



## CHAPTER 3

# Monitoring and Maintaining Cisco Unity Failover

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## Starting the Servers in the Correct Order

Start the primary server first, then start the secondary server. If you start the secondary server first, it becomes the active server.

## Determining Which Server Is Active

You can determine which server is active by viewing information in the Failover Monitor on either server. In the Services section, Local Status indicates the status of the server on which you are viewing the Failover Monitor, and Remote Status indicates the status of the other server. [Table 3-1](#) lists the values and their meanings.

**Table 3-1** Meanings of Local Status and Remote Status Values

Value for Local Status or Remote Status	Meaning
Running; Active	The specified server is the active server.
Running; Inactive	The specified server is the inactive server.
Not running; Active	No server is currently active because a required service is not running. However, the specified server will be the active server when you restart the Cisco Unity software.
Not running; Inactive	The specified server is the inactive server. However, if the active server fails, the specified server will not start taking calls because a required service is not running.  If you restart the Cisco Unity software on the specified server, it will become the active server as long as you have not disabled automatic failover and failback, and the other server is not active.
Running Not running; Unknown	The Node Manager service (AvCsNodeMgr) is starting on the specified server.
Other	Failover or failback is occurring.

## Manually Initiating Failover or Failback

You can manually initiate failover from the primary server to the secondary server so that the secondary server takes calls while you perform maintenance on the primary server. When you want the primary server to start taking calls again, you manually initiate failback from the secondary server to the primary server.

Manual failover can also be initiated by the Event Monitoring Service (EMS) when a user-specified event occurs. For details, refer to EMS Help.

When you manually initiate failover or failback, the interaction of the primary and secondary servers is the same as for automatic failover and failback. However, we recommend that you confirm that any changes to the SQL Server database (UnityDb) on the active server have been replicated to the inactive server before initiating failover or failback. Do the first procedure, [“To Confirm That Changes to UnityDb Have Been Replicated to the Inactive Server.”](#)

The second and third procedures provide instructions for initiating failover and failback.

### To Confirm That Changes to UnityDb Have Been Replicated to the Inactive Server

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manger**.
  - Step 2** In the left pane of the Console Root window, browse to the name of the primary server. Typically, this name is two levels under the Microsoft SQL Servers node.
  - Step 3** Browse to the **Replication Monitor > Agents** node.

- Step 4** Check for errors in the **Snapshot Agent**, **Log Reader Agent**, **Distribution Agent**, and **Queue Reader Agent**. Ignore errors that do not apply to the time period when UnityDb changed.
- Replication is complete when both primary and secondary servers are running, the agents are not active, and the status of the agents is Idle or Succeeded. Any other status for any agent indicates that replication is not complete.
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#### To Manually Initiate Failover to the Secondary Server

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Failover**.
- Step 3** Click **OK** to confirm that you want to fail over to the secondary server.
- Step 4** See the following sections to do the applicable tasks:
- [“Notifying Subscribers of the Active Server and the URLs to Use for Accessing Cisco Unity Web Applications” section on page 2-1](#)
  - [“T1 Integrations Through Voice Cards: Enabling the Phone System to Send Calls to the Active Server After Failover or Failback Occurs” section on page 2-3](#)
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#### To Manually Initiate Failback to the Primary Server

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- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Failback**.
- Step 3** Click **OK** to confirm that you want to fail back to the primary server.
- Step 4** See the following sections to do the applicable tasks:
- [“Notifying Subscribers of the Active Server and the URLs to Use for Accessing Cisco Unity Web Applications” section on page 2-1](#)
  - [“T1 Integrations Through Voice Cards: Enabling the Phone System to Send Calls to the Active Server After Failover or Failback Occurs” section on page 2-3](#)
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## Disabling Automatic Failover and Failback for Troubleshooting

Disable automatic failover and failback only during troubleshooting or when standby redundancy is configured.

This section contains procedures for disabling automatic failover and failback, for manually initiating failover and failback while the automatic functions are disabled, and for re-enabling automatic failover and failback.

Note that when automatic failover and failback are disabled:

- File replication is also disabled by default.
- You must manually force a server to become active or inactive by using the Failover Monitor.

- If you restart the primary and secondary servers while automatic failover and failback are disabled, both servers start as inactive, so Cisco Unity is not able to take calls.

**Caution**

When you disable automatic failover and failback, the primary server never fails over to the secondary server even if the primary server stops taking calls. In addition, the secondary server never fails back to the primary server even if you have specified a schedule for automatic failback.

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**To Disable Automatic Failover and Failback for Troubleshooting**

- Step 1** On the primary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Advanced**.
- Step 3** Check the **Disable Automatic Failover and Failback** check box.
- Step 4** Uncheck the **Enable File Replication** check box.



**Note** The Enable File Replication check box does not appear if ES1 is not installed on the Cisco Unity servers.

- Step 5** Click **OK**.

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**To Manually Initiate Failover to the Secondary Server While Automatic Failover and Failback Are Disabled**

- Step 1** On the primary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Force Inactive**.
- Step 3** Click **OK** to confirm.
- Step 4** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 5** Click **Force Active**.
- Step 6** Click **OK** to confirm.
- Step 7** See the following sections to do the applicable tasks:
- [“Notifying Subscribers of the Active Server and the URLs to Use for Accessing Cisco Unity Web Applications” section on page 2-1](#)
  - [“T1 Integrations Through Voice Cards: Enabling the Phone System to Send Calls to the Active Server After Failover or Failback Occurs” section on page 2-3](#)

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**To Manually Initiate Failback to the Primary Server While Automatic Failover and Failback Are Disabled**

- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Force Inactive**.
- Step 3** Click **OK** to confirm.

- Step 4** On the primary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 5** Click **Force Active**.
- Step 6** Click **OK** to confirm.
- Step 7** See the following sections to do the applicable tasks:
- “[Notifying Subscribers of the Active Server and the URLs to Use for Accessing Cisco Unity Web Applications](#)” section on page 2-1
  - “[T1 Integrations Through Voice Cards: Enabling the Phone System to Send Calls to the Active Server After Failover or Failback Occurs](#)” section on page 2-3
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Do the following procedure if you are not planning to run the failover configuration wizard and standby redundancy is not configured. (Automatic failover and failback are re-enabled during the failover configuration wizard.)

#### To Re-enable Automatic Failover and Failback

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Advanced**.
- Step 3** Uncheck the **Disable Automatic Failover and Failback** check box.
- Step 4** Click **OK**.
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## Confirming That Failover and Failback Function Correctly

This section contains two procedures. Do the first procedure, “[To Check the Consistency of the Cisco Unity Database](#),” only if you have not already run the Cisco Unity Directory Walker (DbWalker) utility. DbWalker is used to check the consistency of and correct errors in the Cisco Unity database, ensuring that database replication to the secondary server will function correctly after the failover configuration wizard has been run.

During the second procedure, “[To Confirm That Failover and Failback Function Correctly](#),” you may need to run the failover configuration wizard, depending on test results.

#### To Check the Consistency of the Cisco Unity Database

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- Step 1** On the primary server, install the latest version of the Cisco Unity Directory Walker (DbWalker) utility, available at [http://ciscounitytools.com/App\\_DirectoryWalker4.htm](http://ciscounitytools.com/App_DirectoryWalker4.htm).
- Step 2** Run DbWalker, and correct all errors that the utility finds. Refer to DbWalker Help for detailed instructions on running the utility and on correcting errors in the database. (The Help file, DbWalker.htm, is in the same directory as DbWalker.exe.)
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If you must configure failover again or run the failover configuration wizard during the following procedure, see the “Configuring Cisco Unity Failover” chapter for instructions.

### To Confirm That Failover and Failback Function Correctly

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- Step 1** While the primary server is active, create a test file (for example, Test.txt) in the CommServer\Stream Files directory on the primary server.
- Step 2** Confirm that the file replicates to the secondary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).
- If the file does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 3** On the primary server, modify the extension of a subscriber.
- Step 4** Confirm that the change replicates to the secondary server immediately. When you open the Cisco Unity Administrator on the secondary server, ignore the warnings that the secondary server is inactive.
- If the change does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 5** On the primary server, on the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.
- Step 6** In the left pane, expand the **Microsoft SQL Servers** node.
- Step 7** Expand the **Replication Monitor** node.
- If the node does not exist, failover has not been configured. You must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 8** If the Replication Monitor subnodes do not have red Xs on them in the left pane, UnityDb database replication for failover is functioning normally.
- If the Replication Monitor subnodes have red Xs on them, restore replication for failover:
- On the primary server, close the SQL Server Enterprise Manager window.
  - On the secondary server, run the failover configuration wizard.
- Step 9** Restore the original extension of the subscriber.
- Step 10** On the primary server, manually initiate failover.
- Step 11** Confirm that the primary server becomes inactive and that the secondary server becomes active.
- Step 12** Call in to Cisco Unity.
- Step 13** Confirm that the secondary server answers the call.
- If the secondary server does not answer the call, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 14** On the secondary server, delete the test file from the CommServer\Stream Files directory.
- Step 15** Confirm that the file is deleted from the primary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).
- Step 16** On the secondary server, manually initiate failback.
- Step 17** Confirm that the primary server becomes active and that the secondary server becomes inactive.

- Step 18** Call in to Cisco Unity.
- Step 19** Confirm that the primary server answers the call.

## Determining the Cause of Failover or Failback from an Event ID

This section describes how to determine the cause of failover and failback based on the event IDs that appear in the Event log.

### To Determine the Cause of Failover or Failback from an Event ID

- Step 1** On the primary server, on the Windows Start menu, click **Programs > Administrative Tools > Event Viewer**.
- Step 2** In the Tree pane on the left, click **Application Log**. The log appears in the right pane.
- Step 3** Locate the entries that show **CiscoUnity\_NodeMgr** in the Source column.
- Step 4** For the entries, note the event IDs that appear in the Event column.
- Step 5** On the secondary server, repeat [Step 1](#) through [Step 4](#).
- Step 6** Use [Table 3-2](#), which follows the procedure, to determine the cause of failover or failback.

**Table 3-2** Causes of Failover or Failback Based on Event ID

Server and Event ID	Cause
Primary: 1070 and 1048 Secondary: 1050 and 1047	Manual failover occurred, initiated by the system administrator using the Failover Monitor.
Primary: 1078 and 1048 Secondary: 1050 and 1047	Manual failover occurred, initiated by the Event Monitoring Service (EMS) when a user-specified event occurs.
Secondary: 1068 and 1048 Primary: 1049 and 1047	Manual failback occurred.
Secondary: 1069 and 1048 Primary: 1049 and 1047	Scheduled failback occurred.
Secondary: 1050 and 1047 1010 (possible) 1011 (possible)	The active primary server crashed.
Primary: 1049 and 1047 1010 (possible) 1011 (possible)	The active secondary server crashed.

**Table 3-2 Causes of Failover or Failback Based on Event ID (continued)**

Server and Event ID	Cause
Primary: 1010 (possible) 1011 (possible) Secondary: 1050 and 1047 1010 (possible) 1011 (possible)	The active primary server has network connectivity problems.
Secondary: 1010 (possible) 1011 (possible) Primary: 1049 and 1047 1010 (possible) 1011 (possible)	The active secondary server has network connectivity problems.
Primary: 1048 Secondary: 1050, 1047, and CiscoUnity_Miu 542	<p>The combination of event IDs will appear for any of the following causes:</p> <ul style="list-style-type: none"> <li>• The active primary server has a bad port that caused failover to occur.</li> <li>• A caller dialed the extension of a voice messaging port in the secondary server and the Force Failover If Call Arrives on Inactive Secondary check box is checked in the Failover Monitor, causing failover to occur.</li> <li>• <i>Integrations through voice cards:</i> For phone systems that use a linear hunt group (the hunt group starts searching always with the same voice messaging port), an unintended failover may have occurred if the Force Failover If Call Arrives on Inactive Secondary check box is checked in the Failover Monitor. With this configuration, when a call to Cisco Unity is terminated either before being answered or within a few seconds after being answered by the primary server, the phone system may route a second call immediately to the same port. This can cause the secondary server to count rings from both calls as a single call, thus triggering failover.</li> </ul> <p>The cause can be eliminated by setting up a guard timer on the phone system. The timer enforces a minimum interval between consecutive calls sent to a given port. Note that the timer may not be available on all phone systems.</p>

## Monitoring SQL Replication

When the Cisco Unity servers are restarted, Microsoft SQL Server may not start correctly, which can prevent SQL replication from occurring.

Do the following procedure to monitor SQL replication after the Cisco Unity servers are restarted.

### To Monitor SQL Replication

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**Step 1** Confirm that the primary server is active.

- Step 2** On the primary server, on the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.
- Step 3** In the left pane, expand the **Microsoft SQL Servers** node.
- Step 4** Expand the **Replication Monitor** node.
- If the node does not exist, failover has not been configured. You must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 5** If the Replication Monitor subnodes do not have red Xs on them in the left pane, UnityDb database replication for failover is functioning normally. Skip the remaining steps in this procedure.
- If the Replication Monitor subnodes have red Xs on them, under the Microsoft SQL Servers node, expand the Management node.
- Step 6** In the Management node, right-click **SQL Server Agent** and click **Start**. The errors will clear in a few minutes after the network connection between the primary and secondary servers is restored.
- Alternatively, you can do the following substeps:
- In the Management node, expand the **SQL Server Agent > Jobs** nodes.
  - In the Jobs node, right-click each job that appears with a red X and click **Start Job**.
  - Right-click each job again and click **Refresh Job**.
  - If the red X still appears on the job, right-click the job and click **Stop Job**. Then repeat [Step 6b](#). and [Step 6c](#).
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## Changing the IP Address of the Primary Server

**Revised May 5, 2008**

When choosing an IP address for the primary Cisco Unity server, note the following considerations:

- Do not choose an address accessible from the Internet. Doing so can expose the Cisco Unity server to unwanted intrusion from the Internet, even when the server is hardened.
- Do not choose an address that separates the primary server from the following servers by a firewall:
  - The secondary server.
  - The Domino server to which Cisco Unity sends voice messages for delivery.
  - The Domino server that Cisco Unity monitors for changes to the directory.
  - Any Domino server that homes Cisco Unity subscriber mailboxes.
  - The domain controller/global catalog server on which you created Cisco Unity installation and services accounts.
- If the primary server is separated from any of the following servers by a firewall, open the applicable TCP and UDP ports:
  - DNS servers.
  - Workstations that are used to administer Cisco Unity.
  - Client workstations that will be used to access Cisco Unity via DUC for Cisco and/or the Cisco Personal Communications Assistant (Cisco PCA).
  - Cisco Unified CM servers.
  - SIP end points.

- SCCP phones.

For details on the TCP/UDP ports that must be opened in a firewall to allow communication between Cisco Unity and other servers, see the “IP Communications Required by Cisco Unity” chapter in the *Security Guide for Cisco Unity* at

[http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod\\_maintenance\\_guides\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_maintenance_guides_list.html).

Do the following nine procedures in the order listed.

#### To Disable Automatic Failover and Failback, and Stop File Replication

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- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** Click **Failover**.
- Step 3** Click **OK** to confirm that you want to fail over to the secondary server.
- Step 4** Click **Advanced**.
- Step 5** Check the **Disable Automatic Failover and Failback** check box.
- Step 6** Confirm that the **Enable File Replication** check box is unchecked.



**Note** The Enable File Replication check box does not appear if ES1 is not installed on the Cisco Unity servers.

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- Step 7** Click **OK**.
- Step 8** Click **Configure**.
- Step 9** Uncheck the **Force Failover If Call Arrives on Inactive Secondary** check box.
- Step 10** Click **OK**.
- Step 11** Close the Failover Monitor.
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#### To Stop the Node Manager Service on the Primary and Secondary Servers

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Administrative Tools > Services**.
- Step 2** In the Services window, right-click **AvCsNodeMgr**, and click **Stop**.
- Step 3** Close the Services window on the primary server.
- Step 4** On the secondary server, on the Windows Start menu, click **Programs > Administrative Tools > Services**.
- Step 5** In the Services window, right-click **AvCsNodeMgr**, and click **Stop**.
- Step 6** Close the Services window on the secondary server.
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### To Change the IP Address of the Primary Server

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- Step 1** On the primary server, on the Windows Start menu, click **Settings > Control Panel > Network and Dial-Up Connections > Local Area Connection**.
  - Step 2** Click **Properties**.
  - Step 3** In the Components Checked Are Used by This Connection list, select **Internet Protocol (TCP/IP)**, but do not uncheck the check box.
  - Step 4** Click **Properties**.
  - Step 5** In the Internet Protocol (TCP/IP) Properties dialog box, change values as applicable. Refer to Windows Help for more information.
  - Step 6** Click **OK** to close the Internet Protocol TCP/IP Properties dialog box.
  - Step 7** Click **OK** to close the Local Area Connection Properties dialog box.
  - Step 8** Close the Local Area Connection Status window.
  - Step 9** If the IP address is in a different subnet, disconnect the network cable from the original subnet, and connect the cable from the target subnet to the Cisco Unity server.
  - Step 10** Confirm that the server name can be resolved to the new IP address.
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### To Check the Consistency of the Cisco Unity Database

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- Step 1** On the primary server, install the latest version of the Cisco Unity Directory Walker (DbWalker) utility, available at [http://ciscounitytools.com/App\\_DirectoryWalker4.htm](http://ciscounitytools.com/App_DirectoryWalker4.htm).
  - Step 2** Run DbWalker, and correct all errors that the utility finds. Refer to DbWalker Help for detailed instructions on running the utility and on correcting errors in the database. (The Help file, DbWalker.htm, is in the same directory as DbWalker.exe.)
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### To Set the Registry of the Secondary Server by Reconfiguring Failover

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- Step 1** On the Windows taskbar, double-click the system clock. The Date/Time Properties dialog box appears.
- Step 2** Set the time to the same hour and minute as shown on the primary server, and click **OK**.
- Step 3** In Windows Explorer, browse to the **CommServer** directory.
- Step 4** Double-click **FailoverConfig.exe** to start the Configure Cisco Unity Failover wizard.
- Step 5** When the prompt that lists the requirements for the wizard appears, confirm that the requirements have been met and click **OK**.
- Step 6** On the Welcome page, click **Next**.
- Step 7** On the Specify Server Role page, click **Secondary Server**, and click **Next**.
- Step 8** On the Enter the Name of Your Server page, click **Browse**, select the name of the primary server, and click **OK**. The IP address for the primary server is filled in automatically.
- Step 9** Click **Next**.

- Step 10** On the Enter Failover Account Information page, click **Browse**, and double-click the name of the directory and message store services account. This is the account that the failover service will log on as. The account you select must have the right to act as part of the operating system and to log on as a service, and must be a member of the Local Administrators group.




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**Caution** You must specify the same account on both the primary and secondary servers.

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- Step 11** In the Password field, enter the password for the account that the failover service will log on as, and click **Next**.
- Step 12** On the Begin Configuring Your Server page, click **Configure**. The wizard verifies settings and configures failover on the secondary server.
- If the wizard does not finish the configuration successfully, an error message explains why the wizard failed. Exit the wizard, correct the problem, and click **Configure** again.
- Step 13** On the Completing page, click **Finish**.
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#### To Confirm That Both Servers Can Be Pinged and That SQL Replication Has No Errors

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.
- Step 2** In the Command Prompt window, enter **C:\Ping <IP address of secondary server>**, and press **Enter**.  
If the secondary server sends a reply, the IP address is valid.  
If the secondary server does not send a reply, either the primary server has a problem obtaining an address from the DHCP server, or the assigned IP address conflicts with the IP address of another computer on the network. Verify the network settings. If needed, troubleshoot any problem as you would a network connectivity problem.
- Step 3** In the Command Prompt window, enter **C:\Ping <Primary server name>**, and press **Enter**.  
If the primary server sends a reply, the server name is valid.
- Step 4** On the secondary server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.
- Step 5** In the Command Prompt window, enter **C:\Ping <IP address of primary server>**, and press **Enter**.  
If the primary server sends a reply, the IP address is valid.  
If the primary server does not send a reply, either the secondary server has a problem obtaining an address from the DHCP server, or the assigned IP address conflicts with the IP address of another computer on the network. Verify the network settings. If needed, troubleshoot any problem as you would a network connectivity problem.
- Step 6** In the Command Prompt window, enter **C:\Ping <Secondary server name>**, and press **Enter**.  
If the secondary server sends a reply, the server name is valid.

- Step 7** On the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.
- Step 8** Confirm that no errors appear for the SQL replication agents.
- If errors appear for the Distribution agent, right-click the agent, and click **Start Synchronizing** to resume SQL replication. The errors will clear in a few minutes after the network connection between the primary and secondary servers is restored.
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### To Restart the Primary Server

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- Step 1** While the secondary server is active and answering calls, restart the primary server. The primary server becomes active, and the secondary server becomes inactive.
- Step 2** Confirm that the primary server starts and that there are no errors in the Application Event log.
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### To Confirm That the Primary Server Is Active and, If Applicable, To Re-enable Automatic Failover and Failback

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- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** If the secondary server is active, click **Failback**, and click **OK**.
- Step 3** Re-enable file replication (if standby redundancy is configured) or re-enable automatic failover and failback, if applicable:

- a. Click **Advanced**.
- b. Do one of the following:
  - Check the **Enable File Replication** check box.



**Note** The Enable File Replication check box does not appear if ES1 is not installed on the Cisco Unity servers.

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- Uncheck the **Disable Automatic Failover and Failback** check box.

- c. Click **OK**.

The setting will replicate to the primary server.

- Step 4** If standby redundancy is configured, disable failover initiation when calls are unanswered on the primary server:
- a. Click **Configure**.
  - b. Uncheck the **Force Failover If Call Arrives on Inactive Secondary** check box.
  - c. Click **OK**.
- Step 5** Close the Failover Monitor.
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### To Confirm That Failover and Failback Function Correctly

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- Step 1** While the primary server is active, create a test file (for example, Test.txt) in the CommServer\Stream Files directory on the primary server.
- Step 2** Confirm that the file replicates to the secondary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).  
If the file does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 3** On the primary server, modify the extension of a subscriber.
- Step 4** Confirm that the change replicates to the secondary server immediately. When you open the Cisco Unity Administrator on the secondary server, ignore the warnings that the secondary server is inactive.  
If the change does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 5** On the primary server, on the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.
- Step 6** In the left pane, expand the **Microsoft SQL Servers** node.
- Step 7** Expand the **Replication Monitor** node.  
If the node does not exist, failover has not been configured. You must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 8** If the Replication Monitor subnodes do not have red Xs on them in the left pane, UnityDb database replication for failover is functioning normally.  
If the Replication Monitor subnodes have red Xs on them, restore replication for failover:
- a. On the primary server, close the SQL Server Enterprise Manager window.
  - b. On the secondary server, run the failover configuration wizard.
- Step 9** Restore the original extension of the subscriber.
- Step 10** On the primary server, manually initiate failover.
- Step 11** Confirm that the primary server becomes inactive and that the secondary server becomes active.
- Step 12** Call in to Cisco Unity.
- Step 13** Confirm that the secondary server answers the call.  
If the secondary server does not answer the call, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 14** On the secondary server, delete the test file from the CommServer\Stream Files directory.
- Step 15** Confirm that the file is deleted from the primary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).
- Step 16** On the secondary server, manually initiate failback.
- Step 17** Confirm that the primary server becomes active and that the secondary server becomes inactive.
- Step 18** Call in to Cisco Unity.
- Step 19** Confirm that the primary server answers the call.
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# Changing the IP Address of the Secondary Server

**Revised May 5, 2008**

When choosing an IP address for the secondary Cisco Unity server, note the following considerations:

- Do not choose an address accessible from the Internet. Doing so can expose the Cisco Unity server to unwanted intrusion from the Internet, even when the server is hardened.
- Do not choose an address that separates the secondary server from the following servers by a firewall:
  - The primary server.
  - The Domino server to which Cisco Unity sends voice messages for delivery.
  - The Domino server that Cisco Unity monitors for changes to the directory.
  - Any Domino server that homes Cisco Unity subscriber mailboxes.
  - The domain controller/global catalog server on which you created Cisco Unity installation and services accounts.
- If the secondary server is separated from any of the following servers by a firewall, open the applicable TCP and UDP ports:
  - DNS servers.
  - Workstations that are used to administer Cisco Unity.
  - Client workstations that will be used to access Cisco Unity via DUC for Cisco and/or the Cisco Personal Communications Assistant (Cisco PCA).
  - Cisco Unified CM servers.
  - SIP end points.
  - SCCP phones.

For details on the TCP/UDP ports that must be opened in a firewall to allow communication between Cisco Unity and other servers, see the “IP Communications Required by Cisco Unity” chapter in the *Security Guide for Cisco Unity* at

[http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod\\_maintenance\\_guides\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_maintenance_guides_list.html).

Do the following nine procedures in the order listed.

## To Disable Automatic Failover and Failback, and Stop File Replication

- 
- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
  - Step 2** Click **Advanced**.
  - Step 3** Check the **Disable Automatic Failover and Failback** check box.
  - Step 4** Confirm that the **Enable File Replication** check box is unchecked.



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**Note** The Enable File Replication check box does not appear if ES1 is not installed on the Cisco Unity servers.

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- Step 5** Click **OK**.
  - Step 6** Click **Configure**.
  - Step 7** Uncheck the **Force Failover If Call Arrives on Inactive Secondary** check box.
  - Step 8** Click **OK**.
  - Step 9** Close the Failover Monitor.
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#### To Stop the Node Manager Service on the Primary and Secondary Servers

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Administrative Tools > Services**.
  - Step 2** In the Services window, right-click **AvCsNodeMgr**, and click **Stop**.
  - Step 3** Close the Services window on the primary server.
  - Step 4** On the secondary server, on the Windows Start menu, click **Programs > Administrative Tools > Services**.
  - Step 5** In the Services window, right-click **AvCsNodeMgr**, and click **Stop**.
  - Step 6** Close the Services window on the secondary server.
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#### To Change the IP Address of the Secondary Server

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- Step 1** On the secondary server, on the Windows Start menu, click **Settings > Control Panel > Network and Dial-Up Connections > Local Area Connection**.
  - Step 2** Click **Properties**.
  - Step 3** In the Components Checked Are Used by This Connection list, select **Internet Protocol (TCP/IP)**, but do not uncheck the check box.
  - Step 4** Click **Properties**.
  - Step 5** In the Internet Protocol (TCP/IP) Properties dialog box, change values as applicable. Refer to Windows Help for more information.
  - Step 6** Click **OK** to close the Internet Protocol TCP/IP Properties dialog box.
  - Step 7** Click **OK** to close the Local Area Connection Properties dialog box.
  - Step 8** Close the Local Area Connection Status window.
  - Step 9** If the IP address is in a different subnet, disconnect the network cable from the original subnet, and connect the cable from the target subnet to the Cisco Unity server.
  - Step 10** Confirm that the server name can be resolved to the new IP address.
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### To Check the Consistency of the Cisco Unity Database

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- Step 1** On the primary server, install the latest version of the Cisco Unity Directory Walker (DbWalker) utility, available at [http://ciscounitytools.com/App\\_DirectoryWalker4.htm](http://ciscounitytools.com/App_DirectoryWalker4.htm).
- Step 2** Run DbWalker, and correct all errors that the utility finds. Refer to DbWalker Help for detailed instructions on running the utility and on correcting errors in the database. (The Help file, DbWalker.htm, is in the same directory as DbWalker.exe.)
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### To Set the Registry of the Primary Server by Reconfiguring Failover

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- Step 1** In Windows Explorer, browse to the **CommServer** directory.
- Step 2** Double-click **FailoverConfig.exe** to start the Configure Cisco Unity Failover wizard.
- Step 3** When the prompt that lists the requirements for the wizard appears, confirm that the requirements have been met and click **OK**.
- Step 4** On the Welcome page, click **Next**.
- Step 5** On the Specify Server Role page, click **Primary Server**, and click **Next**.
- Step 6** On the Enter the Name of Your Server page, click **Browse**, select the name of the secondary server, and click **OK**. The IP address for the secondary server is filled in automatically.
- Step 7** Click **Next**.
- Step 8** On the Enter Failover Account Information page, click **Browse**, and double-click the name of the directory and message store services account. This is the account that the failover service will log on as. The account you select must have the right to act as part of the operating system and to log on as a service, and must be a member of the Local Administrators group.



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**Caution** You must specify the same account on both the primary and secondary servers.

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- Step 9** In the Password field, enter the password for the account that the failover service will log on as, and click **Next**.
- Step 10** On the Begin Configuring Your Server page, click **Configure**. The wizard verifies settings and configures failover on the primary server. If the wizard does not finish the configuration successfully, an error message explains why the wizard failed. Exit the wizard, correct the problem, and click **Configure** again.
- Step 11** On the Completing page, click **Finish**.
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### To Confirm That Both Servers Can Be Pinged and That SQL Replication Has No Errors

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- Step 1** On the primary server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.

- Step 2** In the Command Prompt window, enter **C:\Ping <IP address of secondary server>**, and press **Enter**.  
If the secondary server sends a reply, the IP address is valid.  
If the secondary server does not send a reply, either the primary server has a problem obtaining an address from the DHCP server, or the assigned IP address conflicts with the IP address of another computer on the network. Verify the network settings. If needed, troubleshoot any problem as you would a network connectivity problem.
- Step 3** In the Command Prompt window, enter **C:\Ping <Primary server name>**, and press **Enter**.  
If the primary server sends a reply, the server name is valid.
- Step 4** On the secondary server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.
- Step 5** In the Command Prompt window, enter **C:\Ping <IP address of primary server>**, and press **Enter**.  
If the primary server sends a reply, the IP address is valid.  
If the primary server does not send a reply, either the secondary server has a problem obtaining an address from the DHCP server, or the assigned IP address conflicts with the IP address of another computer on the network. Verify the network settings. If needed, troubleshoot any problem as you would a network connectivity problem.
- Step 6** In the Command Prompt window, enter **C:\Ping <Secondary server name>**, and press **Enter**.  
If the secondary server sends a reply, the server name is valid.
- Step 7** On the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.
- Step 8** Confirm that no errors appear for the SQL replication agents.  
If errors appear for the Distribution agent, right-click the agent, and click **Start Synchronizing** to resume SQL replication. The errors will clear in a few minutes after the network connection between the primary and secondary servers is restored.

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### To Restart the Secondary Server

- Step 1** While the primary server is active and answering calls, restart the secondary server.
- Step 2** Confirm that the secondary server starts and that there are no errors in the Application Event log.
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### To Confirm That the Primary Server Is Active and, If Applicable, to Re-enable Automatic Failover and Failback

- Step 1** On the secondary server, on the Windows Start menu, click **Programs > Cisco Unity > Failover Monitor**.
- Step 2** If the secondary server is active, click **Failback**, and click **OK**.
- Step 3** Re-enable file replication (if standby redundancy is configured) or re-enable automatic failover and failback, if applicable:
- a. Click **Advanced**.

- b. Do one of the following:
  - Check the **Enable File Replication** check box.



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**Note** The Enable File Replication check box does not appear if ES1 is not installed on the Cisco Unity servers.

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- Uncheck the **Disable Automatic Failover and Failback** check box.

- c. Click **OK**.

The setting will replicate to the primary server.

**Step 4** If standby redundancy is configured, disable failover initiation when calls are unanswered on the primary server:

- a. Click **Configure**.
- b. Uncheck the **Force Failover If Call Arrives on Inactive Secondary** check box.
- c. Click **OK**.

**Step 5** Close the Failover Monitor.

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#### To Confirm That Failover and Failback Function Correctly

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**Step 1** While the primary server is active, create a test file (for example, Test.txt) in the CommServer\Stream Files directory on the primary server.

**Step 2** Confirm that the file replicates to the secondary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).

If the file does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.

**Step 3** On the primary server, modify the extension of a subscriber.

**Step 4** Confirm that the change replicates to the secondary server immediately. When you open the Cisco Unity Administrator on the secondary server, ignore the warnings that the secondary server is inactive.

If the change does not replicate, you must configure failover on both the primary and secondary servers, then do this procedure again.

**Step 5** On the primary server, on the Windows Start menu, click **Programs > Microsoft SQL Server > Enterprise Manager**. The SQL Server Enterprise Manager window appears.

**Step 6** In the left pane, expand the **Microsoft SQL Servers** node.

**Step 7** Expand the **Replication Monitor** node.

If the node does not exist, failover has not been configured. You must configure failover on both the primary and secondary servers, then do this procedure again.

- Step 8** If the Replication Monitor subnodes do not have red Xs on them in the left pane, UnityDb database replication for failover is functioning normally.
- If the Replication Monitor subnodes have red Xs on them, restore replication for failover:
- a. On the primary server, close the SQL Server Enterprise Manager window.
  - b. On the secondary server, run the failover configuration wizard.
- Step 9** Restore the original extension of the subscriber.
- Step 10** On the primary server, manually initiate failover.
- Step 11** Confirm that the primary server becomes inactive and that the secondary server becomes active.
- Step 12** Call in to Cisco Unity.
- Step 13** Confirm that the secondary server answers the call.
- If the secondary server does not answer the call, you must configure failover on both the primary and secondary servers, then do this procedure again.
- Step 14** On the secondary server, delete the test file from the CommServer\Stream Files directory.
- Step 15** Confirm that the file is deleted from the primary server within the time set in the File Replication Interval field in the Failover Monitor (the default is 10 minutes).
- Step 16** On the secondary server, manually initiate failback.
- Step 17** Confirm that the primary server becomes active and that the secondary server becomes inactive.
- Step 18** Call in to Cisco Unity.
- Step 19** Confirm that the primary server answers the call.
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## About Uninstalling Failover on a Cisco Unity Server

When converting a Cisco Unity server configured for failover to another purpose for which failover is not needed, it is necessary to change a number of settings and, for the secondary server, to copy the Cisco Unity data and reinstall the Cisco Unity software. A process that only uninstalls Cisco Unity failover will give unsatisfactory results.

To convert a Cisco Unity server configured for failover to a Cisco Unity server without failover, refer to the “Replacing or Converting a Cisco Unity 5.x Server or Failover Servers” chapter of the applicable *Reconfiguration and Upgrade Guide for Cisco Unity* at [http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html).

To convert a Cisco Unity server configured for failover to a server for another application, follow the installation instructions for that application.

## Replacing and Converting the Primary and Secondary Servers

Information and instructions for the following tasks are available in the “Replacing or Converting a Cisco Unity 5.x Server or Failover Servers” chapter of the *Reconfiguration and Upgrade Guide for Cisco Unity*:

- Replacing only the primary server.

- Replacing only the secondary server.
- Replacing the primary and secondary servers at the same time.
- Converting the secondary server to a 60-day Cisco Unity server without a primary server.
- Converting the secondary server to a permanent regular Cisco Unity server without failover.
- Converting the primary server to a permanent regular Cisco Unity server without failover.

The guide is available at

[http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod\\_installation\\_guides\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html).

