after restoring the System and/or Call Server(s) to the desired snapshot, the MySQL tables can become flagged as “crashed” and may require repair.

If reverting any server in a system to a snapshot, before starting MiCollab AM, you must take additional steps on the Call Server(s) to ensure their functionality.

To ensure Call Server functionality after reverting a server to a snapshot:

- 1 On each Call Server, click the **Database** button on the **Main** tab of **MiCollab AM Configuration**.
- 2 Click the **Fixup** button.
- 3 Once the “Fixup” step has completed, click the **Resynch** button to resynchronize the database on each Call Server with the System Server. The Call Servers will now be in their expected and valid state.

Appendix D: Microsoft Hyper-V

Throughout this section, we will refer to the *Hypervisor* and *Host*.

- The *Hypervisor* is the process that provides the necessary resources and manages the real-world IO for the virtual machines. In Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience) the *Hypervisor* is part of the Hyper-V Server role.
- The *Host* or *Host server* is the hardware platform the Hypervisor runs on. Virtualized server implementations of MiCollab AM applications are supported using the Hyper-V role in Windows Server 2012 R2.

The environment requires the following components:

- **Hyper-V Host:** The server running the Hyper-V hypervisor. The server must support Windows Server 2012 R2 Standard or above. It must have sufficient storage, CPU and memory resources to support the planned number of virtual machines it will host.
- **Hyper-V Server role:** The software infrastructure and basic management tools for creating and managing a virtualized server computing environment.
- **Hyper-V Manager:** Installed as a part of the Hyper-V role. It is used to manage the Hypervisor and provide the administrator tools to create, provision, monitor, and manage the virtual machines.
- **System Center Virtual Machine Manager (optional):** A separate server to allow management of multiple Hyper-V host servers from a single location.

Installing and configuring the Hyper-V Role:

Hyper-V is a standard Windows Server Role for Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), and Windows Server 2019 (Server with Desktop Experience). Use the **Role Installation Wizard** to install Hyper-V. The Microsoft Hyper-V Portal is a good source for detailed information about:

- Supported hardware
- Installing and configuring Hyper-V
- Creating virtual server environments
- Provisioning, monitoring, and managing virtual machines

Hyper-V Feature Support

The following features are supported for MiCollab AM installed on Hyper-V Server 2012 R2, Hyper-V Server 2016, and Hyper-V Server 2019:

NOTE When running UCConnect on a virtual machine, you can't pass microphone inputs directly from the host machine to the virtual machine. However, the prompts may be recorded elsewhere then copied to the virtual machine.

Table 25. Features Supported for MiCollab AM on Hyper-V Server 2012 R2, Hyper-V Server 2016 and Hyper-V Server 2019

Feature	Supported	Details
MiCollab AM Licensing	Yes	<ul style="list-style-type: none"> Either software licensing or use of a dongle connected to an AnywhereUSB device is supported.
Neverfail	Yes	<ul style="list-style-type: none"> MiCollab AM with Neverfail running on a Hyper-V virtual environment has been certified.
Live Migration	Yes	<ul style="list-style-type: none"> There may be instances of degraded audio (including DTMF) for brief periods as the system transfers. Only supported with Hardware Licensing using AnywhereUSB.
High Availability	Yes	<ul style="list-style-type: none"> Hyper-V uses Microsoft Clustering Service (MSCS) and Network Load Balancing (NLB) for virtual machine High Availability. MSCS and NLB are included in Windows Server 2012 R2 Standard, Datacenter, Hyper-V Server 2012 R2 Core, Windows Server 2016 (Server with Desktop Experience) and Windows Server 2019 (Server with Desktop Experience) Shared storage and a trusted Active Directory domain are also required.
Dynamic Memory	No	<ul style="list-style-type: none"> The MiCollab AM application suite does not support Dynamic RAM. Virtual servers running the MiCollab AM application must be assigned a fixed amount of RAM.
Pass Through	No	<ul style="list-style-type: none"> Pass through of any type, including USB, is not supported.
AnywhereUSB	Yes	<ul style="list-style-type: none"> AnywhereUSB is a 3rd-party device that has been tested with the MiCollab AM application suite in Hyper-V environments. Mitel does not sell or provide technical support for this product. Consult the manufacturer's documentation for additional information about using

Virtualizing MiCollab AM Components

Determining hardware usage and requirements can be complicated.

- In **non-virtual environments**, all hardware resources are applied toward the operating system running the application.
- In **virtual environments**, resources are shared by the host server and multiple virtual machines. As a result, resource allocation can be complicated.

The Hyper-V host server must have adequate resources for its own base functions, the Hyper-V role management tools and all of the VMs being hosted. See the *MiCollab AM Software Release Notice* for detailed MiCollab AM requirements.

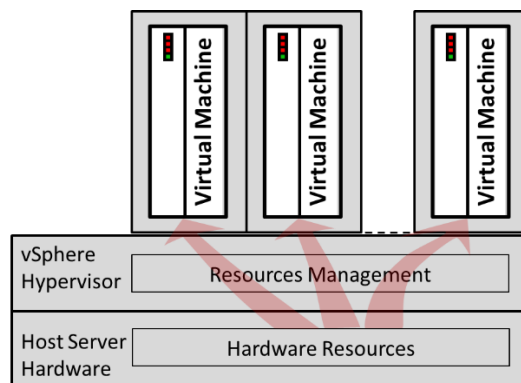


Figure 52. Diagram of Virtual Machine Setup

Hyper-V Host Server Requirements

In order for a Hypervisor platform to support virtualization of the MiCollab AM components, the Host Server must meet the minimum requirements for the version of Windows Server 2012 R2, Windows Server 2016 (Server with Desktop Experience), or Windows Server 2019 (Server with Desktop Experience) being run.

The supported versions are *Standard* and *Datacenter*. All virtualization options must be enabled.

MiCollab AM Components Virtual Machine Resource Reservation

A virtualization host is able to run multiple virtual servers by sharing its computing resources with its resident VMs based on demand. MiCollab AM server classes are designed to use a fixed amount of RAM and number of CPUs. To successfully run MiCollab AM in a virtual environment, you must reserve sufficient resources for the virtualized MiCollab AM components.

Because resources are not assigned to a VM until it is powered up, the host distributes resources needed by the MiCollab AM VM. To ensure that sufficient resources are available for the MiCollab AM VM to start and operate properly, Mitel recommends setting resource reservations in the host server.

The minimum MiCollab AM resource requirements for the various server classes are listed in the Server Class Configurations section of the MiCollab AM *Software Release Notice* (SRN). Note the values for your server class for use in the following procedure.

To reserve resources for the virtualized MiCollab AM components:

- 1 Review the resource requirements in the SRN (CPU and memory) for your server class.
- 2 Set the resources assigned to the new MiCollab AM component virtual machine based on the resource requirements in the SRN.
 - a Open the **Settings** page for the VM.
 - b Navigate to the **Hardware** section and then select **Memory**.
 - c Enter the amount of RAM in megabytes from the SRN in the **Startup RAM** field.
 - d Ensure that the **Enable Dynamic Memory** check box is cleared.
 - e Navigate to the **Hardware** section and then highlight **Processor**.
 - f Enter the number of CPUs from the SRN in the **Number of virtual processors** drop-down list.
 - g Click **OK** to apply the settings and exit.

NOTE The **Resource Control** section of the **Processor Settings** page allows the administrator to adjust how the Hypervisor allocates CPU resources to the MiCollab AM VM when the host is also running other VMs. Due to the wide range of possible MiCollab AM VM deployments, it is beyond the scope of this document to provide specific values for these settings. Please refer to the [Microsoft Hyper-V documentation](#) for detailed information about using these advanced settings in your environment.

- 3 Install the desired MiCollab AM components and monitor the virtual machine CPU resource utilization.

Tuning

Install the desired MiCollab AM components and monitor the virtual machine performance counters. When the virtual machine is under heaviest load, resource utilization should be at or near the following baseline values.

- CPU usage should be at 70% or less.
- Available RAM should be at or near 25%.
- Hard disk free space should be at least 15%.

NOTE Adjust the VM's resources to meet these thresholds if indicated.

Licensing MiCollab AM in a Hyper-V Virtual Environment

The Hyper-V virtual environment can be licensed through two methods, **Software Licensing** and **Hardware Licensing**, as follows:

- **If using Software Licensing:**

Follow the procedure in the [Licensing the Messaging System](#) section to license the system.

- **If using Hardware Licensing:**

Digi AnywhereUSB® may be used for connecting the MiCollab AM USB dongle to the System Server via the customer network.

NOTE AnywhereUSB devices are not sold by Mitel, and are not supported by Mitel Technical Support.

AnywhereUSB network-attached USB hubs are manufacturer-approved for use in Hyper-V virtualization environments.

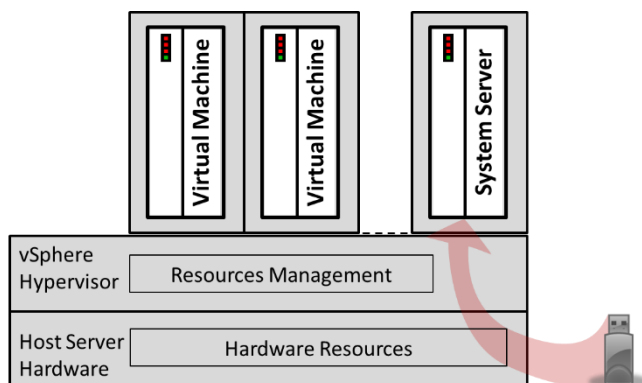


Figure 53. Virtual Machine Setup with AnywhereUSB

AnywhereUSB network-attached USB hubs are also supported in single System Server topologies.

Use the Digi installation and configuration instructions to setup the AnywhereUSB network appliance and install the necessary drivers on the MiCollab AM System Server VM. If using hardware licensing, Digi AnywhereUSB may be used for connecting the MiCollab AM USB dongle to the System Server via the customer network:

Reverting System or Call Servers to a Checkpoint

While MiCollab AM makes a complete system backup of the System Server and each Call Server to the online backup location every day during the Daily Maintenance routine, it is sometimes necessary to take a Virtual Machine (VM) checkpoint of the System/Call Server. This is usually done before applying a patch or a software update.

NOTE This process should not be used in place of online backups.

The following guidelines should be observed when reverting system or call servers to a checkpoint.

- Single Server Environment – If reverting a System Server to a checkpoint, there are no additional steps necessary.
- Multi Server Environment – If reverting a System Server to a checkpoint, there are no additional steps necessary on the System Server itself. However, after restoring the System and/or Call Server(s) to the desired checkpoint, the MySQL tables can become flagged as “crashed” and may require repair.

If reverting any server in a system to a checkpoint, before starting MiCollab AM, you must take additional steps on the Call Server(s) to ensure their functionality.

To ensure Call Server functionality after reverting a server to a snapshot:

- 1 On each Call Server, click the **Database** button on the **Main** tab of **MiCollab AM Configuration**.
- 2 Click the **Fixup** button.
- 3 Once the “Fixup” step has completed, click the **Resynch** button to resynchronize the database on each Call Server with the System Server. The Call Servers will now be in their expected and valid state.

Appendix E: Changing the Message Classes for Exchange/Office 365 (Optional)

Server administrators have the ability to change the voice and fax message classes so that the messages will open in the Microsoft Exchange Unified Messaging (UM) forms instead of opening in the MiCollab AM UM forms.

NOTE Playing messages over the phone from the Exchange UM form is currently not supported.

IMPORTANT Changing the Message Class affects all tenants on a hosted system and will not allow the system to recognize voice and fax messages sent using a different Message Class.

To change the Message Classes:

- 1 Navigate to **CX\Bin**.
- 2 Right-click **AT_EwsConfiguration.exe**, and then select **Run as administrator**. The **Exchange Web Services Configuration** application opens.

NOTE Changing Message Classes must be done on all System and Call Servers.

- 3 On the **Application Settings** tab, locate the **Voice Message Class** or **Fax Message Class** settings and set them to the desired values.

The screenshot shows the 'Exchange Web Services Configuration' window with the 'Application Settings' tab selected. The 'Service Endpoints' tab is also visible. The 'Voice Message Class' and 'Fax Message Class' settings are highlighted with a red box.

Setting	Value
MWI Status Interval Minutes	5
MWI - MTA Sync Interval MSec	1800000
MWI Telephony Servers File	\\EwsMwiSubscribe.xml
MWI Subscription Dump File	..\\Log\\MwiSubscriptionsDump.xml
Trigger MWI on fax message	<input checked="" type="checkbox"/>
CX service logging enabled	<input type="checkbox"/>
EWS trace enabled	<input type="checkbox"/>
EWS trace max number logs	10
EWS trace max log size bytes	20000000
Voice Message Class	IPM.Note.Microsoft.Voicemail.UM
Fax Message Class	IPM.Note.Microsoft.Fax

Buttons: OK, Cancel, Apply

NOTES

1. In order for MiCollab AM voice or fax messages to open in Microsoft Exchange UM Forms, set the message class for the Microsoft Exchange UM voice and fax messages into the message class fields in the Exchange Web Services Configuration utility. For example, you could set the Voice Message Class to "IPM.Note.Microsoft.Voicemail.UM" and the Fax Message Class to "IPM.Note.Microsoft.Fax".
 2. MiCollab AM encodes voicemail messages in G.711 format. In order to play the messages in Exchange UM, you need to configure the Exchange dial plan to use G.711 encoding.
 3. Externally received messages that arrive in .mp3 format cannot be played over the MiCollab AM TUI. However, these messages can still be played through the Exchange UM Forms.
- 4 Click **OK**.
 - 5 Restart the MiCollab AM Exchange Web Services service to apply the changes.

Appendix F: Enabling/Disabling E-mail Access During System Maintenance

Server administrators should disable the messaging server profile when performing backups or other maintenance on the E-mail server.

Enabling/Disabling E-mail Access Using AT_EMA

IMPORTANT Use of the **AT_EMA** command disables the E-mail Access application for all messaging server profiles.

Mitel recommends that you disable individual messaging server profiles immediately or configure the messaging server profile to disable the E-mail Access interface for the time when system maintenance occurs on the E-mail server, instead of using the **AT_EMA** command.

AT_EMA.exe, the MiCollab AM E-mail Access Switcher, is a command-line utility that switches E-mail Access on and off on the MiCollab AM server. When the E-mail Access is disabled, its features are disabled for all subscribers. Because **AT_EMA** is a command-line utility, you can use it in E-mail server maintenance batch files or scripts.

AT_EMA.exe is installed during MiCollab AM installation and is located in the ...\\CX\\Bin directory on the MiCollab AM server.

AT_EMA.exe can be run from the local hard disk drive of either the MiCollab AM server or the E-mail server. If **AT_EMA** is run from the E-mail server, it must be installed locally and the **Net-BEUI** protocol must be installed on both the MiCollab AM server and the E-mail server.

Running AT_EMA from the MiCollab AM System Server

NOTE NetBEUI is not required if **AT_EMA** is run from the MiCollab AM server.

To disable E-mail Access from the MiCollab AM server using AT_EMA:

- 1 Start a command prompt in Windows Server.
- 2 Change to the ...\\CX\\Bin directory.
- 3 Type *AT_EMA off*, and then press **Enter**. E-mail Access is now disabled on the MiCollab AM server and maintenance of the E-mail server can proceed.

To enable E-mail Access from the MiCollab AM server using AT_EMA:

- 4 Start a command prompt in Windows Server.

- 5 Change to the ...**CX\Bin** directory.
- 6 Type *AT_EMA on*, and then press **Enter**. E-mail Access is now turned back on.

Running AT_EMA from the E-mail Server

IMPORTANT **AT_EMA** supports **Named Pipes** only, not TCP/IP addressing. If **AT_EMA** runs from the E-mail server, the **NetBEUI** protocol must be installed on both the MiCollab AM server and the E-mail server.

To disable E-mail Access from the E-mail server using AT_EMA:

- 1 Copy **AT_EMA.exe** from the ...**CX\Bin** directory on the MiCollab AM server to the E-mail server.
- 2 From a command prompt on the E-mail server or an E-mail server maintenance batch file or script, type *AT_EMA off <System Server name>*, and then press **Enter**.

E-mail Access is now disabled on the MiCollab AM server and maintenance of the E-mail server can proceed.

To enable E-mail Access from the E-mail server using AT_EMA:

- 3 Verify that **AT_EMA.exe** is located on the E-mail server.
- 4 From a command prompt on the E-mail server or an E-mail server maintenance batch file or script, type *AT_EMA on <System Server name>*, and then press **Enter**.

E-mail Access is now turned back on.