HP StorageWorks

HP PolyServe Software upgrade guide

HP PolyServe Matrix Server 4.0.0
HP PolyServe Software for Microsoft SQL Server
4.0.0
HP PolyServe Software for Windows File Serving
4.0.0

Contents

1 Overview

This document describes upgrades to the following products:

- HP PolyServe Matrix Server 4.0.0.
- HP PolyServe Software for Microsoft SQL Server 4.0.0.
- HP PolyServe Software for Windows File Serving 4.0.0.

Upgrades are supported only from the 3.6.x versions of these products. If you are running an earlier version, you will first need to upgrade to the 3.6.x releases and then upgrade to Matrix Server 4.0.0.

Supported operating systems

The Windows Server 2008 Standard or Enterprise Edition (64-bit) operating systems with Service Pack 2 (SP2) are supported.

Upgrade checklist

This checklist can be used for upgrades from the 3.6.x releases.

Action	Description
Back up membership partitions and PSFS filesystems.	See "Back up the existing matrix" on page 6.
Determine the upgrade method.	See "Upgrade scenarios" on page 7.
Perform the upgrade using the appropriate method:	
• Rolling upgrade with new OS	Review "Upgrade considerations" on page 9 and then upgrade each server as described under "Rolling upgrade procedure" on page 11.

Action	Description
• Non-rolling upgrade with new OS	Review "Upgrade considerations" on page 16 and then upgrade the servers in groups or all at once. See "Non-rolling upgrade procedure" on page 17.
Make upgrades for 4.0.0 features.	See "Changes necessitated by the upgrade" on page 23.

Back up the existing matrix

During the upgrade procedure, you will need to back up the existing matrix configuration on each server. Before starting the upgrade, HP recommends that you back up the membership partitions and PSFS filesystems.

Back up the membership partitions

HP recommends that you back up the membership partitions to ensure that you have a complete matrix backup.Use the `mpdump` command to back up the membership partitions. The following command backs up the partitions to the default backup location, `%Program Files%\Polyserve\matrixserver\conf\ MP.backup.prev` on the drive where you installed Matrix Server. The file will then be included when you back up the matrix configuration.

mpdump -F

To back up the partitions to a different file, use this command:

mpdump -f `<file>`

Back up the matrix configuration

The Matrix Server service should not be running when you perform the backup. The default location for the matrix configuration files is `%Program Files%\PolyServe\ MatrixServer\conf` on the drive where you installed Matrix Server. Back up the following from the conf directory:

• The files directly under `\conf`
• The `\conf\debug` subdirectory

Do not back up the `mounts` and `licenses` subdirectories.

Back up PSFS filesystems

You should have recent backups of all PSFS filesystems for disaster recovery purposes.

Upgrade scenarios

There are three ways to perform the upgrade to Matrix Server 4.0.0 and the corresponding versions of the HP PolyServe Software:

- Perform a rolling upgrade. In this procedure, servers are removed from the matrix, upgraded, and returned to the matrix one-at-a-time. This method does not require matrix downtime, but clients may experience brief outages during failovers. See Chapter 2 on page 9.
- Upgrade all servers at once. This procedure requires that the matrix be completely shut down during the upgrade. See Chapter 3 on page 15.
- Upgrade the servers in two groups. This method minimizes overall downtime. See Chapter 3 on page 15.

2 Rolling upgrades

Overview

Rolling upgrades are supported from the Matrix Server, MxDB for SQL Server, and MxFS for CIFS 3.6.x releases.

Custom installations of Matrix Server

When you upgrade Matrix Server, the Installer looks for the matrix configuration files in the location where Matrix Server is currently installed and then applies the configuration files to the new installation.

If you perform a custom installation of Matrix Server 4.0.0 and specify a new location for the matrix software, the Installer will not be able to locate the existing configuration files. To avoid this problem, take one of these steps:

- If Matrix Server is currently installed in a custom location, install Matrix Server 4.0.0 in the same location.
- If you need to install the 4.0.0 release in a different location, copy the backup configuration files (see Back up the existing matrix, page 6) to that location before installing Matrix Server 4.0.0.

Upgrade considerations

When upgrading Matrix Server, you should be aware of the following:

- The server with the numerically highest primary IP address must be upgraded first. Then continue to upgrade the servers in descending order of IP address, with the server with the lowest primary IP address being upgraded last.
- The 4.0.0 version of the stand-alone PolyServe Management Console can be used during the upgrade to connect to servers running 3.6.x. However, there can be a long delay when opening the console on a server running 3.6.x. The console should be used only to view the cluster status; do not make configuration changes other than those specified in the upgrade procedure (such as installing a new li-

cense). Do not install the stand-alone Management Console on a 4.0.0 server as it can conflict with the console that is installed with Matrix Server.

- You will need to install a new license file during the upgrade. If the new file is not in place when you start Matrix Server, license violations will be reported on the Management Console and in the matrix log, and the product will shut down after one hour and 45 minutes.

- If a server is temporarily out of the matrix during the upgrade (for example, for maintenance), you will need to upgrade it to 4.0.0 before returning it to the matrix.

- If you are upgrading to the 64-bit operating system, be sure to install the 64-bit version of the HBA driver.

- During the upgrade, the PolyServe Management Console will show the version of Matrix Server that is currently running on the server to which you are connected. Each server will show the currently installed version of the operating system.

- The stand-alone Management Console, which is used to connect to the matrix from hosts not running the matrix software, must be upgraded to the 4.0.0 version.

- It is important to record the existing drive letter and mount point assignments before upgrading each server. Because of the behavior of the Windows 2008 mount manager, it is possible that some of the drive letter or mount point assignments will be missing or assigned incorrectly after the upgrade and will need to be manually restored.

- In Windows 2008, the SAN storage is kept offline by default, as the SAN policy is set to "Offline Shared." Use the command-based `diskpart` utility or the GUI-based Windows Disk Management utility to bring the storage online for the first node being configured. If the `diskpart` utility is used, you will need to clear the read-only disk attributes after the storage is online.

Upgrade considerations for MxDB for SQL Server

These considerations apply to sites running MxDB for SQL Server:

- Maintenance operations performed via MxDB for SQL Server are not supported while the matrix includes a mix of 4.0.0 and 3.6.x servers. Do not change the state of virtual SQL Servers until all of the nodes have been upgraded to 4.0.0.

  For SQL Server 2005, SP2 is required if you will be using FTE. SP2 provides the NTLM Security Support Provider (NTLMSSP) service, which is used by FTE. Because Windows Server 2008 does not include the NTLMSSP service, FTE will fail if SP2 is not installed.

Upgrade considerations for SQL Server 2005

If you will be upgrading SQL Server 2000 instances to SQL Server 2005, you should be aware of the following:

- Before upgrading a SQL Server 2000 instance, remove the corresponding Virtual SQL Instance from the Virtual SQL Server. (On the PolyServe Management Console, right-click on the Virtual SQL Instance and select **Delete**.) After the instance is upgraded, you can recreate the Virtual SQL Instance.
- A Virtual SQL 2005 instance cannot be a backup for a Virtual SQL 2000 instance having the same name (and vice versa). A Virtual SQL Instance and all of its backups must be running the same version of SQL Server.

Rolling upgrade procedure

The rolling upgrade procedure does not require matrix downtime, but clients may experience brief outages during failovers. Each server is removed from the matrix, upgraded, and then returned to the matrix.

Complete the following steps to upgrade the matrix to the 4.0.0 release.

📝 NOTE:

Upgrade the server with the highest IP address first. Then continue to upgrade the servers in descending order of IP address, with the server with the lowest primary IP address being upgraded last.

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1. Record the existing drive letter and mount point assignments on the server. Because of the behavior of the Windows 2008 mount manager, it is possible that some of the drive letter or mount point assignments will be missing or assigned incorrectly after the upgrade and will need to be manually restored.
2. If MxDB for SQL Server is installed, set the Policy on each Virtual SQL Server to AUTOFAILBACK before you begin the upgrade. This step ensures that the Virtual SQL Servers will start on their primary nodes after the nodes are upgraded.
3. If the node to be upgraded is primary for any application, rehost the application to another node.
4. Stop Matrix Server on the server to be upgraded. (Either issue the command `net stop matrixserver` from the Command Prompt, or stop the product via the Microsoft Management Console Services snap-in.)

5. Back up the matrix configuration on the server as described under "Back up the existing matrix" on page 6.

6. Shut down the server.

7. Install the new version of the operating system.

8. If you will be adding third-party MPIO software to the matrix, install it according to the product documentation.

9. Install a version of the HBA driver that is supported by Matrix Server.

10. Reboot the server.

11. Run the `mxcheck` utility provided with Matrix Server 4.0.0. This utility verifies that the server's configuration meets the requirements for running Matrix Server. Insert the Matrix Server CD into the CD drive or go to the directory where you downloaded the product and then double-click the file `mxcheck.exe`. Output from the utility appears on the screen and is also written to the Application Log section of the Event Viewer. We recommend that you fix any problems identified by `mxcheck` before you install Matrix Server.

12. Install HP PolyServe Matrix Server 4.0.0. Locate the file `MxS_4.0.0.<xxxx>.msi` on the product CD or in the directory where you downloaded the software. Right-click the `MxS_4.0.0.<xxxx>.msi` file and select **Run as Administrator** to start the Installation Wizard. To complete the installation, reboot the server as directed by the popup message.

13. Install any additional software. Insert the appropriate CD into the CD drive or go to the location where you have downloaded the software.

    • For HP PolyServe Software for Microsoft SQL Server, right-click the file `MxDB_SQL_4.0.0.<xxxx>.msi` and select **Run as Administrator** to start the Installation Wizard.

    • For HP PolyServe Software for Windows File Serving, right-click the file `MxFS_4.0.0.<xxxx>.msi` and and select **Run as Administrator** to start the Installation Wizard.

14. Open the Configure Matrix window on a node that has not yet been upgraded. Go to the Matrix-Wide Configuration tab, select the upgraded server, and click **Export To**. This step copies the matrix configuration information to the server.

15. Open the Configure Matrix window on the console for the server being upgraded. Select **Start** > **Programs** > **PolyServe Matrix Server** > **PolyServe Configuration Utility**, answer **no** if you are asked whether you want to start the matrix on the server, and then select the configure option. If you are asked for login credentials, enter the credentials for the server that you are upgrading. Then click the down arrow on the Connect button to see the options and select **Configure**.

16. Install the new license file. Go to the General Settings tab, and then select **Change License File** and install the new license.

17. Click **Apply** (on the bottom of the Matrix Configuration window) to save the Matrix Server configuration.

📝 NOTE:

If the Apply fails, verify that the FC switch ports are enabled for all of the servers. If the switch ports are enabled, check the Windows Disk Management MMC snap-in to determine whether the node can see the disks on the SAN. Also check the HBA driver.

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18. When asked if you want to start the Matrix Server service, answer **yes**. If you are not prompted to start the service, go to the Matrix Wide Configuration tab and start Matrix Server on the upgraded server. The upgraded server will now rejoin the matrix.

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① IMPORTANT:

Be sure to review the drive letter and mount point assignments on the server and restore any missing or incorrect assignments.

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19. If you are using HP PolyServe Software for Microsoft SQL Server, install the SQL instance on the newly upgraded server. On the PolyServe Management Console, select **Tools** > **Install SQL**. Select only the newly upgraded node for installation. (For more information about installing SQL instances, see the *HP PolyServe Software for Microsoft SQL Server administration guide*.)

20. Enable hosting on the upgraded server. On the Management Console, open the Virtual Hosts tab and select the virtual host (such as a Virtual SQL Server or Virtual CIFS Server) that was primary on that server. Right-click and select **Rehost**. On the Rehost dialog, select the network interface for the upgraded server and click **OK**.

21. For each remaining server in the matrix, repeat this procedure through step 13. Next, open the Configure Matrix window (if it is not already open) and import the matrix configuration from a server running Matrix Server 4.0.0 to the server being upgraded (the new license is included in the imported configuration). You can then start the Matrix Server service on the newly upgraded server.

22. If you are using HP PolyServe Software for Microsoft SQL Server, restore the Policy setting on each Virtual SQL Server to its original value after the upgrade is complete.

23. After all servers in the matrix are operational, complete the appropriate post-upgrade steps as described in Chapter 4 on page 23.

3 Non-rolling upgrades

Overview

If you are not performing a rolling upgrade, you can use one of the following methods to upgrade the matrix:

- To minimize overall downtime, divide your servers into two groups and then upgrade one group at a time while the other group runs the matrix. This method minimizes downtime.
- Upgrade all servers at once.

Upgrades are supported from the 3.6.x releases only.

Custom installations of Matrix Server

When you upgrade Matrix Server, the Installer looks for the matrix configuration files in the location where Matrix Server is currently installed and then applies the configuration files to the new installation.

If you perform a custom installation of Matrix Server 4.0.0 and specify a new location for the matrix software, the Installer will not be able to locate the existing configuration files. To avoid this problem, take one of these steps:

- If Matrix Server is currently installed in a custom location, install Matrix Server 4.0.0 in the same location.
- If you need to install the 4.0.0 release in a different location, copy the backup configuration files (see Back up the existing matrix, page 6) to that location before installing Matrix Server 4.0.0.

Upgrade considerations

When upgrading Matrix Server, you should be aware of the following:

- The server with the numerically highest primary IP address must be upgraded first. Then continue to upgrade the servers in descending order of IP address, with the server with the lowest primary IP address being upgraded last.

- The 4.0.0 version of the stand-alone PolyServe Management Console can be used during the upgrade to connect to servers running 3.6. However, there can be a long delay when opening the console on a server running 3.6. The console should be used only to view the cluster status; do not make configuration changes other than those specified in the upgrade procedure (such as installing a new license). Do not install the stand-alone Management Console on a server in the matrix as it can conflict with the console that is installed with Matrix Server.

- If a server is temporarily out of the matrix during the upgrade (for example, for maintenance), you will need to upgrade it to 4.0.0 before returning it to the matrix.

- If you are upgrading to the 64-bit operating system, be sure to install the 64-bit version of the HBA driver.

- During the upgrade, the PolyServe Management Console will show the version of Matrix Server that is currently running on the server to which you are connected. Each server will show the currently installed version of the operating system.

- The stand-alone Management Console, which is used to connect to the matrix from hosts not running the matrix software, must be upgraded to the 4.0.0 version.

- It is important to record the existing drive letter and mount point assignments before upgrading each server. Because of the behavior of the Windows 2008 mount manager, it is possible that some of the drive letter or mount point assignments will be missing or assigned incorrectly after the upgrade and will need to be manually restored.

- In Windows 2008, the SAN storage is kept offline by default, as the SAN policy is set to "Offline Shared." Use the command-based `diskpart` utility or the GUI-based Windows Disk Management utility to bring the storage online for the first node being configured. If the `diskpart` utility is used, you will need to clear the read-only disk attributes after the storage is online.

Upgrade considerations for MxDB for SQL Server

These considerations apply to sites running MxDB for SQL Server:

- Maintenance operations performed via MxDB for SQL Server are not supported while the matrix includes a mix of 4.0.0 and 3.6 servers. Do not change the state

of virtual SQL Servers until all of the nodes have been upgraded to HP PolyServe Software for Microsoft SQL Server 4.0.0.

- For SQL Server 2005, SP2 is required if you will be using FTE. SP2 provides the NTLM Security Support Provider (NTLMSSP) service, which is used by FTE. Because Windows Server 2008 does not include the NTLMSSP service, FTE will fail if SP2 is not installed.

Upgrade considerations for SQL Server 2005

If you will be upgrading SQL Server 2000 instances to SQL Server 2005, you should be aware of the following:

- Before upgrading a SQL Server 2000 instance, remove the corresponding Virtual SQL Instance from the Virtual SQL Server. (On the PolyServe Management Console, right-click on the Virtual SQL Instance and select **Delete**.) After the instance is upgraded, you can recreate the Virtual SQL Instance.
- A Virtual SQL 2005 instance cannot be a backup for a Virtual SQL 2000 instance having the same name (and vice versa). A Virtual SQL Instance and all of its backups must be running the same version of SQL Server.

Non-rolling upgrade procedure

To minimize overall downtime, divide your servers into two groups and then upgrade one group at a time while the other group runs the matrix. The upgrade procedure assumes that the servers are divided into group A and group B.

If you prefer to upgrade all servers at once instead of in groups, be sure to take the following steps to retain the matrix configuration:

- Leave one server running the old operating system and matrix software. You can shut down the other servers as indicated below.
- After the first server is upgraded to the new operating system and matrix software, export the matrix configuration from a server running 3.6.x to this server..
- Upgrade all remaining servers, including the server running the older software, and export the matrix configuration to them (as in step 17).

To perform the upgrade, complete the following steps.

NOTE:

Upgrade the server with the highest IP address first. Then continue to upgrade the servers in descending order of IP address, with the lowest numbered server being upgraded last.

1. Record the existing drive letter and mount point assignments on the server. Because of the behavior of the Windows 2008 mount manager, it is possible that some of the drive letter or mount point assignments will be missing or assigned incorrectly after the upgrade and will need to be manually restored.

2. If MxDB for SQL Server is installed, set the Policy on each Virtual SQL Server to AUTOFAILBACK before you begin the upgrade. This step ensures that the Virtual SQL Servers will start on their primary nodes after the nodes are upgraded to the 4.0.0 release.

3. If the node to be upgraded is primary for any application, rehost the application to another node.

4. Stop Matrix Server on the servers in group A. (Either issue the command `net stop matrixserver` from the Command Prompt, or stop the product via the Microsoft Management Console Services snap-in.)

5. Back up the matrix configuration on each server in group A as described under Back up the existing matrix, page 6.

6. Shut down the servers in group A.

7. Reinstall the operating system on the servers in group A.

8. If you will be adding third-party MPIO software to the matrix, install it on each server in group A according to the product documentation.

9. On each server in group A, install a version of the HBA driver that is supported by Matrix Server.

10. Reboot the servers in group A.

11. Run the PolyServe `mxcheck` utility on the servers in group A. This utility verifies that the server's configuration meets the requirements for running Matrix Server. To run `mxcheck`, insert the Matrix Server CD into the CD drive or go to the directory where you downloaded the product and then double-click the file `mxcheck.exe`. Output from the utility appears on the screen and is also written to the Application Log section of the Event Viewer. We recommend that you fix any problems identified by `mxcheck` before you install Matrix Server.

12. On each server in group A, install Matrix Server 4.0.0. Locate the file `MxS_4.0.0.<xxxx>.msi` on the product CD or in the directory where you downloaded the software. Right-click the `MxS_4.0.0.<xxxx>.msi` file and select **Run as Administrator** to start the Installation Wizard. To complete the installation, reboot the servers when directed by the popup message.

13. On each server in group A, install any additional software. Insert the appropriate CD into the CD drive or go to the location where you have downloaded the software.

    - For HP PolyServe Software for Microsoft SQL Server, right-click the file `MxDB_SQL_4.0.0.<xxxx>.msi` and select **Run as Administrator** to start the Installation Wizard.
    - For HP PolyServe Software for Windows File Serving, right-click the file `MxFS_4.0.0.<xxxx>.msi` and select **Run as Administrator** to start the Installation Wizard.

14. On each server in group A, restore the Matrix Server configuration from a server in group B. Open the Configure Matrix window on a server in group B, and go to the Matrix-Wide Configuration tab. Select the servers in group A and click **Export To** to copy the configuration to those servers.

15. Open the Configure Matrix window. On the console for the server being upgraded, select **Start** > **Programs** > **PolyServe Matrix Server** > **PolyServe Configuration Utility**. Answer **no** if you are asked whether you want to start the matrix on the server and then select the configure option. If you are asked for login credentials, enter the credentials for the server that you are upgrading. Then click the down arrow on the Connect button to see the options and select **Configure**.

16. Install the new license file. On the General Settings window, select **Change License File** and install the new license.

17. Click **Apply** on the bottom of the Matrix Configuration window. (You may be prompted to reenter the Administrative password. You can click **Apply** again if necessary to redisplay the password prompt.) Answer **No** when you are asked whether you want to start the matrix.

NOTE:

If the Apply fails, verify that the FC switch ports are enabled for all of the servers. If the switch ports are enabled, check the Windows Disk Management MMC snap-in to determine whether the node can see the disks on the SAN. Also check the HBA driver.

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18. Go to the Matrix Wide Configuration tab and export the updated configuration to all other servers in group A. (You may be asked for the password on each server.)

NOTE:

If the export fails, verify that the FC switch ports are enabled for all of the servers. If the switch ports are enabled, check the Windows Disk Management MMC snap-in to determine whether the node can see the disks on the SAN. Also check the HBA driver.

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19. On the Matrix Wide Configuration tab, stop Matrix Server on each server in group B.

20. Back up the matrix configuration on each server in group B as described under "Back up the existing matrix" on page 6.

21. Shut down the servers in group B.

22. On the Matrix Wide Configuration tab, start Matrix Server on all of the servers in group A. The servers in group A are now operational.

23. If you are using HP PolyServe Software for Microsoft SQL Server, install the SQL instance on the newly upgraded server. On the PolyServe Management Console, select **Tools** > **Install SQL**. Select only the newly upgraded node for installation. (For more information about installing SQL instances, see the *HP PolyServe Software for Microsoft SQL Server administration guide*.)

24. Enable hosting on the upgraded servers. On the Management Console, open the Virtual Hosts tab and select the virtual host (such as a Virtual SQL Server or Virtual CIFS Server) that was primary on that server. Right-click and select **Rehost**. On the Rehost dialog, select the network interface for the upgraded server and click **OK**.

25. Reinstall the operating system on each server in group B.

26. If you will be adding third-party MPIO software to the matrix, install it on each server in group B according to the product documentation.

IMPORTANT:

Be sure to review the drive letter and mount point assignments on each server and restore any missing or incorrect assignments.

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27. On each server in group B, install a supported HBA driver.

28. Reboot the servers in group B.

29. Run the `mxcheck` utility on the servers. This utility verifies that the server's configuration meets the requirements for running Matrix Server. To run `mxcheck`, insert the Matrix Server CD into the CD drive or go to the directory where you downloaded the product and then double-click the file `mxcheck.exe`. Output from the utility appears on the screen and is also written to the Application Log section of the Event Viewer. We recommend that you fix any problems identified by `mxcheck` before you install Matrix Server.

30. On each server in group B, install Matrix Server 4.0.0. Locate the file `MxS_4.0.0<xxxx>.msi` on the product CD or in the directory where you downloaded the software. Right-click the `MxS_4.0.0.<xxxx>.msi` file and select **Run as Administrator** to start the Installation Wizard. To complete the installation, reboot the servers when directed by the popup message.

31. On each server in group B, install any additional software. Insert the appropriate CD into the CD drive or go to the location where you have downloaded the software.

    • For HP PolyServe Software for Microsoft SQL Server, right-click the file `MxDB_SQL_4.0.0.<xxxx>.msi` and select **Run as Administrator** to start the Installation Wizard.

    • For HP PolyServe Software for Windows File Serving, right-click the file `MxFS_4.0.0.<xxxx>.msi` and select **Run as Administrator** to start the Installation Wizard.

32. Start the PolyServe Management Console (if you are not already connected) and connect to one of the servers in group A (a server that has already been upgraded). Verify that all of the servers in group B have rebooted and then export the configuration from the group A server to the servers in group B.

📝 NOTE:

If an export fails, verify that the FC switch ports are enabled for all of the servers.

⚠ IMPORTANT:

Be sure to review the drive letter and mount point assignments on each server and restore any missing or incorrect assignments.

33. If you are using HP PolyServe Software for Microsoft SQL Server, install the SQL instance on the newly upgraded server. On the PolyServe Management Console, select **Tools** > **Install SQL**. Select only the newly upgraded node for installation. (For more information about installing SQL instances, see the *HP PolyServe Software for Microsoft SQL Server administration guide*.)

34. Enable hosting on the upgraded servers. On the Management Console, open the Virtual Hosts tab and select the virtual host (such as a Virtual SQL Server or Virtual CIFS Server) that was primary on that server. Right-click and select **Rehost**. On the Rehost dialog, select the network interface for the upgraded server and click **OK**.

35. If you are using HP PolyServe Software for Microsoft SQL Server, restore the Policy setting on each Virtual SQL Server to its original value.

36. When all servers in the matrix are operational, you can complete the appropriate post-upgrade steps described in Chapter 4 on page 23.

4 Post-upgrade steps

Changes necessitated by the upgrade

After upgrading to Matrix Server 4.0.0, you may need to make the following changes to your configuration:

- Upgrade existing filesystems for small files support
- Upgrade the HP PolyServe Management Console on clients

Upgrade filesystems for small files (optional)

The 4.0.0 release includes a performance enhancement for small files on PSFS filesystems. This feature is enabled by default in PSFS filesystems created on Matrix Server 4.0.0. PSFS filesystems created on earlier releases must be upgraded to enable the small files performance enhancement. Turning on this feature will not improve the read time of pre-4.0.0 files, but should improve the read performance of any new small files that are created on the filesystem.

The filesystem is upgraded with the psfscheck command, which enables the feature internally on the filesystem. Consequently, a brief, cluster-wide outage of the filesystem is required during the upgrade.

To upgrade a PSFS filesystem for the small files performance enhancement feature, take the following steps:

1. Stop all applications using the filesystem and ensure that the volume is not in use.

2. Run the following command:

   # **psfscheck –e enable-smallfiles** *<device>*

   The *device* can be specified in several ways:

   - By the drive letter, such as X:
   - By the mount point (junction), such as C:\san\vol2

     By the psd or psv name, such as psd2p2 or psv3

3. Restart the applications that use the filesystem.

Upgrade the HP PolyServe Management Console on clients

The stand-alone HP PolyServe Management Console must be upgraded to version 4.0.0 on any client systems currently running an earlier version of the console. The stand-alone console cannot be installed on a server running Matrix Server 4.0.0. (Matrix Server includes a built-in version of the HP PolyServe Management Console.)

Complete these steps:

1. Remove the old version of the console using Add/Remove Programs on the Control Panel.

2. Install the new version of the console. Locate the file `MxConsole_4.0.0.<xxxx>.msi` on the distribution CD or in your download location. Right-click the file and select **Run as Administrator** to start the Installation Wizard.

A Support and other resources

HP technical support

For worldwide technical support information, see the HP support website:

http://www.hp.com/support

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers
- Error messages
- Operating system type and revision level
- Detailed questions

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website:

http://www.hp.com/go/e-updates

After registering, you will receive e-mail notification of product enhancements, new driver versions, firmware updates, and other product resources.

HP websites

For additional information, see the following HP websites:

- http://www.hp.com
- http://www.hp.com/go/polyserve
- http://www.hp.com/go/storage
- http://www.hp.com/support/manuals