

# MiCollab Advanced Messaging NetConnect Digital Networking Administration Guide

For version 6.1 and above

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# Preface

This guide describes how to configure and administer Netconnect Digital Networking in MiCollab Advanced Messaging (MiCollab AM). Information provided here includes the following topics:

- An overview of digital networking and how it works with the MiCollab AM software
- Step-by-step instructions for installing and setting up the various servers and services
- A discussion of and instructions for setting up the NetConnect Digital Networking
- Instructions for troubleshooting any problems you may encounter with your network

Successful management of the enterprise system requires the cooperation and participation of the following individuals, who will constitute the implementation team:

- The MiCollab AM server administrator of each location
- The Microsoft Server domain administrator of each location
- Various members of each MIS/IT support staff

Team members should be given a copy of these instructions several days before the implementation of NetConnect Digital Networking.

## References

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

## Documentation

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

- **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.
- **Integration Technical Notes (ITN).** Contains a set of guides that describe the integration methods and instructions for a variety of phone systems to work with MiCollab AM. The ITNs are generally used by resellers or administrators who are experienced with MiCollab AM and familiar with the integration procedures and terminology.
- **Quick Reference Card (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
- **Server Documentation.** Available as a PDF only. Contains administrative guides for administrators about installing, configuring, and administering the messaging system, and user guides for subscribers about accessing the messaging system and checking and sending messages.

- **Spare Parts Documentation.** Contains a set of guides that describe the instructions for installing and configuring hardware parts to work with MiCollab AM. These documents are written for Mitel certified MiCollab AM technicians who are experienced with MiCollab AM and familiar with the procedures and terminology.
- **Software Release Notice (SRN).** This notice introduces the new features, capabilities, and hardware/software requirements for the corresponding MiCollab AM version.

## Documentation Updates

Documentation updates may be available from the following sources:

- Mitel certified technicians can view or download documents and program files from our partner web site: [connect.mitel.com/connect](http://connect.mitel.com/connect)

## Help

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

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

## Document Conventions

The following conventions are used in this document:

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

Example: **Enter**

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

Example: **Alt** + **Tab**

- **Reference to Document.** *Italics* fonts can also signify the titles of other documents.

Example: Refer to *System Installation Guide*.

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

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

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

Example: Type the password *voicemail*.

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

**WARNING** A warning paragraph advises you of circumstances that can result in the loss of data, harm to the system server platform, or personal harm.

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

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

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

# Overview of NetConnect Digital Networking

NetConnect™ Digital Networking is an advanced MiCollab Advanced Messaging (MiCollab AM) application that allows you to combine a number of system servers into a single coordinated messaging system that serves an entire enterprise, whether the servers are in different parts of the building or different parts of the country.

This, in turn, allows an enterprise-wide system of servers to function in unison. All subscribers can send and forward messages to one another as though they were all on the same system server, and administrators can use one system server to manage the others through a process called global user administration.

Digital Networking also allows system servers to exchange voice and fax messages over any network based on the TCP/IP protocol – a local area network (LAN), a wide area network (WAN), or the Internet. In addition to voice and fax messages, NetConnect can carry status messages, configuration changes, and mailbox information between system servers.

This section provides a quick overview of this powerful application.

**NOTE** The information in this overview that discusses how information is transmitted over TCP/IP-based LANs or WANs can also be applied to direct connections to the Internet.

## Features

NetConnect builds on the capacity and durability of the Internet and its associated protocols—and simultaneously increases the versatility of the MiCollab AM software—by adding the following features:

- **Improved sound quality.** Since all digital network messages are transmitted as data, rather than as audio signals, line quality between the local MiCollab AM node and a remote node is rarely a concern.
- **Reliability.** Internet communication protocols are extremely flexible and robust; network transactions rarely fail due to communication breakdowns between the two servers.
- **Flexibility.** NetConnect can operate over direct connections on a LAN or WAN.
- **Familiarity.** NetConnect follows the standard MiCollab AM voice networking model, so subscribers need not learn new procedures for sending their messages.
- **Fax support.** NetConnect networking allows MiCollab AM subscribers to forward fax messages to remote mailboxes on other system servers with NetConnect installed.
- **Support for enterprise-wide systems.** In addition to voice and fax messages, NetConnect can carry status messages, configuration changes, and mailbox information between system servers. This, in turn, allows an enterprise-wide system of system servers to function in unison. All subscribers can send and forward messages to one another as though they were all on the same system server, and



administrators can use one system server to manage the others through a process called global user administration.

## Combining Analog and Digital Networking

The exact combination of digital and analog networking you should use depends on whether, and by what type of connection, the nodes in your network will be connected to a TCP/IP-based network. For example, if all of the nodes have permanent, direct, high-speed connections to such a network or to the Internet, then they should use NetConnect exclusively.

On the other hand, if some of the nodes are not connected to the TCP/IP-based network and there are no plans to connect them, the remaining nodes should use analog or Audio Messaging Interchange Specification (AMIS) networking to exchange messages with them. If you plan to use dial-up Internet connections, you may want to consider a combination of analog and digital networking for the highest possible efficiency.

For more information on analog networking and how to set it up, see the online book *Analog Networking*.

## Digital Networking Options

Two different digital networking options are available for MiCollab AM system servers:

- Basic NetConnect digital networking
- NetConnect digital networking with inter-vendor support

The following table shows the primary differences between these two options.

Table 1. Digital Networking Options

| Description                                                                                                        | Basic NetConnect | NetConnect with inter-vendor support |
|--------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------|
| Can exchange voice and fax messages with other MiCollab AM system servers                                          | ✓                | ✓                                    |
| Can exchange voice messages with voice mail systems supporting the Voice Profile for Internet Mail (VPIM) standard |                  | ✓                                    |

## Understanding the Architecture

Digital networking installations prior to version 5.0 of MiCollab AM used a peer-to-peer (P2P) architecture, which routed all propagation data and messages from one server (or node) to another. In this configuration, each node is responsible for both transmitting and receiving data from each server (or node) to every other.

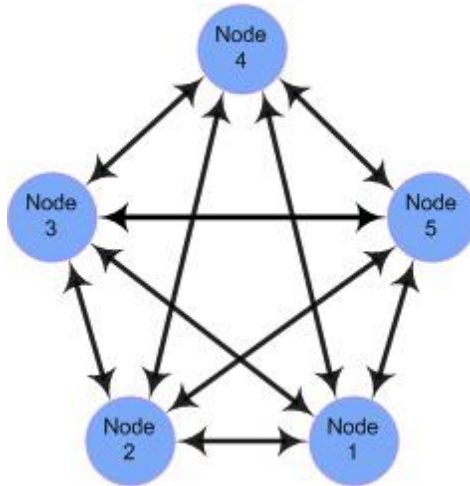


Figure 1. Peer-to-Peer Network

With version 5.0 of MiCollab AM, we introduce a more elegant and stable form of digital networking that uses a Star architecture, where each server (or node) transmits propagation data to and receives data from a centralized Master server.

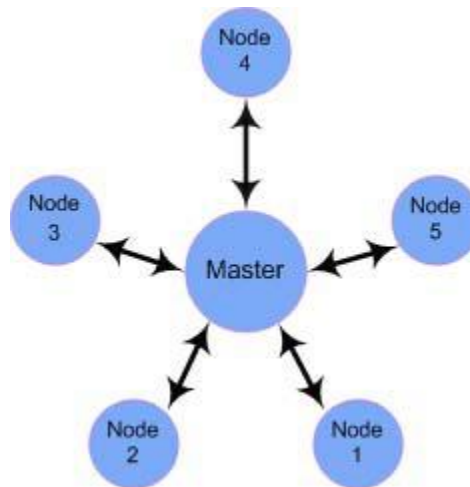


Figure 2. Star Network

In addition, messages continue to be delivered through the reliable VPIM protocol between Local Alias mailboxes along the same peer-to-peer paths as before.

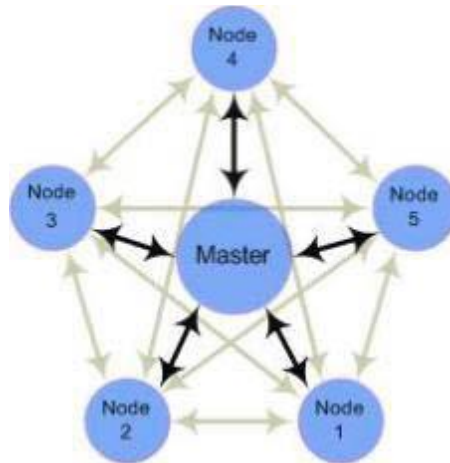


Figure 3. Star Network with Message Delivery

The Star configuration offers advantages over the peer-to-peer topology:

- Fewer paths of data delivery
- Centralized control of all propagation data
- Scalability
- Easier data recovery

## Understanding the Software Modules

NetConnect functions through four pieces of MiCollab AM software:

- **The Directory Propagation Server** - This service is installed from the MiCollab AM Installation Media onto a dedicated server, and it operates as the Master, collecting and transmitting data to and from the Nodes. The Digital Networking Configurator allows you to configure and monitor the Master Server.
- **The Digital Networking Server** - This client application is installed from the MiCollab AM Installation Media onto the MiCollab AM system server (Node) or a standalone server and can be configured by going to **Start > Programs > MiCollab AM Desktop > Digital Networking**. Most of the configuration items available through this client apply to the legacy architecture; however, you must still use the module to start the Digital Networking Server, to configure the Voice Mail Server, and to configure the Digital Networking Accounts.
- **The Administrator Client** - This module is installed from the MiCollab AM Installation Media onto any client computer connected to the Internet and accessed by going to **Start > Programs > MiCollab AM Desktop > MiCollab AM Admin**. It provides two functions: **1)** Global User Administration, which allows an administrator to configure mailboxes across the entire digital network, and **2)** Directory Propagation Administration, which allows administrators to manage the

registration of a Node with the Master Server, configure a Node's network mailboxes, and configure the Propagation Settings for a Node.

- **The Digital Networking Configurator** - This module was overhauled for version 5.0 of MiCollab AM with the introduction of the Star Network architecture. It is installed from the MiCollab AM Installation Media onto any client computer connected to the LAN, and accessed by going to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**. It provides the ability to configure and manage your entire Digital Network, including viewing the network topology, adding and removing Nodes and Mailboxes, viewing propagation activity, and backing up and restoring the network.

Each of these pieces of software must be installed and configured prior to setting up your digital network.

## Understanding Local Alias Mailboxes

Local alias mailboxes (shown below) are a convenient way of sending messages throughout the network because they simplify the addressing of messages—subscribers need to remember only one number for a person at a remote site. When a local alias mailbox receives a message, it automatically passes that message and the recipient's remote subscriber mailbox number to the digital networking mailbox of the system server that contains the appropriate subscriber mailbox.

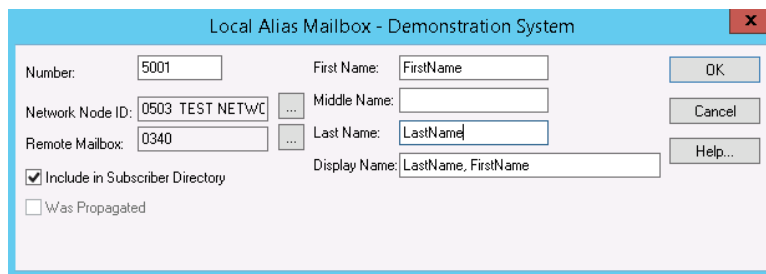
The image shows a Windows-style dialog box titled "Local Alias Mailbox - Demonstration System". It contains several input fields and checkboxes. The "Number" field is set to "5001". The "First Name" field contains "FirstName". The "Network Node ID" field is set to "0503 TEST NETWC" and has a dropdown arrow. The "Middle Name" field is empty. The "Remote Mailbox" field is set to "0340" and has a dropdown arrow. The "Last Name" field contains "LastName". The "Display Name" field is set to "LastName, FirstName". There are three checkboxes: "Include in Subscriber Directory" (checked), "Was Propagated" (unchecked), and "Include in Propagation" (unchecked). On the right side, there are three buttons: "OK", "Cancel", and "Help...".

Figure 4. Local Alias Mailbox

**NOTE** Digital Networking NetConnect can create Local Aliases automatically as part of the directory propagation process.

To send a message using a local alias mailbox, a subscriber in Seattle addresses the message to the local alias mailbox number of the remote subscriber, such as 620 for V. I. Peterson. The system server prompts *This message will be sent to Vic Peterson...* The subscriber can still address a message to Mr. Peterson by entering the digital networking mailbox 503 and his remote subscriber mailbox 340; the local alias mailbox is only for convenience.

**NOTE** Only subscribers logged in to their subscriber mailboxes can send messages to local alias mailboxes.

You can specify subscribers, visitors, and distribution lists at remote nodes in a local alias mailbox.

In a network using uniform numbering, this mailbox makes it seem as if subscribers have a mailbox on every system server in the network. With uniform numbering, subscribers have the same number for their local alias mailbox on remote nodes as their local subscriber mailbox.

You do not have to use uniform numbering to use local alias mailboxes. A network with node addressing can use them for sending messages to frequently called subscribers on remote nodes.

# Installing and Configuring NetConnect Digital Networking

To setup NetConnect Digital Networking as a Star network, you must first have your system servers installed and operational with MiCollab AM version 5.0 or higher. System servers with earlier versions of MiCollab AM can be attached as part of the Legacy P2P network, and the Master can operate fully with such a mixed-mode environment. However, those legacy nodes cannot be migrated to the Star network until they are upgraded to version 5.0 or higher.

This section details the tasks necessary to install NetConnect digital networking. It covers the following tasks (plus a few side tasks that may be relevant in some situations):

- Review the installation requirements
- Install the Master server
- Install the Digital Networking Configurator on the Master server
- Configure the Master server using its local copy of the Digital Networking Configurator
- Update the credentials on the Master for security purposes.
- Install the Digital Networking Master license--feature forty-seven--on one of the system servers
- Setup Global User Administration accounts on all system servers
- Create the Universal Digital Networking Mailbox on all system servers
- Install the Digital Networking license on each system server, though you may have already done so when you upgraded the software in order to meet the installation requirement
- Install the Digital Networking Server for each system server, whether it runs on the system server itself or on a separate standalone server
- Configure the Digital Networking Server for each system server
- Install the Digital Networking Configurator on another server, such as one of the system servers, and maintain the digital network using this copy of the Digital Networking Configurator going forward (because the local copy on the Master slows down as the Master begins processing data)
- Use the Digital Networking Configurator to add (or migrate, if you have an existing Legacy P2P network) each Node to the digital network
- Check the status of the network using the Digital Networking Configurator
- Test the digital network

You may want to print out this page to have with you as a checklist. Once you have completed each of these tasks, your digital network is fully functional. You should consider running daily maintenance on the server now to make a backup of your network configuration. See [Running Daily Maintenance](#) for more information.

## Reviewing Installation Requirements

This section lists the requirements for successfully installing NetConnect digital networking to support a NetConnect system server. Be sure to review and meet these requirements before continuing to the other procedures in this document.

## Implementation Requirements

To implement digital networking, you may need to coordinate system server administrators, LAN administrators, and MIS personnel.

**IMPORTANT** Be sure to provide a copy of this book to everyone helping to implement digital networking, at least several days before implementation actually begins.

## MiCollab AM Requirements

For all the features in digital networking to function properly, make sure that the Digital Networking server and all the servers in your network are running MiCollab AM version 6.1. The Digital Networking Configurator is backward compatible with earlier versions; however, legacy systems must be upgraded to MiCollab AM version 6.1 to be migrated to the Star Network. Otherwise, legacy servers continue to function as peer-to-peer.

## Digital Networking Directory Propagation Server Platform and LAN Requirements

The following list shows the minimum hardware requirements for the digital networking Directory Propagation Server platform.

- 2.0 GHz Pentium® IV or higher
- 2 GB of RAM
- 20 GB or larger hard disk drive
- DVD/USB drive
- Network interface card compatible with your site's LAN
- TCP/IP network protocol installed
- Windows Server 2008 R2 with Service Pack 1 or Windows Server 2012 R2

**IMPORTANT:** The Director Propagation Server must be a dedicated machine as it is incompatible with the MiCollab AM system software.

## Star Node Server Platform and LAN Requirements

For a node server to successfully connect to the Master Server, it must:

- Be a dedicated server running an approved Windows operating system (please refer to the *MiCollab AM 6.1 Software Release Notice* for this information)
- Be running version 6.1 of MiCollab AM
- Have a Fully Qualified Domain Name

Once your Node server meets all of the platform requirement, you are ready to register it with the Master Server.

**NOTE** A MiCollab AM upgrade is not required for legacy peer-to-peer servers to operate in the digital network; these servers may continue to operate with their existing hardware and software configurations as long as they are not migrated to become Star nodes.

## Installing the Directory Propagation Server (Master)

The directory propagation server is the master in charge of the Star Network propagation data. It communicates with each node and determines if and when propagation changes are received and sent throughout the network.

### To install the directory propagation server:

- 1 Log on to the platform using a Windows Administrator account.
- 2 Shut down running programs.
- 3 Insert the MiCollab AM Installation Media into the appropriate drive.
- 4 Do one of the following:

| If autorun is ... | Then ...                                                                          | And ...             |
|-------------------|-----------------------------------------------------------------------------------|---------------------|
| Enabled           | In the MiCollab AM Server dialog box, click <b>Directory Propagation Master</b> . | Skip to step 6.     |
| Not enabled       | On the Start menu, click <b>Run...</b> then click <b>Browse...</b>                | Continue to step 5. |

- 5 Locate and open the Server Installs\Directory Propagation folder, then double-click **Setup.exe**.
- 6 At the Welcome dialog box, click **Next**.
- 7 At the Software License Agreement dialog box, review the license agreement and click **Yes** if you agree to its terms.
- 8 At the Choose Destination Location dialog box, verify the directory path and click **Next** to continue.
- 9 At the Start Copying Files dialog box, click **Next** to begin the installation.
- 10 When the Setup Complete dialog box appears, click **Finish** to restart the server.
- 11 After the server reboots, log on to the platform again using a Windows Administrator account.

# Installing the Digital Networking Configurator

Since some of its settings are not configurable remotely, you must run the Digital Networking Configurator on the Master server in order to complete the initial setup of the Master server. For that reason, the Digital Networking Configurator is installed automatically when you install the Master server. You do not need to complete this procedure to have the Digital Networking Configurator installed on the Master server.

However, once you have the Master setup, you should install and run the Digital Networking Configurator from another desktop.

## To install the Digital Networking Configurator:

- 1 Log on to the platform using a Windows Administrator account.
- 2 Shut down running programs.
- 3 Insert the MiCollab AM Installation Media into the appropriate drive.
- 4 Do one of the following:

| If autorun is ... | Then ...                                                                             | And ...             |
|-------------------|--------------------------------------------------------------------------------------|---------------------|
| Enabled           | In the MiCollab AM Server dialog box, click <b>MiCollab AM Client Applications</b> . | Skip to step 6.     |
| Not enabled       | On the Start menu, click <b>Run...</b> then click <b>Browse....</b>                  | Continue to step 5. |

- 5 Locate and open the **Client Installs\Telephony Server Client Applications** folder, then double-click **Setup.exe**.
- 6 At the **Welcome** dialog box, click **Next**.
- 7 At the **Software License Agreement** dialog box, review the license agreement and click **Yes**.
- 8 At the **Select Components** dialog box, deselect all components except for, **Digital Networking Configurator**, unless you wish to install additional components at the same time.
- 9 Verify the **Destination Folder**, and then click **Next** to continue.
- 10 At the **Start Copying Files** dialog box, click **Next** to begin the installation.
- 11 When the **Setup Complete** dialog box appears, click **Finish** to restart the server.

# Configuring the Master Server

Once you have the Directory Propagation server installed and you have the Digital Networking Configurator installed on the Master server, you are ready to configure the Master.

To configure the Master server, you must complete three tasks:

- Set up the Master server
- Change the Master credentials
- Set the digital networking mailbox defaults

This topic covers the first task; the remaining two tasks follow it.



To set up the master server:

- 1 From a MiCollab AM server platform, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.

Digital Networking Configurator

File Edit View Help

☒ Star Network ☐ Legacy P2P Network

Directory Propagation Server Credentials

Server Name: DemoSystem ☒ Local

Administrator ID: Administrator Password:

Home Server Credentials

Telephony Server Name: Digital Networking Server Name:

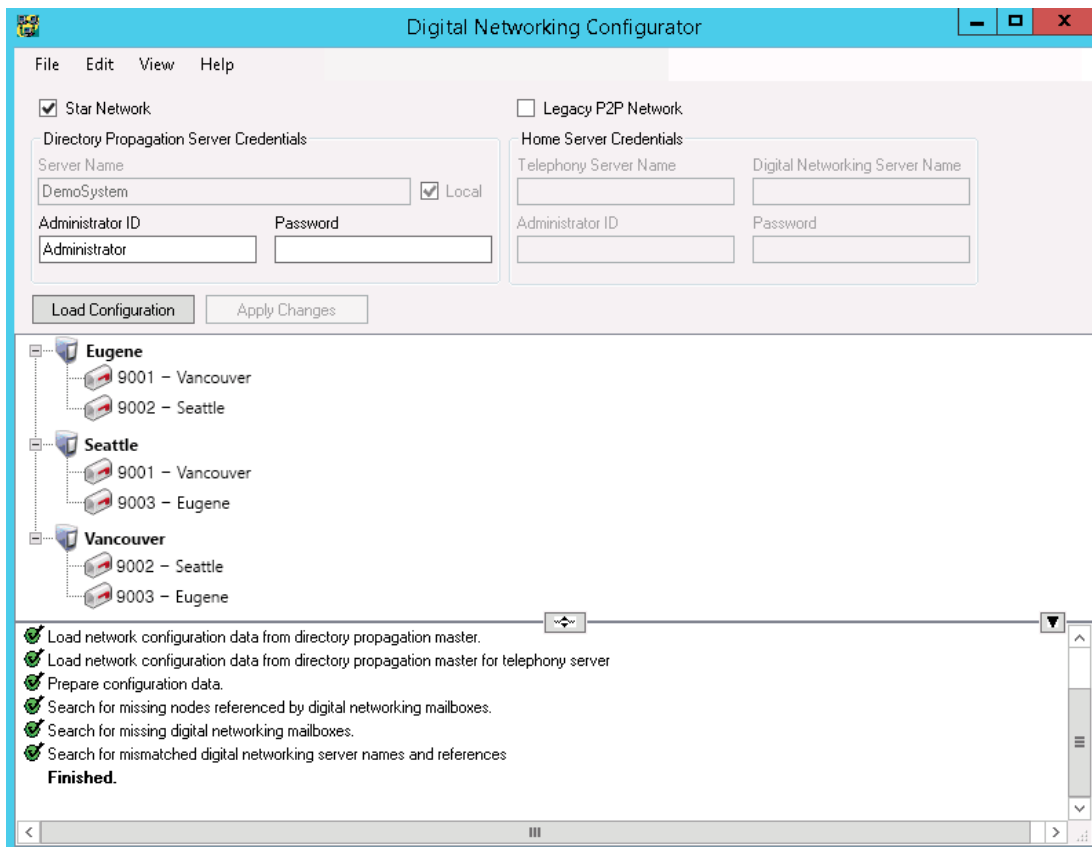
Administrator ID: Password:

Load Configuration Apply Changes

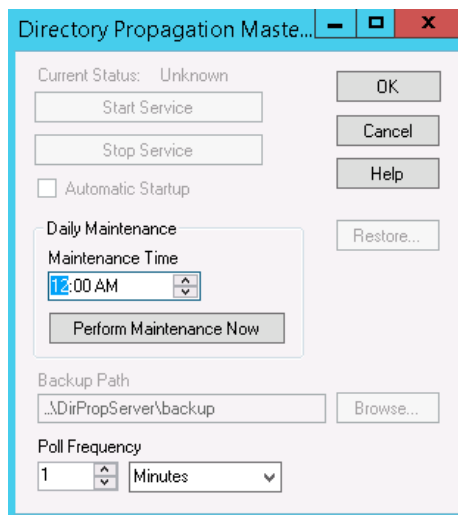
Because you are running the **Digital Networking Configurator** on the Master server, the **Server Name** and default **Administrator ID** are already entered, and the **Local** box is checked.

**NOTE** The default Administrator ID is Administrator, and the default Password is empty [blank].

- 2 Select the **Star Network** checkbox. The login credentials are now input enabled; however, the **Server Name** is not input-enabled since the service is already running.
- 3 Click **Load Configuration** to ensure the credentials are accurate. The configuration activity displays at the bottom of the console.



- 4 Go to **File > Master Setup** to open the **Directory Propagation Master Setup** dialog box.



**NOTE** Because you are running the Digital Networking Configurator on the Master server, a few of the options on this dialog are enabled that would not be enabled if accessed remotely.

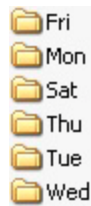
These include the ability to stop/start the service, to select Automatic Startup, and to enter a Backup Path.

However, you can enter a Maintenance Time and change the Poll Frequency from a remote session of the Digital Networking Configurator.

- 5 Ensure that the **Start Service** button is grayed out, which tells you that the digital networking service is indeed running. If is not grayed out, click it to start the service.
- 6 Leave **Automatic Startup** selected since you want the Master server to run automatically in the event of a server reboot.
- 7 If necessary, adjust the Maintenance Time using the up/down arrows to change the hour, or type in a new time. Alternatively, you can click **Perform Maintenance Now** should you need to execute the operation immediately.

**NOTE** The maintenance functions here only affect the Master server; they do not affect the MiCollab AM daily maintenance. For more information, see [Running Daily Maintenance](#).

- 8 If necessary, overwrite the Backup Path with a new destination path, or click **Browse** to locate the destination. The Master server stores seven rolling backups, based on the day of the week, in the folder specified in the backup path.



**NOTE** After the first maintenance cycle is complete, be sure to check the **Application Event Viewer** for any errors related to the **BackUp.cmd** to ensure the backup process is completing successfully.

- 9 If necessary, change the Poll Frequency using the up/down arrows to change the number, and then click the drop-down box to select Seconds, Minutes, or Hours. The Poll Frequency indicates how often the Master polls the Nodes for propagation data.
- 10 Click **OK**.

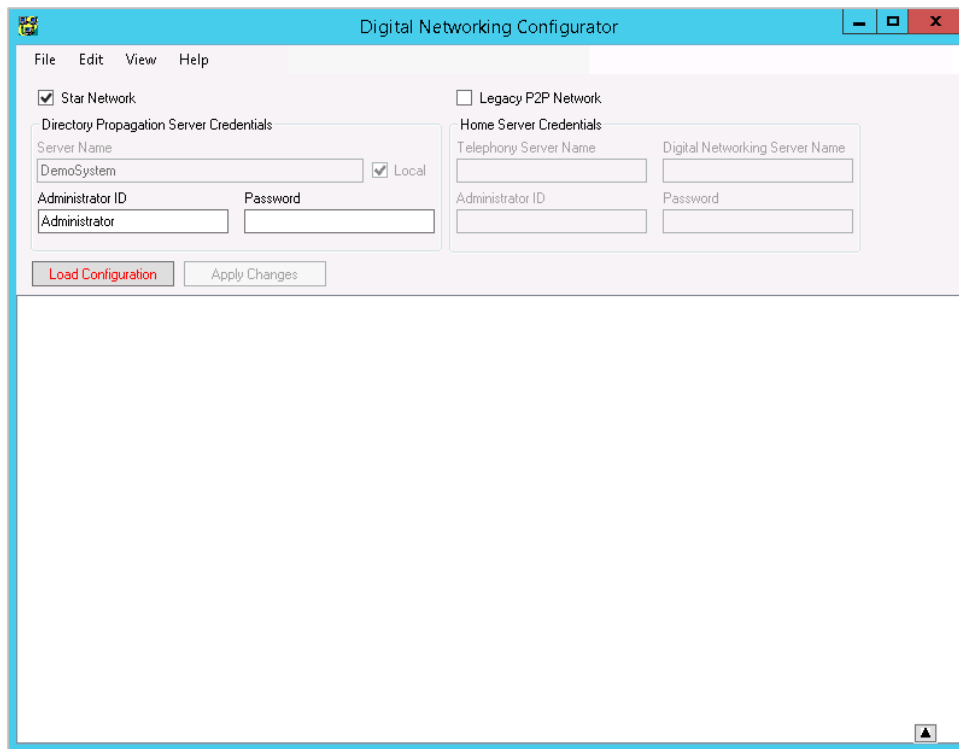
## Updating the Master Credentials

The Master server requires a set of credentials--an ID and a Password--in order to access it using the Digital Networking Configurator. During the initial setup, you can use the default Administrator ID of *Administrator*, and the default Password of empty [blank] to login to the Master server. However, once you have completed the initial setup, you should change the credentials to keep the data secure.

The procedure to update the credentials changes once the network is in place since the Master server is able to communicate with all nodes at that point. Below are the steps to complete before and after the network is built.

### To update the master credentials before building the network:

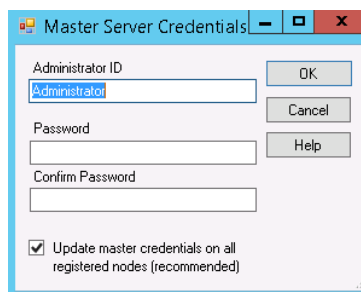
- 1 From the Master server, MiCollab AM server, or Desktop platform on which you have installed the Digital Networking Configurator, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.



- 2 Enter the **Administrator ID** of the Master server.

**NOTE** The default **Administrator ID** is Administrator, and the default **Password** is empty [blank].

- 3 Click **Load Configuration** to ensure the credentials are accurate. The configuration activity displays at the bottom of the console.
- 4 Go to **File > Master Credentials**.



- 5 Enter the new **Administrator ID** and **Password**, and then enter the password again to **Confirm Password**.
- 6 Leave the **Update master credentials on all registered nodes [recommended]** box checked to propagate the change of credentials to all existing nodes.

**NOTE** If you uncheck this box and then update the credentials, you must update the credentials separately on all existing nodes.

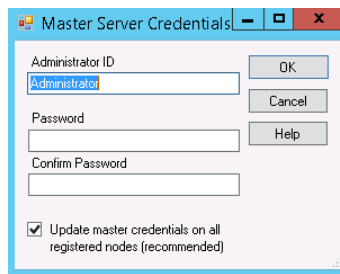
- 7 Click **OK**. The new credentials are now entered into the Digital Networking Configurator automatically. However, you must still enter the new password.

## To update the master credentials after building the network:

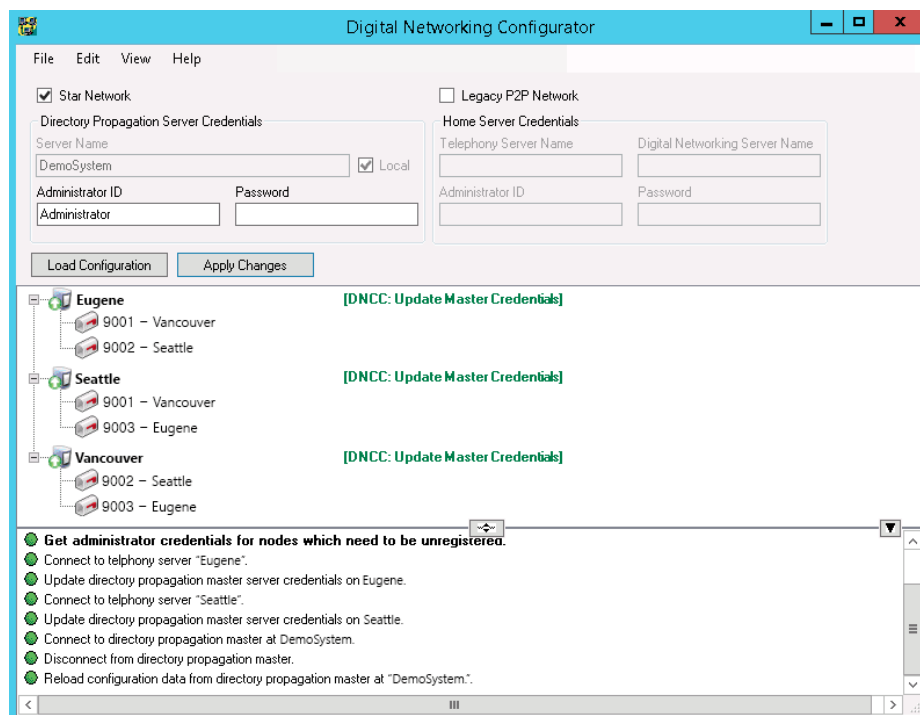
- 1 From the Master server, MiCollab AM server, or Desktop platform on which you have installed the Digital Networking Configurator, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.
- 2 Enter the **Administrator ID** of the Master server.

**NOTE** The default **Administrator ID** is Administrator, and the default **Password** is empty [blank].

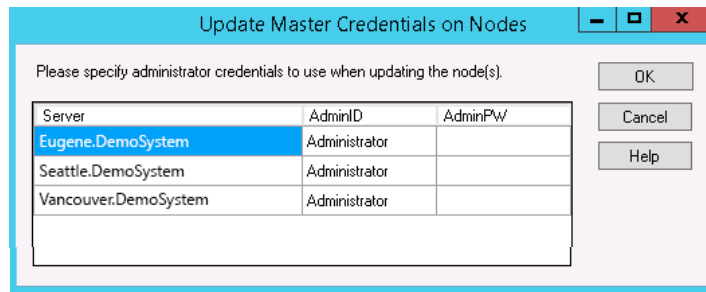
- 3 Click **Load Configuration** to ensure the credentials are accurate. The configuration activity displays at the bottom of the console.
- 4 Go to **File > Master Credentials**.

A dialog box titled "Master Server Credentials" with a standard Windows window border. It contains three text input fields: "Administrator ID" (with "Administrator" entered), "Password", and "Confirm Password". To the right of the "Administrator ID" field are three buttons: "OK", "Cancel", and "Help". Below the input fields is a checkbox labeled "Update master credentials on all registered nodes (recommended)" which is checked.

- 5 Enter the new **Administrator ID** and **Password**, and then enter the password again to **Confirm Password**.
- 6 Leave the **Update master credentials on all registered nodes [recommended]** box checked to propagate the change of credentials to all existing nodes. If you uncheck this box and then update the credentials, you must update the credentials separately on all existing nodes.
- 7 Click **OK**. The credentials change is queued up.

The main window of the "Digital Networking Configurator" application. It has a menu bar with "File", "Edit", "View", and "Help". Below the menu bar are two sections: "Directory Propagation Server Credentials" and "Home Server Credentials". The "Directory Propagation Server Credentials" section has a "Server Name" field (containing "DemoSystem"), a "Local" checkbox (checked), and "Administrator ID" and "Password" fields. The "Home Server Credentials" section has "Telephony Server Name" and "Digital Networking Server Name" fields, and "Administrator ID" and "Password" fields. Below these are "Load Configuration" and "Apply Changes" buttons. The main area shows a tree view of the network topology with nodes labeled "Eugene", "Seattle", and "Vancouver", each with sub-nodes like "9001 - Vancouver" and "9002 - Seattle". To the right of the tree, green status messages indicate "[DNCC: Update Master Credentials]". At the bottom is a console window with a list of tasks: "Get administrator credentials for nodes which need to be unregistered.", "Connect to telphony server 'Eugene'.", "Update directory propagation master server credentials on Eugene.", "Connect to telphony server 'Seattle'.", "Update directory propagation master server credentials on Seattle.", "Connect to directory propagation master at DemoSystem.", "Disconnect from directory propagation master.", and "Reload configuration data from directory propagation master at 'DemoSystem'."

- Click **Apply Changes**. The **Update Master Credentials on Nodes** window displays.



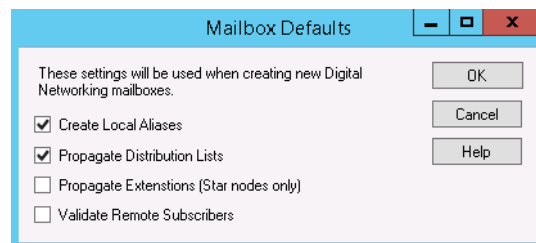
- In the **AdminPW** field, re-enter the same password you used for the Master Credentials so that your global user administrator account is synchronized (and you are not prompted for it for each node).
- Click **OK**.

## Setting the Mailbox Defaults

The Digital Networking Configurator provides you with some level of control as to how you want to handle certain aspects of the propagation. These defaults are applied as you add new items to nodes.

### To set the mailbox defaults:

- From the Digital Networking Configurator, go to **Edit > Digital Networking Mailbox Defaults**. The Mailbox Defaults window displays



- Select any of the following:
  - **Create Local Aliases** - Select this box to allow the local System Server to create local alias mailboxes for the remote System Server's subscribers.
  - **Propagate Distribution Lists** - Select this box to send information about the local System Server's distribution list mailboxes to the remote System Server and to accept the corresponding information from the remote System Server.
  - **Propagate Extensions (Star nodes only)** - Select this box to automatically propagate all extensions when a new digital networking mailbox is added to a node. The extensions are propagated from this node with the new digital networking mailbox to all of the remaining nodes in the network.
  - **Validate Remote Subscribers** - Select this option if the System Server should verify remote mailbox numbers before allowing subscribers to record messages
- Click **OK**.

## Installing the Digital Networking Master Feature File

With the Star network architecture, only one node needs to have the feature file in order to activate the Digital Networking Master. The remaining nodes are authenticated against this one feature file through the Digital Networking Configurator, which displays the **Licensing Node** name, **Serial Number**, **Dealer**, and **Customer** of the node where the feature file is installed.



Figure 5. License Information

However, until the feature file is installed, Digital Networking Configurator displays *No License Present*.

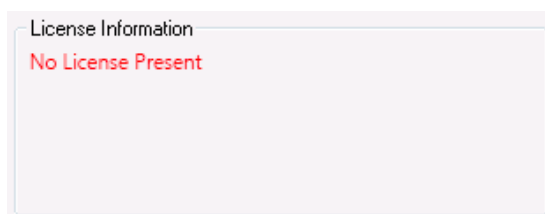


Figure 6. No license present

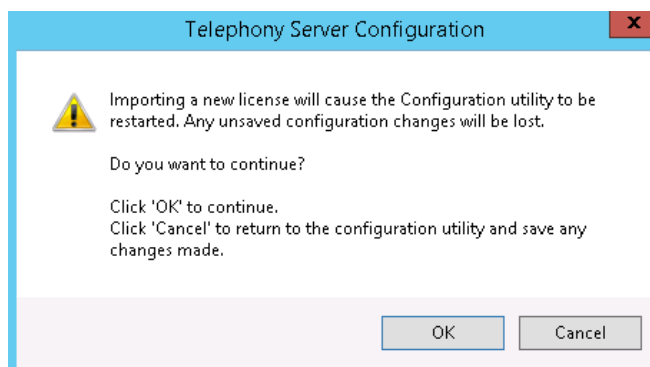
You should be given a new feature file when you purchase digital networking, and you must copy this file to the server on which you intend to install it.

### To install the feature file:

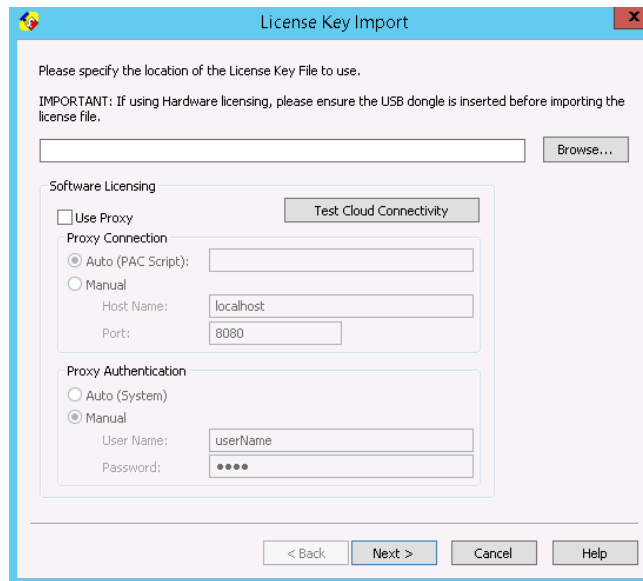
- 1 From a MiCollab AM server platform, go to **Start > Programs > MiCollab AM Desktop > MiCollab AM Configuration**. The MiCollab AM System Configuration module displays.
- 2 On the **System** tab, select **Shutdown** to stop the telephony services.

**NOTE** Shutting down the services stops all telephony activity on the server. Therefore, you should perform this task only during a period of low activity, such as after hours or on the weekend.

- 3 Once the **Current Status** displays **Stopped**, select the **Features** tab, and then click **Import New License**. A warning message displays.



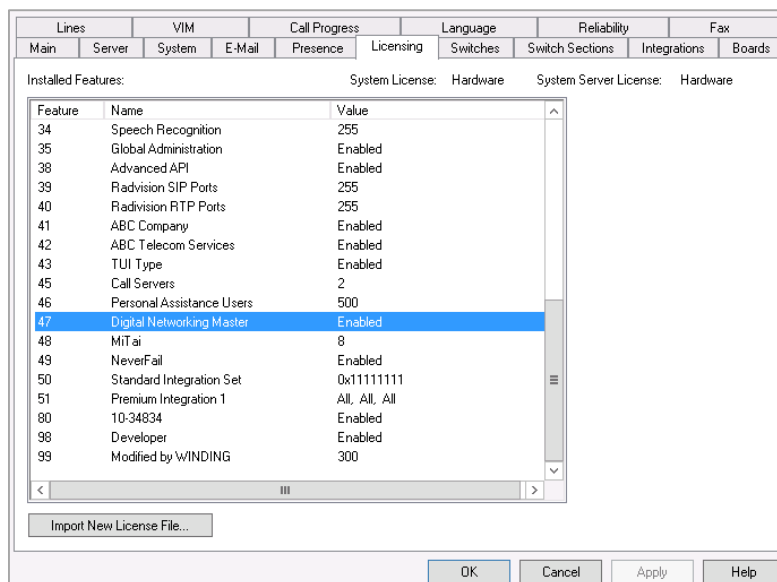
- 4 Click **OK**. The **License Key Import** window displays.



The **License Key Import** window is a dialog box with a blue title bar. It contains the following elements:

- A text box for the license key file location, with a **Browse...** button to its right.
- A section titled **Software Licensing** containing:
  - A **Test Cloud Connectivity** button.
  - A **Use Proxy** checkbox.
  - A **Proxy Connection** section with radio buttons for **Auto (PAC Script)** (selected) and **Manual**. Below these are text boxes for **Host Name** (containing "localhost") and **Port** (containing "8080").
  - A **Proxy Authentication** section with radio buttons for **Auto (System)** and **Manual** (selected). Below these are text boxes for **User Name** (containing "userName") and **Password** (containing "\*\*\*\*").
- Navigation buttons at the bottom: **< Back**, **Next >**, **Cancel**, and **Help**.

- 5 Click the **Browse...** button, navigate to the new feature file that you copied over to the server, and then click **Open** to select the file.
- 6 Click **Import**. Once the import process completes, the import succeeded message displays.
- 7 Click **OK**. The MiCollab AM System Configuration module closes automatically.
- 8 Go to **Start > Programs > MiCollab AM Desktop > MiCollab AM Configuration** once more to launch the MiCollab AM Configuration utility.
- 9 Select the **Features** tab, and then scroll through the list of Installed Features to verify that feature number **47 Digital Networking Master** is enabled.



The **Features** tab in the MiCollab AM Configuration utility displays a table of installed features. The table has three columns: **Feature**, **Name**, and **Value**. The feature **47 Digital Networking Master** is highlighted in blue and is set to **Enabled**. Other features include **Speech Recognition**, **Global Administration**, **Advanced API**, **Radvision SIP Ports**, **Radvision RTP Ports**, **ABC Company**, **ABC Telecom Services**, **TUI Type**, **Call Servers**, **Personal Assistance Users**, **MiTai**, **NeverFail**, **Standard Integration Set**, **Premium Integration 1**, **10-34834**, **Developer**, and **Modified by WINDING**.

| Feature | Name                      | Value         |
|---------|---------------------------|---------------|
| 34      | Speech Recognition        | 255           |
| 35      | Global Administration     | Enabled       |
| 38      | Advanced API              | Enabled       |
| 39      | Radvision SIP Ports       | 255           |
| 40      | Radvision RTP Ports       | 255           |
| 41      | ABC Company               | Enabled       |
| 42      | ABC Telecom Services      | Enabled       |
| 43      | TUI Type                  | Enabled       |
| 45      | Call Servers              | 2             |
| 46      | Personal Assistance Users | 500           |
| 47      | Digital Networking Master | Enabled       |
| 48      | MiTai                     | 8             |
| 49      | NeverFail                 | Enabled       |
| 50      | Standard Integration Set  | 0x11111111    |
| 51      | Premium Integration 1     | All, All, All |
| 80      | 10-34834                  | Enabled       |
| 98      | Developer                 | Enabled       |
| 99      | Modified by WINDING       | 300           |

At the bottom of the window, there is an **Import New License File...** button and navigation buttons: **OK**, **Cancel**, **Apply**, and **Help**.

**NOTE** If you do not see the feature listed, contact your account representative to receive the appropriate feature file.



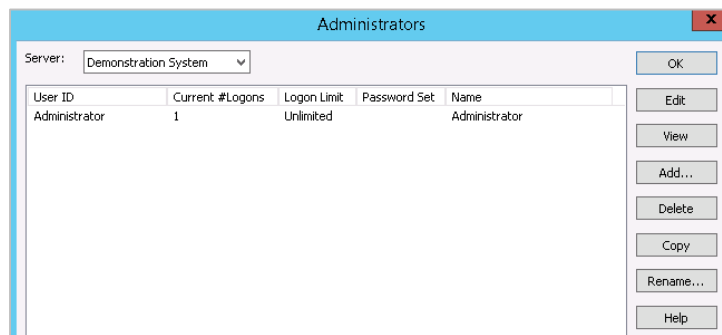
- 10 Click the **System** tab, and then click **Startup** to start the telephony services once more.
- 11 **Migrate** or **Add** this node to the Star network in order to activate the Digital Networking Master feature key. The master detects the file automatically just by the node being present in the network.

## Creating a Global User Administration Account

The Digital Networking Configurator requires a Global User Administration account in order to access each node and propagate accordingly. Before you can add a node to the digital network, you must create the Global User Administration account on the node.

To create a global user administration account:

- 1 From the MiCollab AM node server platform, go to **Start** > **Programs** > **MiCollab AM Desktop** > **MiCollab AM Admin**. The Logon to Telephony Server prompt displays.
- 2 Enter your **User ID** and **Password**, and then click **OK**. The MiCollab AM Admin utility displays.
- 3 Go to **File** > **Administrators**. The Administrators window displays.



- 4 Click **Add**. The User ID window displays.

- 5 Enter the **User ID**, **Name**, and **Password**, and then **Confirm** the password.
- 6 Select the **Unlimited** box next to Logon Limit so that the account has unlimited access to create the necessary propagation items.
- 7 Under Access Levels, select **Enterprise Logon Allowed**, **Digital Networking Admin access**, and **Mailbox access** to ensure the account has adequate privileges required to create propagation items. You'll notice that the Mailbox Types selections update according to the Access Levels you select.
- 8 Click **OK**, and then click **OK** once more at the Administrators window.
- 9 Repeat this process for each node so that the Digital Networking Configurator has sufficient access to the entire network.
- 10 You must also enter this account into the Digital Networking Server configuration utility for each node.

## Creating the Universal Digital Networking Mailbox

Each digital networking mailbox handles both incoming and outgoing voice mail with its network node. However, if a digital networking server has inter-vendor support installed and receives a valid message for a local subscriber, it will forward that message to the system server whether or not the system server has a digital networking mailbox established for the system server or voice mail system the message came from.

To accommodate such messages, you should create a universal digital networking mailbox. This mailbox will make sure that messages from unknown remote nodes get to your subscribers; however, the sender data is lost when a message arrives from the universal mailbox, so subscribers will not be able to reply to the sender.

**NOTE** The existence of a universal digital networking mailbox will not enable local subscribers to send new messages to other voice mail systems that are not part of the existing network.

The universal digital networking mailbox is simply a digital networking mailbox with all of its options blank. As seen in the example below, it is specifically important to keep the following boxes cleared:

- System Server Domain Name
- Include in Subscriber Directory
- Digital Networking Domain Name
- Remote Serial Number
- Correspondent
- Validate Remote Subscribers

Also, be sure to set the **Remote Mailbox Length** value for the mailbox to **10**.

Digital Networking Mailbox - Demonstration System

Number: 8003 Name: Portland TTS Name:

Speech Recognition Names  
☒ Allow Name Recognition Speech Alias...

☐ Include in Subscriber Directory ☐ Correspondent  
☐ Validate Remote Subscribers ☐ Create Local Aliases  
☐ VPIM Compatible Network ☐ Propagate Dist. Lists  
☐ Allow Enterprise Logons ☐ Use Relay Server

Directory Propagation Mode  
☒ Legacy Peer-to-peer Remote Telephony Server:   
☐ Star Topology

Remote Mailbox Length: 4 Send Prefix:   
Remote Serial Number: Self-Registration Addr:   
Digital Networking Server Name: Remote Directory   
Telephony Server Name:

| ID | Name | File |
|----|------|------|
| 1  |      |      |

Buttons: OK, Cancel, Extensions..., Prefixes..., Refresh..., Help...

Figure 7. Digital Networking Mailbox setting example

Once you have created this mailbox, be sure to note its number. After you have installed the digital networking server program, you will need to enter this number in the Digital Networking Administration utility.

## Installing the Digital Networking Feature File

The feature file activates the applications that have been purchased, including NetConnect Digital Networking and NetConnect with inter-vendor support (VPIM). Choose the appropriate instructions below for your situation.

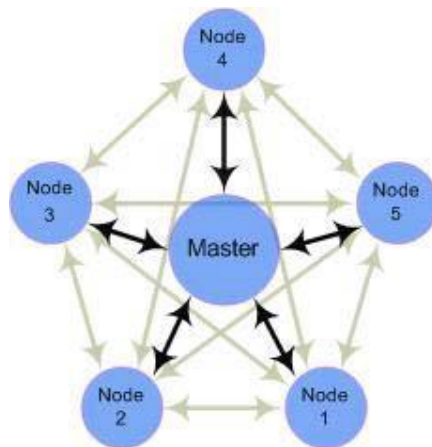


Figure 8. Star Network with Message Delivery

The Digital Networking Server is installed by the same setup program as the MiCollab AM server software. You can install it on the MiCollab AM or on a separate standalone server. After you install the Digital Networking Server software, you must start and configure it before it can exchange any digital network messages.

**NOTE** If you are installing MiCollab AM as well as the digital networking server program, refer to *System Installation Guide* for more information.

## To install the digital networking server program on the MiCollab AM server:

1 Verify MiCollab AM is stopped.

2 Do one of the following:

| If autorun is ... | Then ...                                                        | And ...                     |
|-------------------|-----------------------------------------------------------------|-----------------------------|
| Enabled           | In the MiCollab AM Server dialog box, click MiCollab AM Server. | Skip to <b>Step 4</b> .     |
| Not enabled       | On the Start menu, click Run..., then click Browse....          | Continue to <b>Step 3</b> . |

3 Locate and open the Server **Installs\Telephony Server** folder, then double-click **Setup.exe** and click **OK**.

4 At the **Welcome** dialog box, click **Next**.

5 At the **Software License Agreement** dialog box, review the license agreement and click.

6 At the **License Information** dialog box, review the information and click **Next** to continue.

7 At the **Select Hardware Support Components** dialog box, select any necessary components and click **Next**.

8 At the **Select Components** dialog box, select **Digital Networking** and **Digital Networking Configurator**, verify the **Destination** Folder, and click **Next**.

**NOTE** The Digital Networking Configurator is required to manage your network if you plan to use directory propagation.

9 Do one of the following:

| If you are ...                                              | Then ...                                                                    |
|-------------------------------------------------------------|-----------------------------------------------------------------------------|
| Installing NetConnect digital networking for the first time | In the Username box, type Administrator and continue with <b>Sstep 10</b> . |
| Upgrading NetConnect digital networking                     | Skip to <b>Sstep 11</b> .                                                   |

10 Leave the **Password** and **Confirm Password** boxes blank and click **Next**.

11 At the **Start Copying Files** dialog box, review the list of your selections, then click **Next** to continue.

12 Continue the installation as detailed in *System Installation Guide*.

## To install the digital networking server program on a server other than the MiCollab AM server:

- 1 Insert the MiCollab AM Installation Media into the appropriate drive of the computer where you want to install the programs.

- 2 Do one of the following:

| If autorun is ... | Then ...                                                                             | And ...                     |
|-------------------|--------------------------------------------------------------------------------------|-----------------------------|
| Enabled           | In the MiCollab AM Server dialog box, click <b>Digital Networking (standalone)</b> . | Skip to <b>Step 4</b> .     |
| Not enabled       | On the Start menu, click <b>Run...</b> , then click <b>Browse...</b>                 | Continue to <b>Step 3</b> . |

- 3 Locate and open the Server **Installs\Digital Networking** folder, then double-click **Setup.exe** and click **OK**.
- 4 At the **Welcome** dialog box, click **Next**.
- 5 At the **Software License Agreement** dialog box, review the license agreement, then click **Yes**.
- 6 At the **Select Components** dialog box, select **Digital Network Administration**.
- 7 At the **Choose Destination Location** dialog box, verify the directory path and click **Next** to continue.

**IMPORTANT** The username and password specified here must be identical in all to an administrator account on the MiCollab AM server. The default administrator account username is Administrator with no password. However, be sure to add a password to the Administrator account at a later time for additional security. Be aware, too, that the password is case-sensitive.

- 8 In the **Username** box, type the ID that you want the digital networking server to use when it logs on to the system server.
- 9 In the **Password** and **Confirm Password** text boxes, type the password of the account whose ID you provided in the previous step, then click **Next**.
- 10 At the **Start Copying Files** dialog box, review the list of your selections, and click **Next** to continue.
- 11 When the **Setup Complete** dialog box appears, click **Finish**.

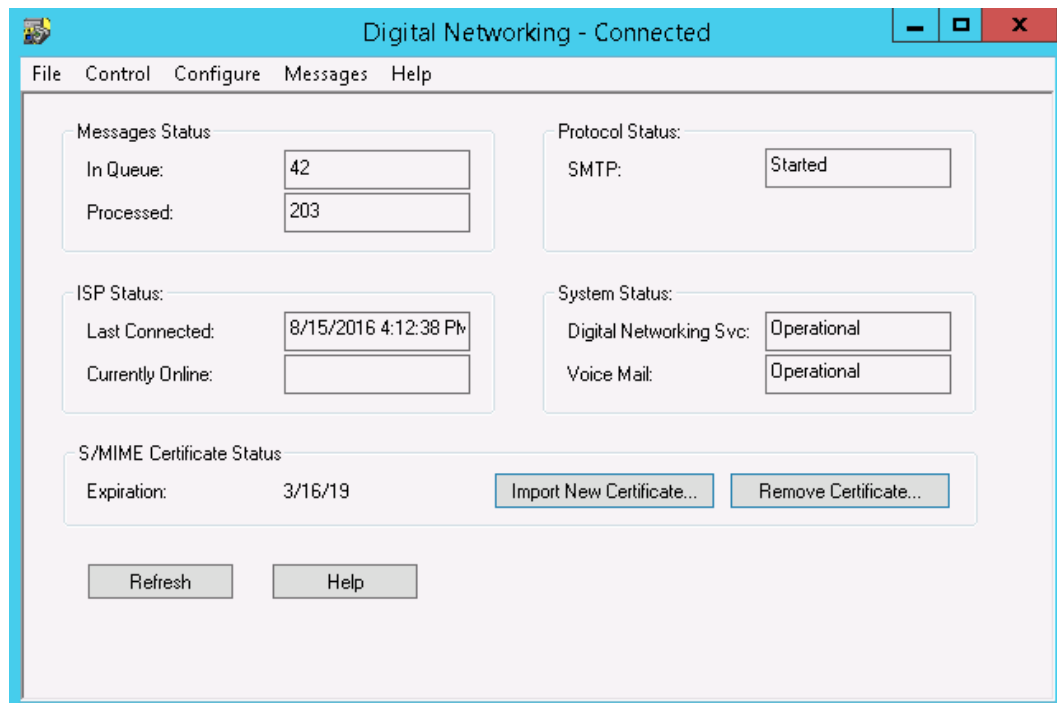
**NOTE** Creating additional administrator accounts is not required. You can skip this section if you only use the account created at initial setup.

# Configuring the Digital Networking Server

Once you have the Digital Networking Server installed on a system server or standalone server, you need to configure a few items to make it operational.

To configure the digital networking server:

- 1 Log onto the server on which you installed the Digital Networking Server, and then go to **Start > Programs > MiCollab AM Desktop > Digital Networking**. The **Digital Networking** server window displays.



This window shows the following information about the digital networking server:

- **Messages Status – In Queue:** Number of incoming and outgoing messages queued for transmission.
- **Messages Status – Processed:** Number of messages transmitted and received in all sessions.
- **Protocol Status:** The current status of ESMTP protocol on the server.

**NOTE** The **SMTP** box in the **Protocol Status** group and both boxes in the **System Status** group should read **Operational** under normal circumstances. The SMTP box in the **Protocol Status** group will read **Started**.

- **ISP Status – Last Connected:** The times of day that the server last established and broke contact with the ISP.
- **ISP Status – Currently Online:** The amount of time the server has been connected to the ISP in the current session.
- **System Status:** The current status of the system server and the digital networking server.

**NOTE** The **SMTP** box in the **Protocol Status** group and both boxes in the **System Status** group should read **Operational** under normal circumstances. The SMTP box in the **Protocol Status** group will read **Started**.

- **S/MIME Certificate Status:** S/MIME certificate is used for VPIM messages to encrypt the contents of the message.

**NOTE** The Digital Networking system enabled with S/MIME:

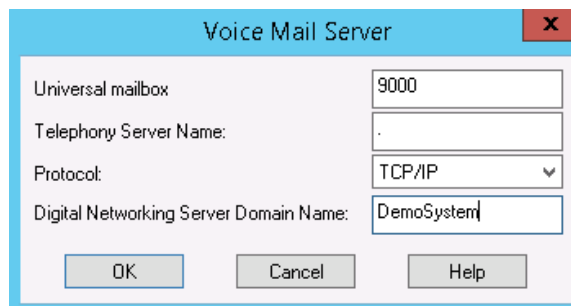
- Can only communicate with other Digital Networking servers that are also configured for S/MIME and are members of the same Digital Networking network.
- Does not support multiple Digital Networking servers per MiCollab AM server.

- **Expiration:** Displays the expiration date of the certificate.

**NOTE** MiCollab AM will continue to use the certificate and encrypt the messages even if the certificate has expired, but Mitel encourages that you renew the certificate when it expires.

- **Import New Certificate:** Browse and import a new certificate–key pair.
- **Remove Certificate:** Remove the current certificate.

- 2 Go to **Control > Start Digital Networking** to start the server. It can take a few moments for the services to run, so wait until you see **Started** in the **Protocol Status** area.
- 3 Go to **Control > Automatic Startup** to allow the server to run automatically if the machine is rebooted. Otherwise, you'll need to start it manually again.
- 4 Go to **Configure > Voice Mail Server**. The **Voice Mail Server** window displays.



- 5 Complete the fields using the following definitions:
  - **Universal Mailbox** - Enter the number of the universal digital networking mailbox on your site's system server. The universal mailbox is used to route messages that originate from unknown system servers.
  - **Telephony Server Name** - Enter the fully qualified domain name that identifies the system server platform on the LAN. If you are installing the Digital Networking Server on the system server platform, type a single period (.).
  - **Protocol** - Select the protocol the Digital Network Server uses to communicate with the system server. If you are installing the Digital Networking Server on the system server platform, select Named Pipes.

- **Digital Networking Server Domain Name** - Enter the fully qualified domain name of the computer that is to receive digital networking messages as they arrive. If your site uses a direct connection, this domain name is the one assigned to the digital networking server itself; if your site uses a dialup connection, the domain name belongs to the ISP's server.

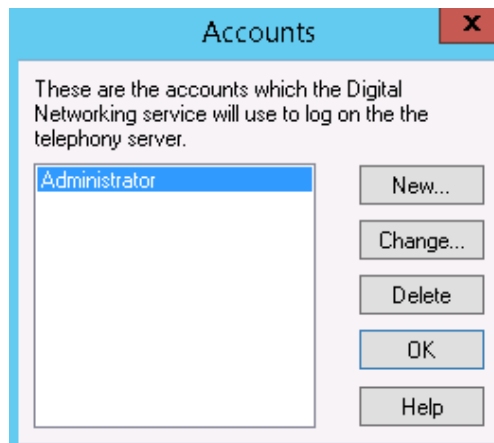
**IMPORTANT** If the local digital networking server receives its messages from a corporate email host server, either onsite or at the ISP, the Digital Networking Server Domain Name box should contain the domain name of the corporate email host computer.

This is true whether the email host transmits messages to the local digital networking server through a direct connection or through a dialup connection.

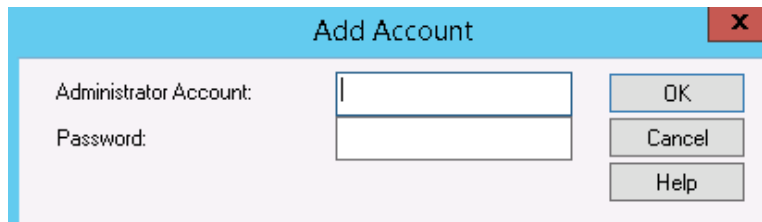
The Digital Networking Server Domain Name box holds the address where replies to outbound messages should be sent. If the site directs all incoming mail to a common email host computer, that is where the replies should go.

6 Click **OK**.

7 Go to **Configure > Accounts**. The **Accounts** window displays.



8 Click **New**. The **Add Account** window displays



9 Enter the **Administrator Account** name and **Password** you have setup as the Global User Administration account, and then click **OK**. The Digital Networking Server is now operational.

10 Repeat this procedure for each Digital Networking Server in your network.



## Using the Digital Networking Configurator

The Digital Networking Configurator provides the ability to view, configure, and monitor your digital network.

The Digital Networking Configurator can be installed and run on any computer able to communicate with the fully qualified domain name of the Master Server. You do not need to have MiCollab AM installed on the computer from which you run the Digital Networking Configurator. See [Installing the Digital Networking Configurator](#) for more information.

Below are the Digital Networking Configurator icons and their descriptions.















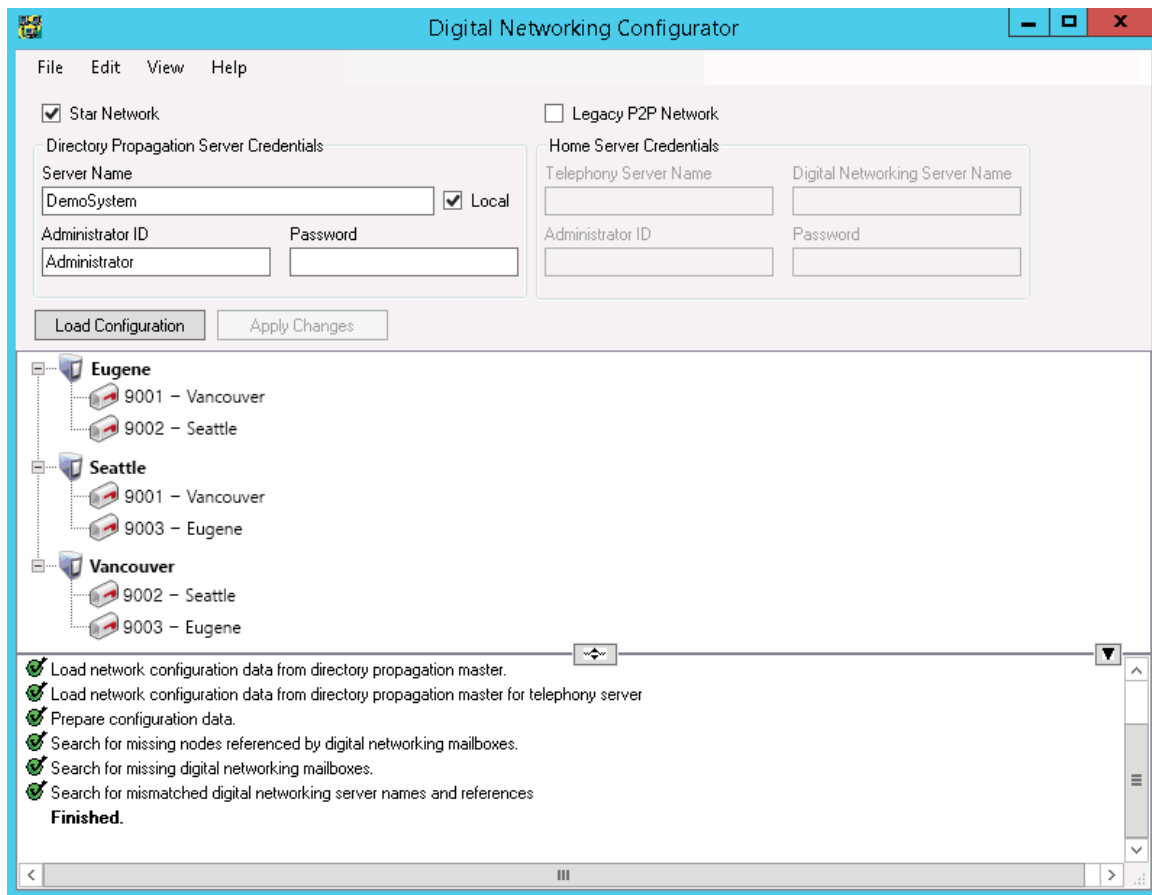
| Peer-To-Peer Network Icons                                                                                            | Star Network Icons                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  Peer-to-peer Node                   |  Star Node                  |
|  Peer-to-peer Mailbox                |  Star Mailbox               |
|  Peer-to-peer Mailbox to be Added    |  Star Mailbox to be Added   |
|  Peer-to-peer Mailbox to be Deleted  |  Star Mailbox to be Deleted |
|  Peer-to-peer Node to be Migrated    |  Star Node to be Added      |
|  Peer-to-peer Mailbox to be Migrated |  Star Node to be Deleted    |
|  Non-correspondent Node              |                                                                                                              |
|  Non-correspondent Mailbox          |                                                                                                              |




Figure 9. Peer-to-Peer and Star Network Icons

**NOTE** If you have not already done so, be sure to use the Digital Networking Configurator to set up the master server prior to using the Digital Networking Configurator.

### To use the Digital Networking Configurator:

- 1 Go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator** to launch the Digital Networking Configurator.



- 2 Check either or both of the **Master** or the **Legacy P2P** boxes, and enter the proper server credentials.
- 3 Click **Load Configuration** to display the latest network topology. The area at the bottom of the panel displays the status and progress of activities.
  - Use the slider  to expand and shrink this area.
  - Likewise, you can close or open this area by clicking the  down arrow or the  up arrow respectively.

**NOTE** If you select an action that you do not wish to execute, you can click **Load Configuration** without clicking **Apply Changes** to clear the action and return to your original configuration.

- 4 If you have a number of nodes to review, go to **Edit > Collapse All Nodes** to fold all of the mailboxes under their parent Node. This option allows you to see more nodes without scrolling down.
- 5 Alternatively, you can collapse a single node by doing any of the following:
  - Right-click on the node and select **Collapse This Node**
  - Right-click on a mailbox and select **Collapse Parent Node**
  - Double-click on the node icon

- 6 To expand a node, do any of the following:
  - Go to **Edit > Expand All Nodes**
  - Right-click on the node and select **Expand This Node**
  - Double-click on the node icon
- 7 If you need assistance with the Digital Networking Configurator select **Help** to launch the online help system, where you can select individual topics by navigating the left-hand margin. In addition, you can click the **Search** tab and enter any terms or phrases you want to search for.

## Adding a Node Using the Digital Networking Configurator

You can add a node using the Digital Networking Configurator, or you can use the Directory Propagation tab in the System Configuration from MiCollab AM Admin. See [Adding a Node Using the Administrator Client](#) for more information on the latter option.

A major benefit of adding nodes through Digital Networking Configurator is that the configurator also attempts to create the digital networking mailboxes pointing to and from all other nodes in the network, a requirement for digital networking.

**NOTE** When adding a Node, the Node must be online and registered with the Master server. However, other nodes already on the network do not necessarily need to be online. The digital networking mailbox (DNMB) add changes are held in queue on the Master until the corresponding nodes come online again.

### To add a node using the Digital Networking Configurator:

- 1 Launch the Digital Networking Configurator and go to **Edit > Add a New Node to the Network**. The **Add Node** window displays.

The screenshot shows the 'Add Node' dialog box. It has a title bar with the text 'Add Node' and standard window controls (minimize, maximize, close). The dialog contains the following fields and controls:

- Telephony Server Name:** A text input field.
- Digital Networking Server Name:** A text input field.
- Administrator:** A text input field with a dropdown menu showing 'Administrator'.
- Password:** A text input field.
- Name:** A text input field.
- Designated Mailbox ID:** A text input field.
- Recorded Name:** A text input field.
- Serial Number:** A text input field.
- Buttons:** 'OK', 'Cancel', 'Help', and 'Browse...'.
- Check the Nodes to which you want to add a link to this new node:** A list of nodes with checkboxes:
  - ☒ Eugene
  - ☒ Seattle
  - ☒ Vancouver

2 Complete the panel as follows:

- **Network Address** - the fully qualified domain name used for sending propagation information over the network.
- **VPIM Network Address** - the fully qualified domain name used for sending messages over the network.
- **Administrator** - the MiCollab AM administrator ID on the node server.
- **Password** - the MiCollab AM administrator password on the node server.
- **Name** - the MiCollab AM system name of the node server entered on the System tab of the MiCollab AM Configuration utility. This field is not input-enabled.
- **Designated Mailbox** - the mailbox number each node uses to build the correspondents.

**NOTE** as you tab or click through the fields, the Node is polled for relevant information. As a result, you may see the expected number of digits displayed in the field name.  
Example: (4 digits)

- **Propagation Mode** - use the drop-down list to select between one of three choices—Star, Legacy P2P, or Non-correspondent. Star adds the node as a component of the Star topology. Legacy P2P adds the node as a component of the P2P network with propagation enabled. Non-Correspondent adds the node as part of the P2P network, but with propagation disabled. A Non-Correspondent may be part of a MiCollab AM network without propagation, or the new node may be a third-party messaging server that does not support MiCollab AM directory propagation.
- **Serial Number** - the MiCollab AM serial number of the node server determined by the license file loaded into MiCollab AM Configuration. This field is not input-enabled.

**NOTE** As you click or tab through the fields, the Digital Networking Configurator queries the Node and auto-fills any information it can detect.

3 The list of nodes at the bottom of the panel shows check marks next to the existing nodes for which the Digital Networking Configurator will create correspondent mailboxes.

If the Node being added is a non-correspondent, the list of nodes at the bottom of the panel allows you to choose which of the existing nodes you want the Digital Networking Configurator to create a non-correspondent mailboxes pointing to this new node.

- 4 Click **OK**. If the login information is incorrect, a failure prompt displays.
- 5 Click **OK** and enter the correct login information. When you have entered the correct login information, the new node appears on the **Digital Networking Configurator** window along with the corresponding digital networking mailboxes.
- 6 Click **Apply Changes** to add the node to the network.

**NOTE** The changes are not applied until you click **Apply Changes**. You can click Load Configuration to undo the addition.

# Migrating a Peer-To-Peer Network

The Digital Networking Configurator provides a legacy migration process to upgrade your existing peer-to-peer (P2P) network to a Star network. However, prior to migrating the network, you must complete the following two pre-requisites:

- You must have your Master Server installed and configured in order to receive the data from the migrated nodes.
- You must upgrade each Node Server to version 6.1 of MiCollab AM to allow the nodes to communicate in a star network.

Once you have satisfied these pre-requisites, you may begin the migration.

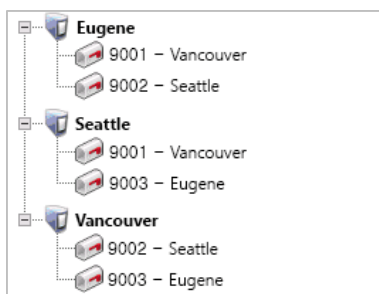
**NOTE** A MiCollab AM upgrade is not required for legacy peer-to-peer servers to operate in the digital network; these servers may continue to operate with their existing hardware and software configurations as long as they are not migrated to become Star nodes. The Digital Networking Configurator is designed to handle such mixed-mode environments.

## To migrate a peer-to-peer network:

- 1 From a system server platform on which you have installed the Digital Networking Configurator, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.

**NOTE** You should not try to run the Digital Networking Configurator from the Master server during the migration process. Since the Master server processes the migration data, it should be dedicated to that task solely.

- 2 Check the **Legacy P2P Network** box, and then enter the **Home Server Credentials** from your existing network.
  - **Telephony Server Name** - The fully qualified domain name of one of the system servers in your existing network.
  - **Digital Networking Server Name** - The fully qualified domain name of one of the existing digital networking server in your network.
  - **Administrator ID** - The global administrator logon name for the system server.
  - **Password** - The global administrator password for the system server.
- 3 Click **Load Configuration** to gather the configuration details of your existing peer-to-peer network. The topology of the network displays, including all Nodes and associated Mailboxes. In this example, we see three Legacy P2P Nodes, each with two corresponding mailboxes.



- 4 Check the **Star Network** box, and then enter the credentials of your Master server.

If you are running the Digital Networking Configurator on the directory propagation server itself, the **Local** box is checked, and the **Server Name** displays automatically-both of which are not input-enabled. However, if you are running the Digital Networking Configurator from a MiCollab AM server, enter the Directory Propagation Credentials.

- **Server Name** - The fully qualified domain name of one of the Master server.
- **Administrator ID** - The administrator logon name for the Master server. The default is Administrator.
- **Password** - The administrator password for the Master server. The default is blank (no password).

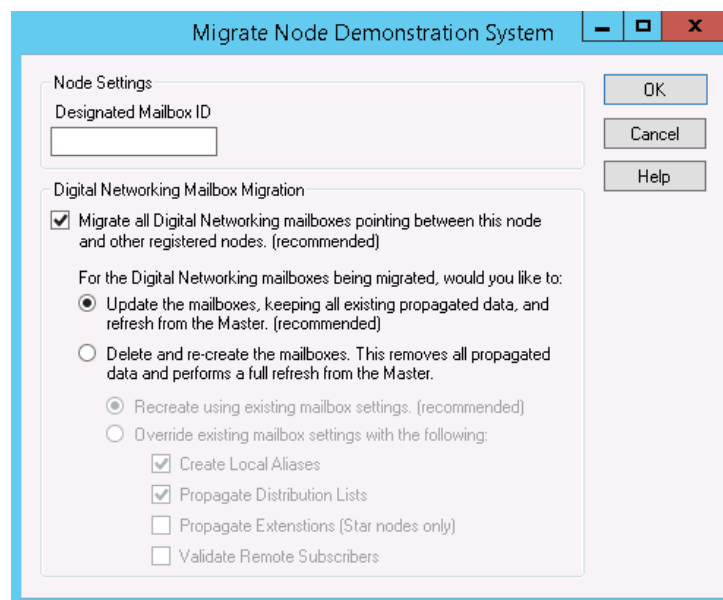
- 5 Click **Load Configuration** once more to ensure the Master server credentials are accurate. With both the **Legacy P2P Network** and **Star Network** boxes checked and credentials successfully entered, you are now operating in *mixed mode*, which is required to migrate the network.

- 6 Right-click on a Node and select **Migrate P2P Node [name] to Star**. The Node is marked for migration.

**NOTE** If you select the Home Server, a prompt displays stating that the Home Server must be the last Node migrated.



- 7 Click **OK**, and then select a different Node to migrate first. The **Migrate Node** window displays.



- 8 Confirm that the **Designated Mailbox ID** is correct, and then select the appropriate **Digital Networking Mailbox Migration** settings.

- **Migrate all Digital Networking mailboxes pointing between this node and other registered node. [recommended]** - This selection is recommended so that the Digital Networking Configurator performs all of the migration tasks automatically rather than you having to move each mailbox one at a time manually.
- **Update the mailboxes, keeping all existing propagated data, and refresh from the Master. [recommended]** - This selection is recommended so that all of the propagated data is converted from legacy to Star automatically. For example, local aliases are not removed; they are updated as Star local aliases. You should use this option unless directed otherwise by Technical Support.
- **Delete and re-create the mailboxes. This removes all propagated data and performs a full refresh from the Master.** - Do not select this option unless directed to do so by Technical Support.

9 Click **OK**. The node and corresponding mailboxes are now marked for migration.



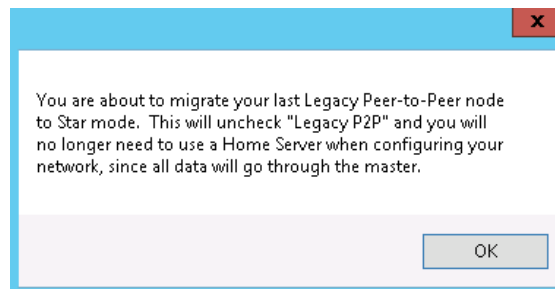
10 Click **Apply Changes** to migrate the node. The propagation of all data associated to this node--local aliases, distribution lists, and subscribers--now begins. Depending on the complexity of the node, the propagation process may take some time to complete.

**IMPORTANT** You must click **Apply Changes** prior to starting the next Node migration. However, you do not need to wait for the migration to complete before migrating another Node. You can go to **View > Network Status** to monitor the migration process.

11 Right-click on the next Node, and then select **Migrate P2P Node [name] to Star**.

12 Repeat this process for each Legacy P2P Node until you have only the Home Server left to migrate.

13 Right-click on the Home Server Node, select **Migrate P2P Node [name] to Star**. A prompt displays telling you that you are migrating your final Node and that all data will now flow through the Master Server.



14 Click **OK**. The **Legacy P2P Network** box is now unchecked.

- 15 Click **Apply Changes**. After a few moments—depending on the complexity of the network—the migration to a Star Network is complete.

**NOTE** The Digital Networking Configurator supports mixed networks - Legacy P2P Nodes with Star Nodes. You do not necessarily need to migrate the entire network at the same time.

## Viewing the Status of the Network

Since the master server is the gateway for all propagation data from node to node, the Digital Networking Configurator is able to provide a status view of the entire network.

To view the status of the network:

- 1 From the Digital Networking Configurator, go to **View > Network Status**. A split-screen window displays, the top portion of which indicates activity occurring on the Master server.

The screenshot shows the 'Digital Networking Configurator' application window. The top menu bar includes 'File', 'Edit', 'View', and 'Help'. Below the menu, there is a 'Star Network' checkbox which is checked. To the left, under 'Directory Propagation Server Credentials', there are fields for 'Server Name' (containing 'DemoSystem'), 'Administrator ID' (containing 'Administrator'), and 'Password'. To the right, under 'License Information', there are fields for 'Licensing Node' (Seattle), 'Serial Number' (4000000000000), 'Dealer', and 'Customer'. Below these fields, there is a 'Refresh Now' button, a 'Refresh Speed' dropdown menu set to 'Normal (5 secs)', a green dot icon, and the text 'Master Status: Waiting for next poll' and 'Master's Current CN: 29'. The main area of the window displays a table with the following data:

| Telephony Server | CN Received | Last Connect Time     | Result | Sub / DL / DN | Progress |
|------------------|-------------|-----------------------|--------|---------------|----------|
| Seattle          | 68730       | 2/17/2016 11:01:39 AM | OK     | 1 / 0 / 1     | Idle     |
| Eugene           | 68727       | 2/17/2016 11:01:39 AM | OK     | 0 / 0 / 1     | Idle     |
| Vancouver        | 68727       | 2/17/2016 11:01:39 AM | OK     | 0 / 0 / 1     | Idle     |

Below the table, there is a 'Telephony Server Status' section. It includes a 'Refresh Now' button, a 'Refresh Speed' dropdown menu set to 'Manual', a green dot icon, and a 'Clear' button. Below this, there is another table with the following data:

| Telephony Server | Current... | CN Received | Time Since Last Connect | Result | Current Activity | Progress |
|------------------|------------|-------------|-------------------------|--------|------------------|----------|
|------------------|------------|-------------|-------------------------|--------|------------------|----------|

- 2 Use the **Refresh Speed** drop-down menu to select the frequency with which you want the status information to display. The green dot pulsates according to this frequency setting.
- 3 Alternatively, click **Refresh Now** to update the display immediately.



4 From the Master Server status area you can view the following columns of information:

- **Telephony Server Node** - The name of the node in the network.
- **CN Received** - The individual change numbers received from the nodes. New change numbers are created for every single mailbox change on each MiCollab AM server, such as a mailbox being deleted, a mailbox name changed, or a greeting changed. Every time the Master polls a given node, it passes the change number of the last change number it received from that node. In return, the node provides any that are more recent. In a network where no changes are occurring, the change numbers remain stagnant.
- **Last Connect Time** - The time stamp for the last time the node was polled by the master.
- **Result** - The status of the connectivity between the master and node.
- **Sub/DL/DN** - Propagated mailbox counts reported by the master for Subscribers / Distribution Lists / Digital Networking Mailboxes.
- **Progress** - When activity is underway between the master and the node, a progress bar displays. Otherwise, the status is indicated as Idle.

5 Double-click on a node to add it to the lower portion of the split-screen view, which indicates activity on the telephony server nodes.

Each node shows a green dot next to its name. If a node happens to go offline, the dot next to its name goes from green to red.



- 6 Use the **Refresh Speed** drop-down menu to select the frequency with which you want the status information to display. The green dot pulsates according to this frequency setting.
- 7 Alternatively, click **Refresh Now** to update the display immediately.
- 8 From the **Telephony Server Status** area you can view the following columns of information:
  - **Telephony Server Node** - The name of the node in the network.
  - **Current CN** - The change record being processed at the moment.
  - **CN Received** - The individual change numbers received from the nodes.
  - **Time Since Last Connect** - The time stamp for the last time the node was polled by the Digital Networking Configurator.
  - **Result** - The status of the connectivity between the Digital Networking Configurator and the node.
  - **Current Activity** - Indicates the nature of the activity, if any, being monitored.
  - **Progress** - When activity is underway between the Digital Networking Configurator and the node, a progress bar displays. Otherwise, the status is indicated as Idle.
- 9 You can view up to five nodes at one time. Click **Clear** to remove all current nodes from the Telephony Server Status area if you need to add additional ones.
- 10 Alternatively, double-click individual nodes to remove them one at a time.

**IMPORTANT** The change records between the Master and the Nodes should match if no activity is underway in either area. Any mismatches indicates that you may have orphaned propagation items, in which case you should contact Technical Support for assistance.

- 11 Go to **View > Network Configuration** to return to the network configuration view.

## Testing a Network Application

You should test the network application to make sure that it works correctly before announcing its availability to your subscribers.

### To test the network application:

- Send one test voice message and one test fax message to each remote node.
- Have each remote node send voice and fax messages to the local node.

If any of these tests fails for a remote node, verify that the following settings are properly configured:

- The remote node's Internet domain name
- Both nodes' connections to their ISPs
- The connection between the digital networking server and the system server at each node
- The connections between the digital networking server and the relay server at each node that uses a relay server
- The configuration and operating status of the relay server at each node that uses one

**NOTE** Once the network passes these test and is fully operational, make sure you create a restoration script so that you can recover your network in the event of a disaster. For more information, see [Creating a Restoration Script for Disaster Recovery](#).

# Maintaining the Nodes

This section includes various maintenance tasks you may need to complete to keep your node servers running smoothly. These tasks are listed in no particular order, nor do they need to be completed in sequence.

- Logging on to a node
- Adding a node using the Administrator client
- Removing a node from the digital network
- Changing the registration credentials
- Updating the nodes with the current Master credentials
- Recording names for remote mailboxes
- Updating distribution lists
- Managing custom views

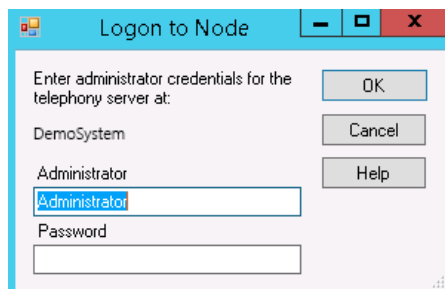
## Logging on to a Node

Legacy nodes require a global administrator account in order for the Digital Networking Configurator to connect to them. The Digital Networking Configurator provides Administrator ID and Password fields for this purpose; however, the various global administrator accounts may not all have the same Administrator ID and Password. You may need to log on to each node separately when running the Digital Networking Configurator.

### To log on to a node:

- 1 From a MiCollab AM server platform, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.
- 2 Enter the server credentials, and then click **Load Configuration**.

The Digital Networking Configurator tries to connect to each node one at a time. If any of the nodes have global administrator credentials that do not match what you entered into the Digital Networking Configurator, the **Logon to Node** prompt displays.



- 3 Enter the **Administrator** name and **Password**, and then click **OK**. You may see this prompt more than once, depending on the number of nodes with unique logon credentials.

**NOTE** You may want to take note of the name of the server node so that you can update the global administrator credentials and avoid this prompt in the future.

## Adding a Node Using the Administrator Client

You can register a node to the master server using either the Administrator Client or the Digital Networking Configurator. See [Adding a Node Using the Digital Networking Configurator](#) for more information on the latter option.

### To add a node using the Administrator Client:

- 1 Logon to the Node and go to **Start > Programs > MiCollab AM Desktop > MiCollab AM Admin** to launch the Administration utility.
- 2 Logon to MiCollab AM Admin with an Administrator username and password.
- 3 From MiCollab AM Admin, go to **System > Configuration** to open the **System Configuration** panel, and then click the **Directory Propagation** tab.

The screenshot shows the 'System Configuration -' window with the 'Directory Propagation' tab selected. The window has a menu bar with options: Call Routing, Schedule Override Rules, Locations, Callout, Dialing, Environment, Networking, Messaging, Timing, Directory, SMS / SMTP, and VIM. Below the menu bar are sub-tabs: Speech, Group Management, Availability Sources, Availability Announcements, and Directory Propagation. The main content area is divided into two sections: 'Directory Propagation Server Credentials' and 'Telephony Server Credentials'. The 'Directory Propagation Server Credentials' section includes fields for 'Registration Status' (Unregistered), 'Connection Status' (Success), 'Server Name' (empty), 'Logon ID' (empty), and 'Logon Password' (empty), with a 'Change' button. The 'Telephony Server Credentials' section includes fields for 'Connection Status' (Success), 'Server Name' (BVT2k12Install6.blvu.avstlabs.local), 'Administrator ID' (empty), 'Administrator Password' (empty), 'Digital Networking Server Name' (empty), 'Serial Number' (4000000000000), and 'Designated Mailbox ID' (empty), with a 'Change' button. There are also 'Register...' and 'Unregister...' buttons at the bottom. A 'Licensing Server' section on the right includes a 'Server Name' field and a 'Set this server as Licensing Server...' button. A 'Propagation Settings...' button is also present. The window has standard 'OK', 'Cancel', 'Apply', and 'Help' buttons at the bottom right.

- 4 Complete the Directory Propagation Server Credentials as follows:
  - **Registration Status** - Identifies whether or not the Node is registered with the Master Server. This field is not input enabled.

- **Connection Status** - Identifies whether or not the Node is able to communicate successfully with the Master Server (i.e., the credential are correct and data is able to pass back and forth). This field is not input enabled.
- **Server Address** - The fully qualified domain name of the Master Server. The Node uses this address to communicate with the Master Server.
- **Logon ID** - The identification name used on the Master Server.
- **Logon Password** - The password used on the Master Server.

**NOTE** These credentials are the same that are entered in the Master Setup panel on the Digital Networking Configurator. See [Configuring the Master Server](#).

**5** Complete the Telephony Server Credentials.

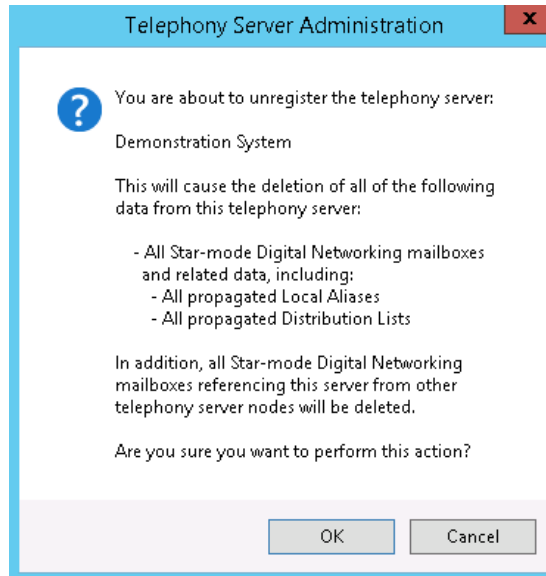
- **Server Address** - The fully qualified domain name of the Node (system server).
- **Administrator ID** - The administrator identification name which the Master Server uses to create mailboxes and other administrator-level tasks.
- **Administrator Password** - The administrator password the Master Server uses to create mailboxes and other administrator-level tasks.
- **VPIM Address** - The fully qualified domain name of the digital networking VPIM server (may be the same as the system server).
- **Serial Number** - The system serial number. This field is not input enabled.
- **Designated Mailbox ID** - The mailbox number each node uses to build the correspondents.

**NOTE** As you tab or click through the fields, the Node is polled for relevant information. As a result, you may see the expected number of digits displayed in the field name. Example: (4 digits)

- 6** Click **Register** to register the Node to the Master Server. If successful, a confirmation message displays.
- 7** Click **OK** to complete the registration process. However, if your registration is unsuccessful, an error message displays.
- 8** Click **OK**, and then and correct the credentials before attempting to register again.

## To unregister a node from the Master Server:

- 1** Logon to the Node and go to **Start > Programs > MiCollab AM Desktop > MiCollab AM Admin** to launch the Administration utility.
- 2** Logon to MiCollab AM Admin with an Administrator username and password.
- 3** From MiCollab AM Admin, go to **System > Configuration** to open the **System Configuration** panel, and then click the **Directory Propagation** tab.
- 4** Click **Unregister**. A message displays warning that all related mailboxes and data - on this Node, on other Nodes with digital networking mailboxes referencing this Node, as well as the Master - will be deleted.



- 5 Click **OK**. If successful, a confirmation message displays.
- 6 Click **OK** to complete the unregistration process.

## Removing a Node or Mailbox from the Digital Network

A digital network is comprised of nodes and their correspondent mailboxes.

**IMPORTANT** You should run the Autodetect Missing Elements option each time you make a change to your digital network to ensure that all necessary digital network components are identified.

### To remove a node:

- 1 Right-click on the Node you want to remove, and then select **Remove this Node from the Network**. The node is marked for removal.



- 2 Click **Apply Changes** to remove the node permanently. The node disappears from the configurator.

### To remove a mailbox:

- 1 Right-click on the Mailbox you want to remove, and then select **Delete Mailbox [mailbox name] from [node name]**. The mailbox is marked for removal.



- 2 Click **Apply Changes** to remove the mailbox permanently. The mailbox disappears from the configurator.

**NOTE** If you make a mistake and mark the wrong node or mailbox for deletion and if you have not yet clicked the **Apply Change** button, you can click **Load Configuration** to return to your previous network configuration.

## Changing the Registration Credentials

Once a Node is registered with the Master Server, the credentials for both the Node and the Master Server are static (not input enabled). However, you may find that the settings need to be updated.

To change the registration credentials:

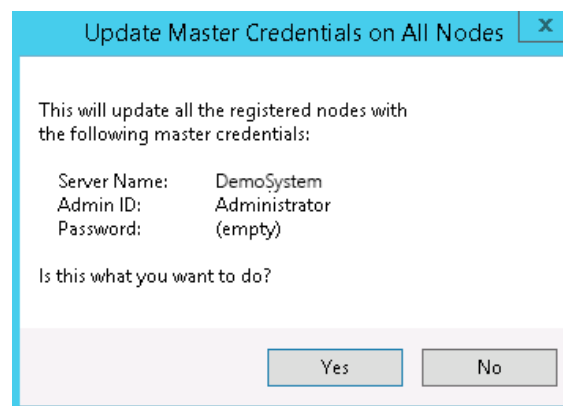
- 1 Logon to the Node and go to **Start > Programs > MiCollab AM Desktop > MiCollab AM Admin** to launch the Administration applet.
- 2 Logon to MiCollab AM Admin with an Administrator username and password.
- 3 From MiCollab AM Admin, go to **System > Configuration** to open the System Configuration panel, and then click the **Directory Propagation** tab.
- 4 Under the Master Server Credentials or Telephony Server Credentials areas, click **Change**. The fields are now input enabled.
- 5 Make any necessary changes to the settings, and then click **Commit Changes**.

## Updating the Nodes with the Current Master Credentials

In the event that a node was offline while you updated the Master credentials, or you didn't select the option to update the nodes with the Master credentials, you need to update the credentials on all of the registered nodes in order to have them communicate with the Master server.

To update the nodes with the current master credentials:

- 1 From the Digital Networking Configurator, go to **File > Update Nodes with Current Master Credentials**. The Update Master Credentials on All Nodes displays.



- 2 Click **Yes**. The changes are queued up in the Digital Networking Configurator display.
- 3 Click **Apply Changes**. A second **Update Master Credentials on All Nodes** displays.



| Server               | AdminID       | AdminPW |
|----------------------|---------------|---------|
| Eugene.DemoSystem    | Administrator |         |
| Seattle.DemoSystem   | Administrator |         |
| Vancouver.DemoSystem | Administrator |         |

- 4 Enter the **AdminPW** for each node, and then click **OK**. The Digital Networking Configurator processes the changes on all of the registered nodes.

## Recording Names for Remote Mailboxes

You can record a name for each network-related mailbox you create. You should also record names of the remote subscribers listed on the directory screens of standard and digital networking mailboxes.

**IMPORTANT** If mailbox propagation is installed and activated on your network, you will only need to record the names of the network-related mailboxes on the local node. When a node propagates a mailbox, it also propagates the name recording for that mailbox. Note also that although you can record a name for a local alias mailbox propagated from another node, your recording will be overwritten if the name recording for the originating subscriber mailbox is changed.

To record remote mailbox names, open your own subscriber mailbox in MiCollab AM Admin and select **Record Mailbox Names** on the Features tab. Then save the changes. At this point, you can dial into the server from any telephone and change the name recording on any of its mailboxes.

Be aware that the process for recording names is different for network mailboxes than for other mailboxes. After you enter the network mailbox number, the system server gives you two options:

- Pressing 1 to record the mailbox name; or
- Pressing 2 to record the name of a remote subscriber.

**NOTE** When you press 2, you must enter the subscriber's mailbox number before making the recording.

The recorded name for a network mailbox should describe the location of the corresponding remote node. This location is usually a city or an office name; it should make sense when inserted into the sentence *Enter the mailbox of the person in (location) to whom your message should be sent*.

When recording names for local alias mailboxes, you may want to record both the person's name and location—for example, *Donna Wilson in New York*. Subscribers using the network will find this information helpful because it confirms that they have the correct person.

To save time, instead of recording names for remote subscribers, import the recorded names from remote nodes, which are recorded in that person's voice. The system administrator at the remote node can export and then import the information.

## Updating Distribution Lists

When networking is installed, the Distribution List Mailbox dialog box allows you to include remote-site mailbox numbers in your local distribution lists. When you create or edit a distribution list, a list of all the local alias, analog network, digital networking, and AMIS mailboxes you have created are provided; simply double-click on the mailboxes you want to add.

For detailed information on setting up a distribution list, press the **F1** key while the list is active, or click **Help**.

## Managing Custom Views

If you have several MiCollab AM servers and mailboxes in your network, you can organize them with one or more custom views. A custom mailbox type view enables you to display only certain types of mailboxes across servers. A custom server view not only enables you to display certain servers, but it also enables you to connect only to those servers.

The **Servers**, **Mailbox Types**, and **Correspondents** tabs also have additional functionality to further manage your views. On the **Servers** and **Mailbox Types** tabs, you can add, edit, and delete views as well as set a default view.

Also, by selecting the **Display Default View Only** check box, you can narrow your view in the **Server** or **Mailbox Types** pane to only the view selected.

On the **Correspondents** tab, you can specify the mailbox types that download for each server and the maximum number of correspondent servers that connect when you log on to MiCollab AM Admin.

The following procedures explain how to create and delete custom views for both servers and mailbox types.

**IMPORTANT** You must have the **Global User Administration** feature enabled to access these settings.

**NOTE** Custom views must be set up on each server. When you log on to a remote server, you will see the custom server views you defined on that server. However, the custom views for mailbox types will be the same as the ones on the local server.

### To create a custom view:

- 1 Start MiCollab AM Admin and log on to the server.
- 2 From the View menu, select **Custom View Configuration...**
- 3 Continue according to the view you want to create.

| If you want to create a custom ... | Then ...                            |
|------------------------------------|-------------------------------------|
| Server View                        | Click the <b>Server</b> tab.        |
| Mailbox View                       | Click the <b>Mailbox Types</b> tab. |

- 4 Click **Create**.
- 5 In the **View Name** box, type an appropriate name.
- 6 In the left column, select the servers or mailboxes you want to include in the view and click **Add**.
- 7 When you are finished creating your custom view, click **OK**.
- 8 To exit the **Custom View Configuration** dialog box, click **OK**.
- 9 To delete a custom view:

- a Start MiCollab AM Admin and log on to the server.
- b From the **View** menu, select **Custom View Configuration....**
- c Continue according to the view you want to delete.

| If you want to delete a custom ... | Then ...                            |
|------------------------------------|-------------------------------------|
| Server View                        | Click the <b>Server</b> tab.        |
| Mailbox View                       | Click the <b>Mailbox Types</b> tab. |

- d In the **Views** list, select the view you want to delete, then click **Delete**.
- e To confirm the deletion, click **OK**.
- 10 To exit the **Custom View Configuration** dialog box, click **OK**.

**NOTE** You can also select **Custom View Configuration** from the shortcut menu by right-clicking in the **Mailbox Types** or **Server** pane.

# Maintaining the Master Server

This section includes various maintenance tasks you may need to complete to keep your Master server running smoothly. These tasks are listed in no particular order, nor do they need to be completed in sequence.

- Creating a restoration script for disaster recovery
- Loading a restoration script for disaster recovery
- Running daily maintenance
- Restoring the master server from a backup
- Auto-detecting missing elements
- Exporting a script to file for editing
- Updating the master credentials
- Migrating the Master

## Creating a Restoration Script for Disaster Recovery

One of the most powerful features of the Star network architecture is the ability to restore the entire network from a single restoration script. In the event of a disaster--when the Master server goes down--you can recover very quickly by importing a single file. To do that, you must first create the restoration script to load back onto the Master server.

**NOTE** Make sure to create a new restoration script each time you make changes to your digital network. In addition, you should consider copying the file off to an external backup device, such as a thumb drive, in case the server on which you have the file saved fails.

**To create a restoration script:**

- 1 From the Digital Networking Configurator, go to **File > Create Restoration Script**. The **Save Configuration XML** window displays.
- 2 Browse to a location where you want to save the file, enter a **File name**, and then click **Save**.

## Loading a Restoration Script for Disaster Recovery

In the event that your Master server fails, you can recreate your entire digital network from a restoration script, provided you saved the file to a safe location prior to the failure.

Prior to loading the restoration script, you should complete the following tasks:

Make sure the new Master server is rebuilt and fully operational, with the same fully qualified domain name as before

Install the Directory Propagation Server software, allowing the server to reboot and initialize the database

## To load a restoration script:

- 1 From the server on which you have the restoration script saved, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.

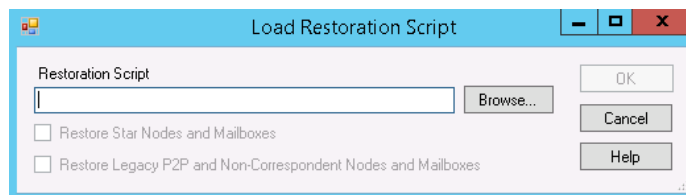
- 2 Enter the default **Administrator ID** of *Administrator* and leave the **Password** empty [blank].

**NOTE** You are using the default credentials because it has been rebuilt with a fresh database.

- 3 Click **Load Configuration**. The configuration activity displays at the bottom of the console.

**NOTE** No nodes appear at the moment because this is a fresh database with no nodes/mailboxes.

- 4 Go to **File > Load Restoration Script**. The **Load Restoration Script** window displays.

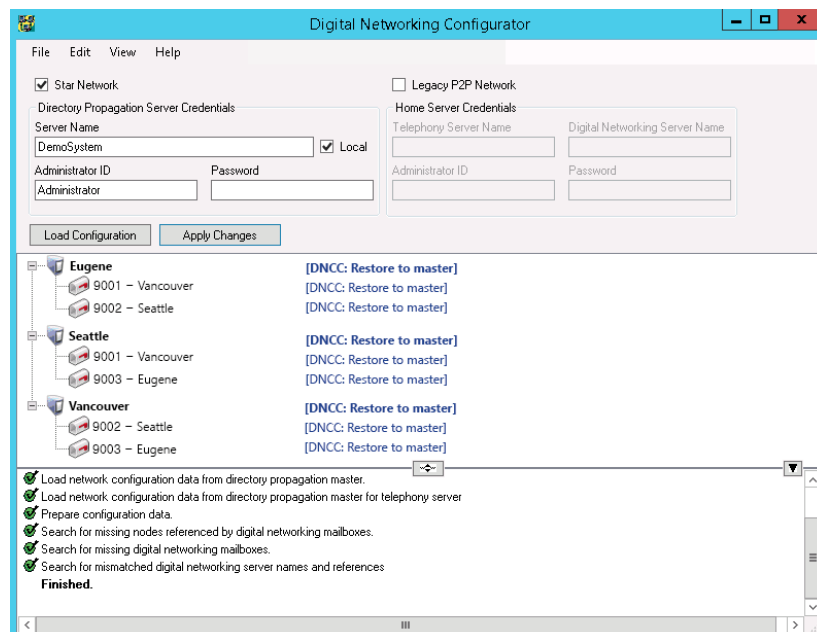


**NOTE** The **Load Restoration Script** is enabled only when the Master server has a newly rebuilt database; if your Master server contains an existing database, the option is grayed out.

- 5 Click **Browse**, navigate to the previously saved restoration script and then double-click on the file.
- 6 Leave the checkbox(es) selected if you want to rebuild your network with the nodes and mailboxes as it was before the failure; otherwise, deselect the checkbox(es).

**NOTE** The restoration process interrogates the restoration file to determine whether it contains Star and/or Legacy network elements and highlights only the applicable checkboxes.

- 7 Click **OK**. The digital network elements are queued up in Digital Networking Configurator.



- 8 Click **Apply Changes**. The **Restore Nodes** window displays.

| Server               | AdminID       | AdminPW |
|----------------------|---------------|---------|
| Eugene.DemoSystem    | Administrator |         |
| Seattle.DemoSystem   | Administrator |         |
| Vancouver.DemoSystem | Administrator |         |

- 9 Enter the **AdminPW** you had previously assigned to each node prior to the failure of the Master server, and then click **OK**.

The digital network is rebuilds now, and you can view the status of the network to monitor the activity.

## Running Daily Maintenance

Daily maintenance on the master server performs the following tasks:

- Deletes unregistered nodes (database records)
- Backs up the Master server
- General cleanup

Daily maintenance runs every day at the specific time; midnight is the default time.

**NOTE** This daily maintenance process is separate and distinct from the MiCollab AM Daily Maintenance.

### To run daily maintenance manually:

- 1 From the Digital Networking Configurator, go to **File > Master Setup**.

Current Status: Unknown

Start Service

Stop Service

☐ Automatic Startup

Daily Maintenance

Maintenance Time: 12:00 AM

Perform Maintenance Now

Backup Path: \\DirPropServer\\backup

Browse...

Poll Frequency: 1 Minutes

- 2 Use the up/down arrows to set the **Maintenance Time** for when you want daily maintenance to run each day.

**NOTE** Daily maintenance can be resource-intensive for large networks; therefore, you should schedule the function to occur during off-peak hours.

- 3 Alternatively, click **Perform Maintenance Now** to run the maintenance processes immediately. You should use this option every time you make configuration changes to your network so that the configuration details are stored in the backup.

## Restoring the Master Server from a Backup

As part of the daily maintenance process, the Master server makes a copy of its database, storing seven rolling copies, based on the day of the week, in the folder specified in the backup path.

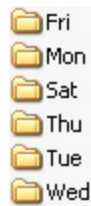


Figure 10. Day of the week backup folders

You can restore the database of the Master server using these backups.

### To restore the master server from a backup:

- 1 From the Master server, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**.
- 2 Go to **File > Master Setup**. The **Directory Propagation Master Setup** window displays.
- 3 Click **Stop Service**. Wait for the **Current Status** message at the top of the window to show **Stopped**. The **Restore** button is now active.
- 4 Click **Restore**. The **Restore Master Database** window displays.
- 5 Click **Browse**, navigate to the folder you identified in the backup path, and then select the folder that represents the day of the week from which you want to restore. Typically you want to pick the most recent copy.
- 6 Click **OK**. A command prompt appears briefly, and then you are notified whether or not your backup was successful.

If the restore was not successful, contact Technical Support for assistance. If the restore was successful, you may still need to complete manual changes to reflect any modifications to the network since the backup ran.

**For example:** You may have added or deleted a node, which requires you to add/delete it using the Digital Networking Configurator.

- 7 On the **Directory Propagation Master Setup** window, click **Start Service**.

## Auto-detecting Missing Elements

In order for a digital network to function properly with MiCollab AM, you must have all nodes and digital networking mailboxes properly configured. The Digital Networking Configurator provides an Autodetect Missing Elements option to allow you to discover the necessary components automatically.

This feature allows you to add nodes and digital networking mailboxes automatically, saving you a great deal of time and ensuring that your digital network is accurately configured.

Below is an example of a digital network with one new node added.

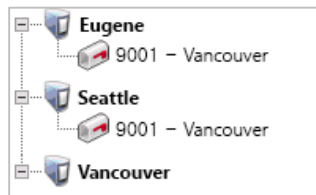
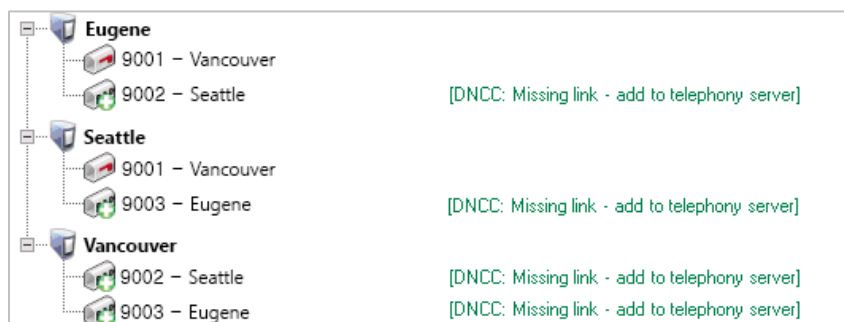


Figure 11. Digital Network with one new node added

You'll notice the new node does not have any correspondent mailboxes, and the original two nodes likewise do not have correspondent mailboxes for the new node.

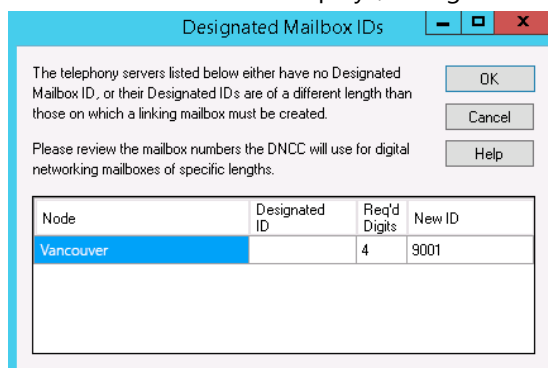
After running the Autodetect Missing Elements option, these missing mailboxes are identified and marked for addition using the default settings from the Digital Networking Mailbox Defaults screen.



So rather than having to create each one manually, you need only click Apply Changes to add these missing elements.

### To auto-detect missing elements:

- 1 Go to **Edit > Autodetect Missing Elements**. If any of the nodes contain different mailbox lengths, the Designated Mailbox IDs window displays, listing all of the required changes.





- 2 Click **OK**. The Digital Networking Configurator now displays the changes, both additions and deletions, depending on the network requirements.
- 3 Click **Apply Changes** to process the changes.

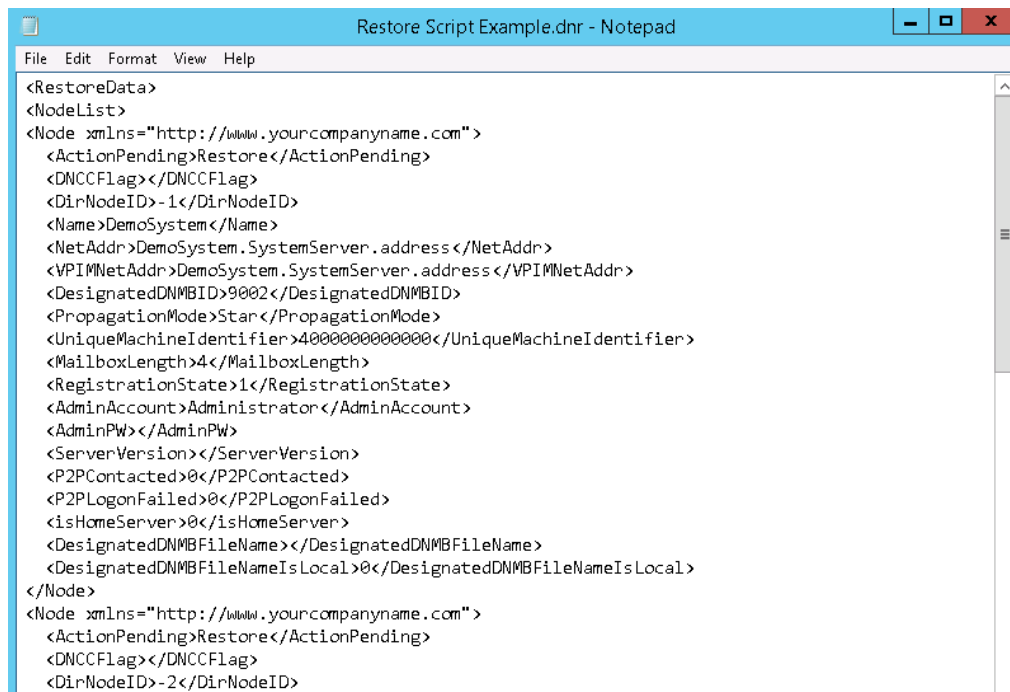
## Exporting a Script to File for Editing

The Digital Networking Configurator provides the ability to export the digital network configuration--the details of all the nodes and mailboxes within the nodes--to an XML file for editing. For example, you may have to maintain a large digital network that has recently had portions of it altered by your IT department and you need to make updates through the Digital Networking Configurator. Rather than edit each element one-by-one, you can export the entire topology to a file and use a find/replace editor to make changes throughout the digital network.

After making those changes, you can then import the file back into the Digital Networking Configurator. This topic covers both of these procedures.

### To export a script to file for editing:

- 1 From the Digital Networking Configurator, go to **File > Create Restore Script**. The **Save Configuration to XML** window displays.
- 2 Browse to a location where you want to save the file, enter a **File name**, and then click **Save**.
- 3 Navigate to the location where you saved the file, right-click on the file, and then go to **Open with > Notepad**. The file displays in the Notepad editor.



```

<RestoreData>
<NodeList>
<Node xmlns="http://www.yourcompanyname.com">
  <ActionPending>Restore</ActionPending>
  <DNCCFlag></DNCCFlag>
  <DirNodeID>-1</DirNodeID>
  <Name>DemoSystem</Name>
  <NetAddr>DemoSystem.SystemServer.address</NetAddr>
  <VPIWNetAddr>DemoSystem.SystemServer.address</VPIWNetAddr>
  <DesignatedDNMBID>9002</DesignatedDNMBID>
  <PropagationMode>Star</PropagationMode>
  <UniqueMachineIdentifier>4000000000000</UniqueMachineIdentifier>
  <MailboxLength>4</MailboxLength>
  <RegistrationState>1</RegistrationState>
  <AdminAccount>Administrator</AdminAccount>
  <AdminPW></AdminPW>
  <ServerVersion></ServerVersion>
  <P2PContacted>0</P2PContacted>
  <P2PLogonFailed>0</P2PLogonFailed>
  <isHomeServer>0</isHomeServer>
  <DesignatedDNMBFileName></DesignatedDNMBFileName>
  <DesignatedDNMBFileNameIsLocal>0</DesignatedDNMBFileNameIsLocal>
</Node>
<Node xmlns="http://www.yourcompanyname.com">
  <ActionPending>Restore</ActionPending>
  <DNCCFlag></DNCCFlag>
  <DirNodeID>-2</DirNodeID>

```

**NOTE** If you have an XML editor installed, you may find that tool more useful than Notepad for editing a large file.

- 4 Overwrite any of the configuration settings as needed, making sure to retain the XML structure. Specifically, do not delete any of the open (< >) or close (< />) brackets. Likewise, do not change any of the XML element names within those brackets. Instead, change the text that resides between the elements.

**For example:**

If the fully qualified domain name of the computer has changed and you need to update it, locate the XML element titled NetAddr and change the text between the open and close brackets:

```
<NetAddr>[change this text]</NetAddr>
```

- 5 When you are finished editing the file, go to **File > Save**, and then close Notepad.

### To import an edited script file:

- 1 From the Digital Networking Configurator, go to **File > Load Restoration Script**. The **Load Configuration from XML** window displays.
- 2 Navigate to the exported file you save in the previous procedure, and then double-click the file to open it.
- 3 The changes are now queued up in the Digital Networking Configurator display.
- 4 Click **Apply Changes** to process the edited script changes.

## Migrating the Master

At some point you may find that you need to migrate your Master server from one machine to another. For example, you might require a hardware upgrade in order to handle additional volume.

### To migrate the master server:

- 1 From the original Master server, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**. The Digital Networking Configurator displays.
- 2 Go to **File > Master Setup**. The **Directory Propagation Master Setup** window displays.  
Run **Perform Maintenance Now** on the original Master to create the backup. Make sure the backup is located where it can be accessed from the new Master server.  
**For example:** You might copy the backup to a network drive.
- 3 Click **Stop Service**. Wait for the **Current Status** message at the top of the window to show **Stopped**. The propagation ceases.
- 4 Uncheck **Automatic Startup** on the Master Setup screen so that the services do not restart when you reboot the original Master server.
- 5 Install Directory Propagation on new Master server, and then reboot if prompted.
- 6 On the new Master server, perform a database restore. See [Restoring the Master Server from a Backup](#) and reference the backup just created from the original Master.
- 7 On the new Master server, go to **Start > Programs > MiCollab AM Desktop > Digital Networking Configurator**. The Digital Networking Configurator displays.

- 8 Go to **File > Master Setup**. The Directory Propagation Master Setup window displays.
- 9 Click **Start Service** on the new Master, and then click **OK**. The Digital Networking Configurator displays.
- 10 Go to **View > Network Status**. The nodes all display as rows in the upper panel.
- 11 Double-click one or more rows to add the respective nodes to the **Telephony Server Status** panel.
- 12 As the statuses refresh, see that the **Result** column shows that the nodes cannot reach the new Master. This status is expected because the nodes are still configured with the original Master server information.

Each node needs to be updated with the new Master server information.

- 13 To do so, go to **View > Network Configuration**, and then click **Load Configuration**.
- 14 Go to **File > Update Nodes with Current Master Credentials**. A confirmation box displays.
- 15 Click **Yes**.
- 16 On the Digital Networking Configurator, click **Apply Changes**.
- 17 Go to **View > Network Status**.
- 18 After the polling completes, the nodes in the **Telephony Server Status** panel soon shows that it can reach the new Master server. The migration is now complete.

# Troubleshooting

The table below lists several common issues and possible solutions related to digital networking.

Table 2. Troubleshooting solutions

| Issue                                                                                                                                         | Possible Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Subscribers and Distribution Lists marked for propagation are not being propagated.                                                           | <p>Check to be sure all three directory propagation services are running on the Master Server.</p> <ol style="list-style-type: none"><li>1 From Windows, go to <b>Administrative Tools &gt; Computer Management</b>.</li><li>2 From the left menu pane of the <b>Computer Management</b> utility, go to <b>Services and Applications &gt; Services</b>.</li><li>3 Check to be sure that the status of all three <b>MiCollab AM Directory Propagation Client / Servers</b> services are shown as <b>Running</b>.</li><li>4 If any are not started, right-click on the service and select <b>Start</b>. Repeat for all three.</li></ol>                                                                                                                                                                 |
| While trying to add, remove, register, or un-register a node from the network, you receive a warning that the action failed.                  | <p>Disable your Windows Firewall.</p> <ol style="list-style-type: none"><li>1 Go to <b>Start &gt; Control Panel &gt; Windows Firewall</b>.</li><li>2 Turn the Windows Firewall <b>Off</b>.</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| While trying to register a Node to a new Master Server, you receive a warning that the node is already registered with another Master Server. | <p>If you are trying to add a node to a Master Server and the node was previously registered to a different Master Server, you must first un-register the node from the existing Master Server before registering it to its new Master Server.</p> <ol style="list-style-type: none"><li>1 To do so, open the administrator System Configuration panel and click the <b>Change</b> button in the Master Server Credentials area. Enter the new Master Server credentials, and then click <b>Commit Changes</b>. A warning message displays stating that the Node is already registered with another Master Server. Click <b>OK</b>. Another message displays prompting you to confirm that you want to <i>forcibly remove</i> the existing directory propagation information from the Node.</li></ol> |

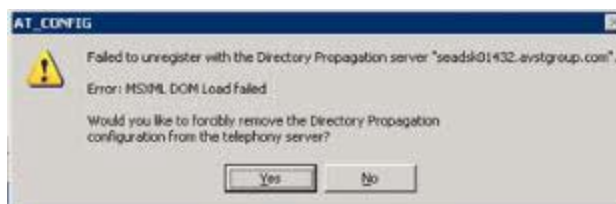


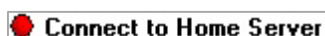
Figure 12. Removal prompt

Click **Yes** to confirm. You can now add the Node to the new Master Server.

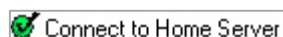
While trying to migrate a node from P2P to Star, you receive a warning that a node does not have the required digital networking privileges (Error code: 4717).

- Click **OK** at the error prompt, and then select **Abort the current process** on the **Task Failure Options** prompt.
- Log on to the node for which you are receiving the error, launch MiCollab AM Admin, and then go to **File > Administrators**.
- Highlight the global user administration account, and click **Edit**.
- Under Access Levels, select the **Admin Configuration access** box, and then click **OK** to close the window. Click **OK** once more to close the Administrators window.
- Try to migrate the node once more.

When you click **Load Configuration**, the Digital Networking Configurator fails to connect to the Home Server.



Verify that the Home Server credentials are correct and that you have checked the **Legacy P2P Network** box.



The **Master Status** screen shows that the master server cannot connect to a node (Last Connect Result and Last Connect Time).

- Try pinging the node from the master server.
- If node network address / domain name has changed, update the **Telephony Server Address** in **Admin Directory propagation** tab.
- Also check that the login credentials are valid. If necessary, update the **Administrator ID / Administrator Password** in the **Administrator Directory Propagation** tab or update the administrator account credentials in the **Administrator** applet.

The Administrator Directory Propagation tab or the Event Viewer on a node shows that the node cannot connect to the master server.

- Try pinging the master server from the node reporting the error.
- If the master network address / domain name has changed, update the **Master Server Address** in the **Administrator** applet **Directory Propagation** tab.
- Also check that the login credentials are valid. If necessary, update the **Master Logon ID** or **Logon Password** in **Administrator** applet **Directory Propagation** tab.

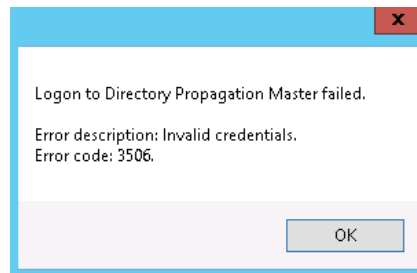
|                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On the Master Status screen in the Last Connect Result column, propagation errors appear due to a database change on a node (re-initialize, mailbox purge, change of mailbox length, etc). | <ul style="list-style-type: none"> <li>• Remove / Add the node through using the Digital Networking Configurator.</li> <li>• Or un-register / re-register the node through <b>Administrator</b> applet <b>Directory Propagation</b> tab.</li> </ul>                                                                                                                                                                                                                                                                                                          |
| You receive an error that you have Mailbox Conflicts.                                                                                                                                      | Use the Administrator applet to correct these conflicts. See <a href="#">Diagnosing and Resolving Mailbox Conflicts</a>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MiCollab AM plays the following prompt: <i>This message was not delivered. All network messages have been returned.</i>                                                                    | <p>The system server attaches this prompt to any message that must be returned to its sender because the network, or a remote node, is not available.</p> <p>To correct this:</p> <ul style="list-style-type: none"> <li>• Check the Digital Networking Server program at the local node.</li> <li>• Make sure that the <b>Digital Networking Svc</b> and <b>Voice Mail</b> status boxes both show a value of <b>Operational</b>.</li> <li>• If a legacy node uses an ESMTP connection, ESMTP should be operational as well.</li> </ul>                      |
| MiCollab AM plays the following prompt: <i>This message was not delivered. Delivery was requested to a non-existent mailbox.</i>                                                           | <p>The system server attaches this prompt to any message that must be returned because the destination mailbox does not exist.</p> <p>To correct this:</p> <ul style="list-style-type: none"> <li>• Verify that the subscriber is using a valid mailbox number and that the destination mailbox still exists at the remote node.</li> </ul>                                                                                                                                                                                                                  |
| MiCollab AM plays the following prompt: <i>This message was not delivered. Delivery was requested to an invalid mailbox.</i>                                                               | <p>The system server attaches this prompt to any message that must be returned because the destination mailbox is of a type that cannot accept voice messages, such as a call processor, or possibly because the destination mailbox does not exist.</p> <p>To correct the problem:</p> <ul style="list-style-type: none"> <li>• Verify that the subscriber is using a valid mailbox number.</li> <li>• If so, make sure the mailbox at the remote node still exists, and that its number has not been reassigned to a different type of mailbox.</li> </ul> |
| MiCollab AM plays the following prompt: <i>This message was not delivered. There was no message space available on the receiving system.</i>                                               | <p>The system server plays this message when the remote node could not accept incoming messages due to insufficient disk space.</p> <p>The subscriber can resend the message again, but should wait until the remote node has corrected the situation by deleting messages or by adding storage capacity.</p>                                                                                                                                                                                                                                                |

# Handling Task Failures

If you run into an error while using the Digital Networking Configurator, you are given options for handling the failure.

- Note the reason for the problem on the error prompt. You can review the list of error codes or the troubleshooting guide to help resolve specific issues. Click **OK**.

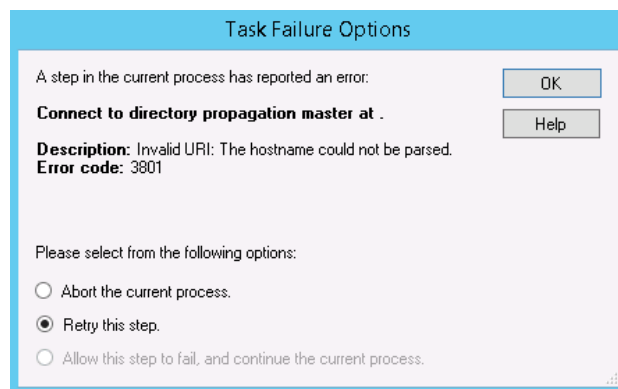
## Example:



- The **Task Failure Options** prompt displays with more specific details about the issue.

## Example:

Invalid credentials errors show the name of the server to which you're trying to connect.



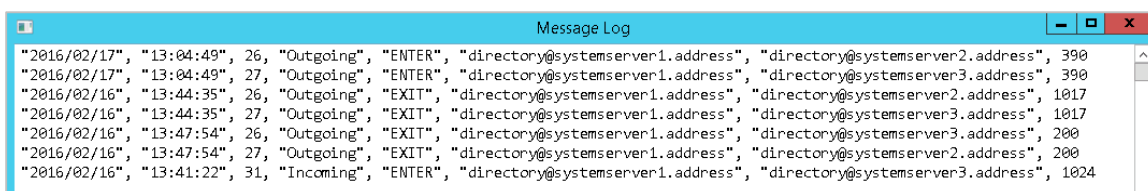
- Select one of the three options at the bottom of the prompt:
  - **Abort the current process** - kills the current command and all commands in sequence, allowing you to fix the error prior to trying again.
  - **Retry this step** - tries the same command once more.
  - **Allow the step to fail, and continue current process** - not always available, this option kills the current command but continues processing other commands in sequence. For example, you may have a node that isn't online when you click Load Configuration. This option allows you to skip over the connection to the offline node and then try connecting to the remaining nodes.
- Click **OK**.

## Examining the Message Log

The Digital Networking Server utility generates a running log that contains all of its transactions with the system server over the previous month. This log enables administrators to verify that the digital networking server is communicating correctly with the system server and the ISP.

### To display the message log:

- 1 Log onto the server on which you installed the Digital Networking Server, and then go to **Start > Programs > MiCollab AM Desktop > Digital Networking**. The **Digital Networking** server window displays.
- 2 Go to **Messages > View Message Log**. The **Message Log** window displays.



The window that appears displays each transaction in the log as a line of text fields, with each text field set off by quotation marks and separated from the other fields by commas. The fields in each line are as follows:

- Date on which the transaction occurred.
- Time at which the transaction occurred, in 24-hour format.
- Order in which the message in this line entered the log.
- Direction: **Outbound** or **Inbound**, with respect to the system server.

This field can also contain the notations DN, which indicates an outbound notification that a voice message was delivered successfully, and NDN, which indicates an outbound notification that a voice message could not be delivered.

- Specific transaction, usually **ENTER**, **EXIT**, or **ERROR**.
- Originating internet address for the message.
- Destination internet address for the message.
- Size of the message.

**NOTE** The exact meaning of the **ENTER** and **EXIT** transactions varies with the direction of the messages those transactions describe.

If a message is **Outbound**, an **ENTER** transaction describes a message entering the digital networking server from the system server; in an **EXIT** transaction, such a message is leaving the digital networking server for the Internet.

If a message is **Inbound**, an **ENTER** transaction means it is entering the digital networking server from the Internet and an **EXIT** transaction means the digital networking server is forwarding it to the telephony server.

- 3 After you have finished examining the log, click the [X] to close the window.



## Reviewing Network Reports

The following MiCollab AM reports can help you track and diagnose digital networking activity:

- The Server Conflicts report provides information about all unresolved server conflicts that can be detected from the local digital networking server.
- The Mailbox Conflicts report lists all mailboxes that are available for administration on the local system server and have their Propagate check boxes selected, but cannot be propagated successfully because other mailboxes exist at the same mailbox number elsewhere in the network.
- The Message Status report displays the status of all messages, including network messages.

For a detailed explanation of these reports, refer to *System Administration Guide*.

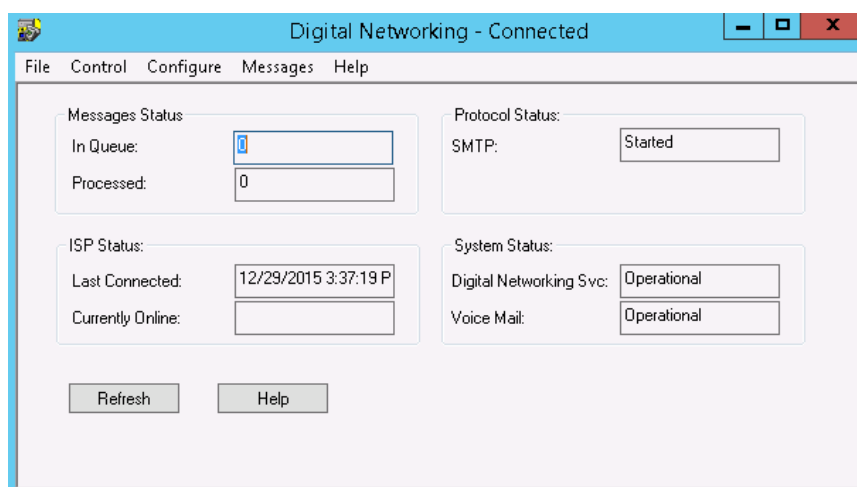
## Outbound Messages Retained in SMTP Format

In addition to its log entries, the Digital Networking Server can also be set to save its outbound messages after converting them to SMTP email format but before actually sending them. This allows you to examine the header fields on each message to look for misspelled addresses; you can also use it to determine whether the outbound messages are larger than an email host in your system can accept.

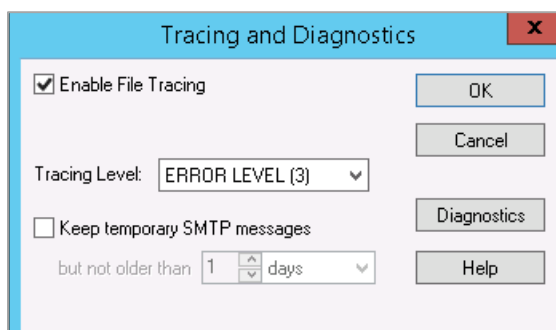
**IMPORTANT** Keep this option disabled unless you are troubleshooting a problem with message delivery. Once messages have been encoded as plain text, which is part of the digital networking process, they can quickly take up large amounts of hard disk space.

To set the digital networking server to retain SMTP messages:

- 1 Log onto the server on which you installed the Digital Networking Server, and then go to **Start > Programs > MiCollab AM Desktop > Digital Networking**. The Digital Networking server window displays.



- 2 Go to **Configure > Tracing and Diagnostics**. The Tracing and Diagnostics window displays.



- 3 Select the **Keep temporary SMTP messages** checkbox.
- 4 Set the options under **But no older than** days to determine when the digital networking server should discard old SMTP messages.
- 5 Click **OK**.

## Diagnosing and Resolving Mailbox Conflicts

A mailbox conflict occurs when the administrator of a system server creates a propagated subscriber or distribution list mailbox with the same number as a mailbox on one of the other servers in the system. When a conflict occurs, a green indicator overlaid with a black M appears on the server list in the MiCollab AM Admin utility next to the name of the server that reported the conflict. The example below shows the appearance of this indicator.



Figure 13. Conflict indicator

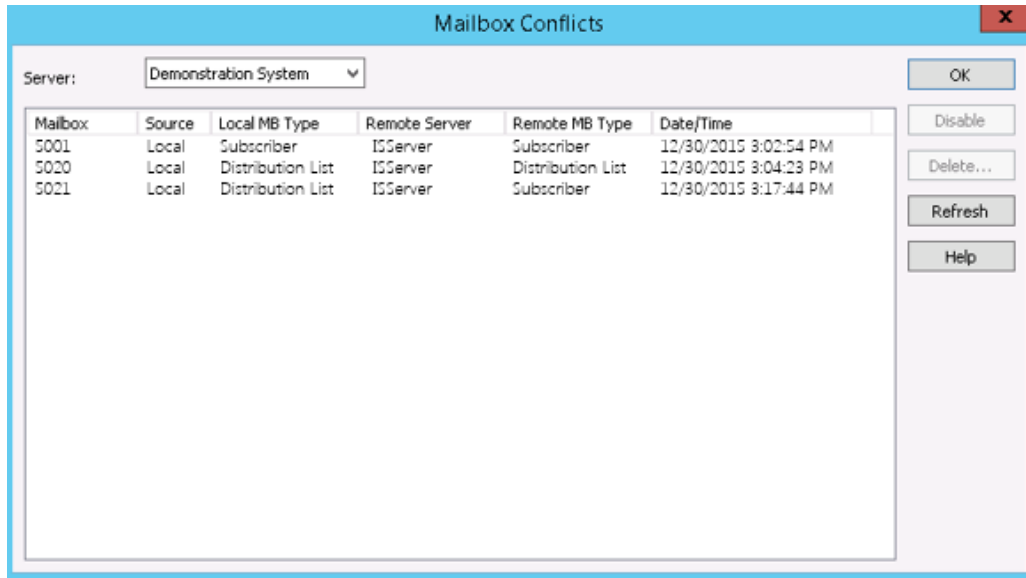
A black M in a green circle indicates a mailbox conflict

Correcting a mailbox conflict usually involves renumbering one of the two conflicting mailboxes or removing it from propagation. To assist with this process, the MiCollab AM Admin utility provides specialized tools for resolving mailbox conflicts.

**NOTE** MiCollab AM Admin uses other indicators to show other types of conflicts and system operation.

### To resolve a mailbox conflict:

- 1 Start MiCollab AM Admin and log on to the system server.
- 2 Go to **File > Conflicts > Mailbox**. The **Mailbox Conflicts** dialog box displays.



- From the **Server** list, select the name of the system server where you want to start resolving the conflict.

**IMPORTANT** A conflict should be resolved before deleted. Deleting a conflict merely removes the information from the display, it does not resolve the conflict.

- Click an entry in the list of active mailbox conflicts, then click a button to attempt to resolve that conflict.

| If you want to ...                                           | Click ... | And ...                                                                                                   |
|--------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|
| Disable propagation of one of the two mailboxes involved     | Disable   | In the dialog box that appears, select which mailbox you want to disable and continue with the next step. |
| Delete the conflict without changing either mailbox involved | Delete... | Continue with the next step.                                                                              |

- If any conflicts remain, click **Refresh** to update the list of active conflicts. If there are still conflicts visible, repeat **Steps 3** through **5** to resolve them.

## Understanding Error Codes

The following table lists error codes and descriptions of those codes.

Table 3. Error Codes

| Error Codes | Description         |
|-------------|---------------------|
| 3506        | Invalid Credentials |

|      |                                                                                                  |
|------|--------------------------------------------------------------------------------------------------|
| 4100 | ECM Error - General connection error                                                             |
| 4102 | Node not reachable                                                                               |
| 4700 | Digital Networking not enabled                                                                   |
| 4701 | This serial number is already registered                                                         |
| 4703 | Logon to the Directory Propagation Master failed                                                 |
| 4704 | The Directory Propagation Master could not be reached                                            |
| 4705 | The System Server is not registered                                                              |
| 4706 | The mailbox already exists                                                                       |
| 4707 | The mailbox was not found                                                                        |
| 4709 | Invalid System Server administrator account                                                      |
| 4710 | Invalid System Server administrator account password                                             |
| 4711 | The System Server could not be reached                                                           |
| 4712 | The System Server address does not refer to the same server that was registered                  |
| 4713 | Invalid Master Server Validation ID                                                              |
| 4714 | A configuration change request is in progress                                                    |
| 4717 | The System server administrator account does not have the required digital networking privileges |
| 4718 | Unregistration failed - a reference to the server still exists                                   |
| 4721 | The System Server has had a database change                                                      |