



EMC PowerPath® Viewer

Version 1.0

Installation and Administration Guide

P/N 300-013-179
REV 04

Copyright © 2010-2013 EMC Corporation. All rights reserved. Published in the USA.

Published February 2013

EMC believes the information in this publication is accurate as of its publication date. The information is subject to change without notice.

The information in this publication is provided as is. EMC Corporation makes no representations or warranties of any kind with respect to the information in this publication, and specifically disclaims implied warranties of merchantability or fitness for a particular purpose. Use, copying, and distribution of any EMC software described in this publication requires an applicable software license.

EMC², EMC, EMC Centera, EMC ControlCenter, EMC LifeLine, EMC OnCourse, EMC Proven, EMC Snap, EMC SourceOne, EMC Storage Administrator, Acartus, Access Logix, AdvantEdge, AlphaStor, ApplicationXtender, ArchiveXtender, Atmos, Authentica, Authentic Problems, Automated Resource Manager, AutoStart, AutoSwap, AVALONidm, Avamar, Captiva, Catalog Solution, C-Clip, Celerra, Celerra Replicator, Centera, CenterStage, CentraStar, ClaimPack, ClaimsEditor, CLARiiON, ClientPak, Codebook Correlation Technology, Common Information Model, Configuration Intelligence, Connectrix, CopyCross, CopyPoint, CX, Dantz, Data Domain, DatabaseXtender, Direct Matrix Architecture, DiskXtender, DiskXtender 2000, Document Sciences, Documentum, elnput, E-Lab, EmailXaminer, EmailXtender, Engenuity, eRoom, Event Explorer, FarPoint, FirstPass, FLARE, FormWare, Geosynchrony, Global File Virtualization, Graphic Visualization, Greenplum, HighRoad, HomeBase, InfoMover, Infoscapes, InputAccel, InputAccel Express, Invista, Ionix, ISIS, Max Retriever, MediaStor, MirrorView, Navisphere, NetWorker, OnAlert, OpenScale, PixTools, Powerlink, PowerPath, PowerSnap, QuickScan, Rainfinity, RepliCare, RepliStor, ResourcePak, Retrospect, RSA, SafeLine, SAN Advisor, SAN Copy, SAN Manager, Smarts, SnapImage, SnapSure, SnapView, SRDF, StorageScope, SupportMate, SymmAPI, SymmEnabler, Symmetrix, Symmetrix DMX, Symmetrix VMAX, TimeFinder, UltraFlex, UltraPoint, UltraScale, Unisphere, Viewlets, Virtual Matrix, Virtual Matrix Architecture, Virtual Provisioning, VisualSAN, VisualSRM, VMAX, VNX, VNXe, Voyence, VPLEX, VSAM-Assist, WebXtender, xPression, xPresso, YottaYotta, the EMC logo, and the RSA logo, are registered trademarks or trademarks of EMC Corporation in the United States and other countries. Vblock is a trademark of EMC Corporation in the United States.

VMware are registered trademarks or trademarks of VMware, Inc. in the United States and/or other jurisdictions.

All other trademarks used herein are the property of their respective owners.

For the most up-to-date regulatory document for your product line, go to the technical documentation and advisories section on the EMC online support website.

CONTENTS

Chapter 1	Installing PowerPath Viewer Console	
	Install PowerPath Viewer Console.....	6
	After you install PowerPath Viewer Console	7
Chapter 2	Installing PowerPath Management Component	
	Installing PowerPath Management Component package.....	10
	Before you install PowerPath Management Component.....	10
	Install and enable Management Component on Windows using interactive GUI	11
	Install and enable Management Component on Windows using silent CLI.....	12
	Install and enable Management Component on Linux	14
	Configure Management Component on Linux with SNMP daemon	16
	Install and enable Management Component on Solaris	16
	Install and enable Management Component on HP-UX	17
	Install and enable Management Component on AIX.....	18
Chapter 3	Upgrading PowerPath Management Component	
	Upgrading PowerPath with Management Component	22
	After you upgrade PowerPath for Windows with Management Component	24
	Upgrade to Management Component 5.7 on Windows	24
	Upgrade Management Component on Windows using interactive GUI.....	24
	Upgrade Management Component on Windows using silent CLI	25
	Upgrade Management Component on Linux	25
Chapter 4	Modifying PowerPath Management Component Configuration Parameters	
	Modify configuration parameters on Windows.....	28
	Modify configuration parameters on Linux and UNIX.....	28
	Modify configuration parameters on PowerPath/VE for VMware vSphere	29
Chapter 5	Removing PowerPath Viewer Console	
	Before you remove PowerPath Viewer Console	32
	Remove PowerPath Viewer Console.....	32
	After you remove PowerPath Viewer Console	32
Chapter 6	Removing PowerPath Management Component	
	Remove Management Component on PowerPath 5.3-5.5 for Windows...	34
	Remove Management Component on PowerPath 5.7 for Windows.....	35
	Remove Management Component on Linux 5.3-5.6.....	35
	Disable Management Component on Linux 5.7.....	36
	Remove Management Component on Solaris 5.3 and minor releases	36
	Disable Management Component on Solaris 5.5	36

	Remove Management Component on HP-UX on 5.1 SP2	37
	Disable Management Component on HP-UX 5.2	37
	Remove Management Component on AIX	37
	After you remove PowerPath Management Component	37
Appendix A	Files changed by PowerPath Viewer	
	Files or programs changed by PowerPath Viewer	40
Appendix B	PowerPath Management Component Log Messages and Troubleshooting	
	Log messages	42
	Error types.....	42
	Message types	42
	Message categories and descriptions.....	42
	Troubleshoot.....	48
	Obtain information on Management Component	48
	Start and stop the emcp_mond Service on Linux	48
	Stop and start the emcp_mond Service on Solaris.....	48
	Stop and start the emcp_mond daemon on HP-UX	48

CHAPTER 1

Installing PowerPath Viewer Console

This chapter discusses the following topics:

- ◆ [Install PowerPath Viewer Console](#) 6
- ◆ [After you install PowerPath Viewer Console](#) 7

Install PowerPath Viewer Console

The following procedure is applicable to Console installation and upgrade.

Upgrades are supported from all Console versions.

1. Download the PowerPath Viewer package on the Support section of the EMC Online Support site at <http://support.emc.com>. From the **Support by Product** pages, search for PowerPath using **Find a Product > Downloads**.

2. Unzip the package PowerPath Viewer file and save it on a shared or local network drive.

For example:

EMCPowerPathViewer.1.0.1.b040.zip

3. Extract the .exe and LICENSE.txt contained in PowerPath Viewer zip file.
4. Save the PowerPath Viewer package onto your system.

For example:

EMCPowerPathViewer.<version>b000.exe

where <version> is the PowerPath Viewer version and bxxx is the build number.

For example:

EMCPowerPathViewer.1.0.1.b040.exe

5. Double-click the PowerPath Viewer package.
6. PowerPath Viewer InstallAnywhere opens. Click **Download Installer for Windows**.
7. In the Internet Explorer – Security Warning, click **Run**.
8. In the **PowerPath Viewer Introduction** dialog box, click **Next**.
9. In the **PowerPath Viewer License Agreement** dialog box, read the terms of the License Agreement, and if you accept the terms, select **I accept the terms of the License Agreement and click Next**.

If you do not accept the terms and conditions of the License Agreement, click **Cancel**. The installation does not proceed.

Note that at any time you can click **Previous** to go back to the previous dialog box.

10. In the **Where Would You Like to Install?** field of the **Choose Install Folder** dialog box, do one of the following:
 - Accept the default directory. The default location:
 - for an X86 host is c:\Program Files\EMC\EMC PowerPath Viewer
 - for an X64 host is: c:\Program Files (x86)\EMC\EMC PowerPath Viewer
 - Type the directory path of the directory that you would like for the Installation Folder.
 - Click **Choose** to browse to the directory that you would like for the Installation Folder and click **Next**.

11. In the **Choose Shortcut Folder** dialog box, select the radio button corresponding to the location where you would like the Shortcut Folder to be created and click **Next**.

The default shortcut for the Install Folder is **Start > All Programs > EMC PowerPath Viewer > EMC PowerPath Viewer**.

12. If:

- this is the first installation of PowerPath Viewer on your host, or
- there was a previous installation of PowerPath Viewer on your host and PowerPath Viewer was removed without preserving the user configuration information,

Proceed to [step 13 on page 7](#) .

If there was a previous installation of PowerPath Viewer on your host and the user configuration information was preserved when PowerPath Viewer was removed, in the **User Configuration** dialog box, select the radio button corresponding to your selection for user configuration preservation and click **Next**.

13. In the **Pre-Installation Summary** dialog box, review your installation choices:

- If you would like to modify your choices, select **Previous**.
- If you are satisfied with your installation choices, select **Install**.

14. In the **Install Complete** dialog box, click **Done**.

After you install PowerPath Viewer Console

- ◆ Verify that the Viewer Console is installed:

Go to the location that you selected for PowerPath Viewer Shortcut Folder in [step 11 on page 7](#) of “[Install PowerPath Viewer Console](#)” and verify that **PowerPath Viewer** is there.

CHAPTER 2

Installing PowerPath Management Component

This chapter discusses the following topics:

- ◆ Installing PowerPath Management Component package 10
- ◆ Before you install PowerPath Management Component 10
- ◆ Install and enable Management Component on Windows using interactive GUI 11
- ◆ Install and enable Management Component on Windows using silent CLI..... 12
- ◆ Install and enable Management Component on Linux..... 14
- ◆ Configure Management Component on Linux with SNMP daemon 16
- ◆ Install and enable Management Component on Solaris 16
- ◆ Install and enable Management Component on HP-UX 17
- ◆ Install and enable Management Component on AIX..... 18

Installing PowerPath Management Component package

Note: PowerPath Viewer on VMware vSphere hosts does not require a Management Component. The *EMC PowerPath Viewer Release Notes* provides more information.

On all supported PowerPath Management Component operating systems:

- A reboot is not required.
- There is no I/O disruption.

Before you install PowerPath Management Component

Note that:

- ◆ beginning with PowerPath 5.7 for Windows, the Management Component is included with the PowerPath package. Separate installation is not required. The *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides Management Component installation information.
- ◆ beginning with PowerPath 5.7 for Linux, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [step 3 on page 15](#).
- ◆ beginning with PowerPath 5.5 for Solaris, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [Step 5 on page 16](#).
- ◆ beginning with PowerPath 5.2 for HP-UX, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [step 4 on page 17](#).

For earlier PowerPath versions, carry out the following pre-installation steps:

- If you are installing on a Windows host, ensure that you have administrative privileges on the host on which you are installing PowerPath Management Component. Non-administrative users cannot enable PowerPath Management Component.
- If you are installing on a Linux and UNIX host, ensure that you have root privileges on the host on which you are installing PowerPath Management Component.
- Ensure that PowerPath is installed on all the hosts on which you plan to install PowerPath Viewer Management Component.
- If you are installing on a Solaris or AIX host that supports SNMP and you want PowerPath to interact with SNMP, ensure that SNMP is already enabled. The PowerPath installation and administration guides for Solaris and AIX provide SNMP configuration information.
- Ensure that you have a properly configured DNS environment. Successful discovery of your remote hosts on PowerPath Viewer using the IP address and hostname requires a properly configured DNS environment. PowerPath Viewer returns a host discovery failure if provided an IP address or hostname resulting from an improperly configured DNS environment.

- Determine the TCP port that you will assign to PowerPath Viewer. The default and recommended port is **9083**; the valid, alternate port range is 49152–65535.
- If there is a firewall between PowerPath Viewer and the remote PowerPath host, open the TCP port on your firewall that you have assigned to PowerPath Viewer in the previous step.

Note that TCP port connections are initiated by PowerPath Viewer Console and remain open while the Console is managing the remote host.

- If you are installing on a Windows host and you are using the CLI silent installation method, ensure that you create the log file directory before beginning the installation. The CLI silent installation fails without any indication of error if the log file directory does not exist prior to installation.

Install and enable Management Component on Windows using interactive GUI

Note that this procedure is applicable to the following versions of the Management Component for Windows:

- ◆ 5.3 and minor releases
- ◆ 5.5 and minor releases

Beginning with PowerPath 5.7 for Windows, the Management Component is included with the PowerPath package. The *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides Management Component installation information.

The interactive GUI installation is the default installation method:

1. Download the PowerPath Management Component installation package on the Support section of the EMC Online Support site at <http://support.emc.com>. From the **Support by Product** pages, search for PowerPath using **Find a Product > Downloads**.

2. Double-click on the setup file
EMCPower.MgmtComponent.<platform>.<version>.bxxx.exe

where <Platform> is the platform architecture, <version> is the PowerPath version, and bxxx is the build number.

For example: EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe.

3. If you are installing PowerPath Management Component on:
 - PowerPath 5.3: Click **Install** to install Visual C++ 8.0 run-time components and associated files. When the Visual C++ 8.0 installation completes, the PowerPath Management Component InstallShield Wizard launches. Proceed to [step 4 on page 11](#).
 - PowerPath 5.3 SP1 or PowerPath 5.5: In the **Welcome** window, click **Next**.
4. In the **Ready to Install the Program** window, click **Install** if you want to proceed with installation. Click **Back** if you want to review or change settings.

The installer automatically sets the PowerPath Management Component installation file directory to the same location as the PowerPath installation directory.

5. In the **Configure PowerPath Management Component** window, follow the steps below to configure the Management Component:

- In the **Enable Management Component** check box, ensure that **Enable** is selected. It should be selected by default.
- In the **Port Number** field, do one of the following:
 - Maintain the default and recommended port value of **9083**. This is the recommended setting and indicated as **Registered** under the **Port Number** field.
 - Change the port value if required; for example, if another application is already using the default port. The valid, alternate port range is 49152–65535 and indicated as **Alternatives** under the **Port Number** field.

[“Before you install PowerPath Management Component” on page 10](#) provides important information on the port if there is a firewall between PowerPath Viewer and the remote PowerPath host.
- In the **Heartbeat Interval** field, do one of the following:
 - Maintain the default value of **10**. This value is in minutes.
 - Change the heartbeat interval value. The valid heartbeat interval value is 1–60. EMC recommends that the heartbeat interval be based on the number of hosts being managed.
- In the **Disable Single Path Symmetrix GateKeeper Setup Warning** check box, do one of the following:
 - Maintain the default setting if you do not want Setup errors to be reported for Symmetrix gatekeeper devices that are configured with a single path.
 - Change the setting if Symmetrix gatekeeper devices are multipathed in your data center.

Note: PowerPath supports both single-path and multipath configured Symmetrix gatekeepers. Consult your network administrator for more information about your Symmetrix gatekeeper configuration.

If you are installing the PowerPath Management Component on a Windows 2008 host, issue 348562 in *EMC PowerPath Viewer Release Notes* provides important information about setting configuration parameters on your host.

6. Click **Finish**.
7. Verify that the Management Component is installed correctly on the hosts where you have installed PowerPath Management Component:

Go to **Control Panel > Add or Remove Programs** and verify that PowerPath Management Component is there.

After upgrading PowerPath Management Component, go to **Control Panel > Add or Remove Programs** and verify that there is only one entry PowerPath and PowerPath Management Component.

Install and enable Management Component on Windows using silent CLI

Note that this procedure is applicable to the following versions of the Management Component for Windows:

- ◆ 5.3 and minor releases

◆ 5.5 and minor releases

Beginning with PowerPath 5.7 for Windows, the Management Component is included with the PowerPath package. The *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides Management Component installation information.

The silent CLI installation is the alternative installation method:

1. At the command prompt, type the following command:

```
<drive>:\<PowerPathManagementComponent_pkg_name> /s /v"/q /L*v
<logfile> <Property>=<Value>"
```

Where:

- *<drive>* is the drive letter, for example, C.
- *<PowerPath_pkg_name>* is the PowerPath package name.
For example: EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe
- *<install_parameters>* is one or more of the parameters in the **Parameters** column described in [Table 1 on page 13](#).
- *<logfile>* creates the log file where the log message will be sent; for example, C:\logs\PPManagementComponent.log

Note: Ensure the specified directory exists within the specified path (C:\logs)

- *<Property>=<Value>* is one or more of the optional properties described under **Properties** in the */vParameters* column in [Table 1 on page 13](#).

Silent CLI installation parameters

[Table 1 on page 13](#) lists and describes the PowerPath Management Component silent CLI installation parameters:

Table 1 PowerPath Management Component silent CLI installation parameters (page 1 of 2)

Parameter	Description
/s	Suppresses installation shield dialog boxes
/v	Directs InstallShield to pass the specified string (enclosed in quotes) to the Microsoft Installer (MSI). Example: /v"<Property>=<Value>" Where: <Property> and <Value> descriptions follow

Table 1 PowerPath Management Component silent CLI installation parameters (page 2 of 2)

Parameter	Description	
	Property	Value description
	ENABLE	1 - Enables PowerPath Management Component. 0 - Disables PowerPath Management Component.
	PORT_NO	Communication port between the Management Component and the Console over TCP/IP. 9083 is the reserved port number. Valid value range is 49152–65535 or 9083.
	HEARTBEAT	Update sent by the Management Component to the connected Consoles at the preset intervals. Valid heartbeat value range 1–60.
	SINGLEPATH_GK_OK	1- Disables single path Symmetrix Gatekeeper setup warnings. 0 -Enables single path Symmetrix Gatekeeper setup warnings.
/q	Indicates a quiet installation (no user interaction).	
/L*v <logfile>	Directs the Microsoft Installer to write verbose output to the file specified. The target directory for the log file must exist before starting a silent installation by using the logging option. This is a Windows installer engine requirement. “Before you install PowerPath Management Component” on page 10 provides more information.	

For example,

```
C:\EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe /s /v"/q ENABLE=1 PORT_NO=9083 HEARTBEAT=1 SINGLEPATH_GK_OK=1 /L*v C:\logs\Install_ManagementComponent.log"
```

Note that, because this is a silent installation, if an invalid port or heartbeat value is specified in the installation command, no pop-up error message appears. An error message is logged into the installer log file if you specified the /L*v <Path> option in the installation command, and installation is completed without enabling the Management Component.

2. If you specified the /L*v <Path> command line parameter, verify in the installer log files that there are no error messages regarding incorrect port or heartbeat values specified in the installation command.

Note: The installation log file is created only if you specified the /L*v <Path> option in the installation command.

Install and enable Management Component on Linux

This procedure applies to the following PowerPath for Linux Management Component versions:

- ◆ 5.3 and minor releases

- ◆ 5.5 and minor releases
- ◆ 5.6 and minor releases

Beginning with PowerPath 5.7 for Linux Management Component, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [step 3 on page 15](#) .

1. Log in as root.
2. Install the management component package. Type:

```
> rpm -iv EMCPower.MgmtComponent.<platform>-<version>-xxx.<distribution>.<architecture>.rpm
where <Platform> is the platform, <version> is the PowerPath version, xxx is the build
number, <distribution> is the Linux distribution, and <architecture> is the system
architecture.
```

For example:

```
> rpm -iv EMCPower.MgmtComponent.LINUX-5.3.2.00.00-044.RHEL5.x86_64.rpm
```

3. Enable the Management Component. Type:

```
> /sbin/emcp_mond_edit
```

- a. Start the editor. Note that if the emcp_mond.conf file does not exist on the machine, the editor will read the sample configuration file.
- b. The Management Component is disabled by default. To enable the Management Component service using default configuration parameter values, type **1** and **13** to confirm and save, then type the number option to exit, save, and restart the Management Component.

EMC recommends using default configuration parameters. To modify the configuration parameters, go to [“Modify configuration parameters on Linux and UNIX” on page 28](#).

4. Verify that emcp_mond is running and that PowerPath Management Component is started. Type:

```
> pgrep -xl emcp_mond
```

Alternatively, verify the messages log for successful Management Component installation and start. Type:

```
> tail /var/log/messages
```

The message log contains the messages such as the following:

```
<date time host name> PowerPath: Management Component: Info: Attempting to start.    Version:
5.3.SP1-b044.
<date time host name> PowerPath: Management Component: Info: Config parameters valid.  Config:
port#=9083, heartbeat interval=10 mins, singlePathGkOk=1
<date time host name> PowerPath: Management Component: Info: Service started.
```

5. Verify that the Management Component is installed correctly on the hosts where you have installed PowerPath Management Component. Type:

```
# rpm -qa | grep EMC
```

Output such as the following appears:

```
EMCpower.MgmtComponent.LINUX-5.3.2.00.00-046
EMCpower.LINUX-5.3.1.02.00-007
```

The output shows the Management Component package is installed.

Configure Management Component on Linux with SNMP daemon

Use this procedure if you have the SNMP daemon running on your system:

1. Carry out one of the following steps to enable SNMP trap processing:
 - Run `emcp_mond_edit`:
 - a. Select line 5 to enable SNMP trap processing
 - b. Select line13 to write the `emcp_mond` configuration file and exit the program.
 - Uncomment following line in `emcp_mond.conf` file:

```
## MgmtComponentEnable=TRUE
```

2. Start the SNMP service. Type:

```
svcadm enable -s system/emcpower/emcp_mond
```

3. Restart the PowerPath monitoring daemon (`emcp_mond`) from the script. Type:

```
/etc/init.d/emcp_mond.sh start
```

Install and enable Management Component on Solaris

This procedure applies to the PowerPath 5.3 and minor releases for Solaris Management Component.

Beginning with PowerPath 5.5 for Solaris Management Component, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [Step 5 on page 16](#).

1. Define the parameter `local0.info` `/var/adm/messages` in `/etc/syslog.conf` on the host on which you are installing PowerPath Management Component. This is to ensure that Management Component log messages appear in the log file.
2. Terminate the current PowerPath SNMP daemon if it's running. Type:

```
> /etc/rc3.d/S78emcp_mond stop
```

3. Uncompress and untar the PowerPath Management Component package. Type:

```
gunzip EMCPower.MgmtComponent.<platform>.<version>.bxxx.tar.gz | tar -xvf -
```

For example:

```
gunzip EMCPower.MgmtComponent.SOLARIS.5.3.bxxx.tar.gz | tar -xvf -
```

4. Install the Management Component package. Type:

```
pkgadd -d .EMCPower.MgmtComponent
```

5. Enable the Management Component. Type:

```
> /etc/emc/bin/emcp_mond_edit
```


- a. Start the editor. Note that if the `emcp_mond.conf` file does not exist on the machine, the editor will read the sample configuration file.
- b. The Management Component is disabled by default. To enable the Management Component service using default configuration parameter values, type **1** and **13** to confirm the changes and save, then type the number option to exit, save, and restart the Management Component.

EMC recommends using default configuration parameters. To modify the configuration parameters, go to [“Modify configuration parameters on Linux and UNIX” on page 28](#).

6. Verify `emcp_mond` is running. Type:

```
> pgrep -xl emcp_mond
```

Verify that the message log contains the following messages:

```
> tail /var/adm/messages
<date time host name> PowerPath: Management Component: Info: Attempting to start.
Version: 5.3-b006.
<date time host name> PowerPath: Management Component: Info: Config parameters valid.
Config: port#=9083, heartbeat interval=10 mins, singlePathGkOk=1
<date time host name> PowerPath: Management Component: Info: Service started.
```

[“Stop and start the emcp_mond Service on Solaris” on page 48](#) in [“Troubleshoot”](#) provides information if you need to stop and start the `emcp_mond` Service.

Install and enable Management Component on HP-UX

This procedure applies to the PowerPath 5.1 SP2 for HP-UX Management Component.

Beginning with PowerPath 5.2 for HP-UX Management Component, the Management Component is included with the PowerPath package. Separate installation is not required. Go directly to [step 4 on page 17](#).

1. Save the compressed the HPUX Management Component to your host locally. Use the `/tmp` directory as the file location.
2. Unzip the PowerPath Management Component package. Type:

```
gunzip /tmp/EMCPower.MgmtComponent.<platform>.<architecture>.<version>.bxxx.tar.gz
For example:
```

```
gunzip /tmp/EMCPower.MgmtComponent.HPUX.PI.5.1.SP2.bxxx.tar.gz
```

3. Install the Management Component. Type:

```
# swinstall -x mount_all_filesystems=false -s /tmp/
EMCPower.MgmtComponent.<platform>.<architecture>.<version>.bxxx.tar
```

For example:

```
# swinstall -x mount_all_filesystems=false -s /tmp/
EMCPower.MgmtComponent.HPUX.PI.5.1.SP2.b001.tar EMCpower_MgmtComponent_patch
```

4. Enable the Management Component package. Type:

```
/etc/emc/bin/emcp_mond_edit.
```

- a. Start the editor. Note that if the `emcp_mond.conf` file does not exist on the machine, the editor will read the sample configuration file.

- b. The Management Component is disabled by default. To enable the Management Component service using default configuration parameter values, type **1** and **6** to confirm the changes and save, then type the number option to exit, save, and restart the Management Component.

EMC recommends using default configuration parameters. To modify the configuration parameters, go to [“Modify configuration parameters on Linux and UNIX” on page 28](#).

5. Verify that the Management Component is installed and started:

Verify that the sys log contains the following messages:

```
<date time host name> PowerPath: Management Component: Info: Attempting to start.
Version: 5.1.SP2-b001.
<date time host name> PowerPath: Management Component: Info: Config parameters valid.
Config: port#=9083, heartbeat interval=10 mins, singlePathGkOk=1.
<date time host name> PowerPath: Management Component: Info: Service started.
```

[“Stop and start the emcp_mond daemon on HP-UX” on page 48](#) in [“Troubleshoot”](#) provides information if you need to stop and start the emcp_mond daemon.

Install and enable Management Component on AIX

1. Ensure that the current PowerPath emcp_mond SNMP daemon is terminated. Type:

```
> /etc/rc.emcp_mond stop
```

The existing script will either terminate emcp_mond or print a message saying it was not running.

2. Uncompress and untar the PowerPath Management Component package. Type:

```
gunzip EMCPower.MgmtComponent.<platform>.<version>.bxxx.tar.gz | tar -xvf -
```

For example:

```
gunzip EMCPower.MgmtComponent.AIX.5.3.bxxx.tar.gz | tar -xvf -
```

3. Install the Management Component package. Type:

```
> installp -ad . EMCpower.MgmtComponent
```

4. Enable the Management Component package. Type

```
/etc/emc/bin/emcp_mond_edit.
```

- a. Start the editor. Note that if the emcp_mond.conf file does not exist on the machine, the editor will read the sample configuration file.
- b. The Management Component is disabled by default. To enable the Management Component service using default configuration parameter values, type **1** and **13** to confirm the changes and save, then type the number option to exit, save, and restart the Management Component.

EMC recommends using default configuration parameters. To modify the configuration parameters, go to [“Modify configuration parameters on Linux and UNIX” on page 28](#)

5. Verify that emcp_mond is running. Type:

```
> ps -ef | egrep emcp_mond
```

Verify that the message log contains messages similar to the following:

```
> tail /usr/safe.log
```

```
<date time host name>:info PowerPath: Management Component: Info: Attempting to start.  
Version: 5.3-b001.  
<date time host name>:info PowerPath: Management Component: Info: Service started.  
<date time host name>:info PowerPath: Management Component: Info: Config parameters valid.  
Config: port#=9083, heartbeat interval=10 mins, singlePathGkOk=1
```


CHAPTER 3

Upgrading PowerPath Management Component

This chapter discusses the following topics:

- ◆ Upgrading PowerPath with Management Component..... 22
- ◆ After you upgrade PowerPath for Windows with Management Component 24
- ◆ Upgrade Management Component on Windows using interactive GUI..... 24
- ◆ Upgrade Management Component on Windows using silent CLI 25
- ◆ Upgrade Management Component on Linux 25

Upgrading PowerPath with Management Component

Table 2 on page 22 provides an overview of the upgrade procedures for PowerPath by version with PowerPath Management Component.

Table 2 PowerPath upgrade procedures by version with PowerPath Management Component

Platform	PowerPath version on host	PowerPath upgrade version	Step 1	Step 2	Step 3
Windows	5.3	5.3 SP1	<p>Make a note of heartbeat and port values. Remove PowerPath Management Component from host. Follow the procedure in “Remove Management Component on PowerPath 5.7 for Windows” on page 35.</p> <p>Issue 353017 of “Known Problems” in the <i>EMC PowerPath Viewer Release Notes</i> provides more information.</p>	Upgrade to PowerPath 5.3 SP1. The PowerPath and PowerPath/VE for Windows Installation and Administration Guide provides installation procedures.	Install PowerPath Management Component. Follow the procedure in “Install and enable Management Component on Windows using interactive GUI” on page 11 .
	5.3 / 5.3 SP1	5.5	Upgrade to PowerPath 5.5 for Windows. The PowerPath and PowerPath/VE for Windows Installation and Administration Guide provides installation procedures.	Upgrade PowerPath Management Component. Follow the procedure in “Install and enable Management Component on Windows using interactive GUI” on page 11 .	—
	5.5	5.5 P01	Install PowerPath Management Component. Follow the procedure in “Install and enable Management Component on Windows using interactive GUI” on page 11 .	Upgrade to PowerPath 5.5 P01 and reboot the Windows host. The <i>PowerPath and PowerPath/VE for Windows Installation and Administration Guide</i> provides installation procedures.	Run the Repair function for the PowerPath Management Component from the Add/Remove Programs panel and verify Management Component functionality.
	5.3 and minor releases 5.5 and minor releases	5.7	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on PowerPath 5.3-5.5 for Windows” on page 34 .	Upgrade the PowerPath for Windows package. The <i>PowerPath and PowerPath/VE for Windows Installation and Administration Guide</i> provides upgrade procedures.	—

Table 2 PowerPath upgrade procedures by version with PowerPath Management Component

Platform	PowerPath version on host	PowerPath upgrade version	Step 1	Step 2	Step 3
Linux	5.3 5.5 5.6	PowerPath version with same minor number as the existing PowerPath version on host	Upgrade the PowerPath for Linux package. The <i>PowerPath for Linux Installation and Administration Guide</i> provides upgrade procedures.	Install the Management Component. Follow the procedure provided in “Install and enable Management Component on Linux” on page 14.	–
	5.3 5.5 5.6	PowerPath version with different major version number as the existing PowerPath version on host	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on Linux 5.3-5.6” on page 35 .	Upgrade the PowerPath for Linux package. The <i>PowerPath for Linux Installation and Administration Guide</i> provides upgrade procedures.	Install the Management Component. Follow the procedure provided in “Install and enable Management Component on Linux” on page 14.
	5.7	PowerPath version with same minor number as the existing PowerPath version on host	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on Linux 5.3-5.6” on page 35 .	Upgrade the PowerPath for Linux package. The <i>PowerPath for Linux Installation and Administration Guide</i> provides upgrade procedures.	–
AIX	5.3 5.5	PowerPath version with same minor number as the existing PowerPath version on host	Upgrade the PowerPath for AIX package. The <i>PowerPath for AIX Installation and Administration Guide</i> provides upgrade procedures.	Install the Management Component. Follow the procedure provided in “Install and enable Management Component on AIX” on page 18.	–
	5.3 5.5	PowerPath version with different major version number as the existing PowerPath version on host	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on AIX” on page 37.	Upgrade the PowerPath for AIX package. The <i>PowerPath for AIX Installation and Administration Guide</i> provides upgrade procedures.	Install the Management Component. Follow the procedure provided in “Install and enable Management Component on AIX” on page 18.
Solaris	5.3	PowerPath version with same minor number as the existing PowerPath version on host	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on Solaris 5.3 and minor releases” on page 36	Upgrade PowerPath for Solaris package. The <i>PowerPath for Solaris Installation and Administration Guide</i> provides upgrade procedures.	Install the Management Component. Follow the procedure provided in “Install and enable Management Component on Solaris” on page 16

Table 2 PowerPath upgrade procedures by version with PowerPath Management Component

Platform	PowerPath version on host	PowerPath upgrade version	Step 1	Step 2	Step 3
	5.3 5.5	PowerPath version with different major version number as the existing PowerPath version on host	Remove PowerPath Management Component. Follow the procedure provided in “Remove Management Component on Solaris 5.3 and minor releases” on page 36.	Upgrade PowerPath for Solaris package. The <i>PowerPath for Solaris Installation and Administration Guide</i> provides upgrade procedures.	–
HP-UX	5.1 SP2 5.2	PowerPath version with different major version number as the existing PowerPath version on host	Remove Management Component. Follow the procedure provided in “Remove Management Component on HP-UX on 5.1 SP2” on page 37.	Upgrade PowerPath for HP-UX package. The <i>PowerPath for HP-UX Installation and Administration Guide</i> provides upgrade procedures.	–
VMware vSphere	5.4 and service packs 5.7	5.4 and service packs	N/A No upgrade required; The Management Component is not required for PowerPath/VE for VMware vSphere. The <i>EMC PowerPath Viewer Release Notes</i> provides more information.		

After you upgrade PowerPath for Windows with Management Component

Verify that PowerPath Management Component functionalities are not affected by PowerPath for Windows installation:

1. Check the Windows application log for Management Component startup log messages.
2. Ensure that you have the PowerPath Viewer **Re-establish lost connection time** value set to a low value, such as 1 minute. This ensures that PowerPath Viewer attempts to reconnect with the Windows host within the set value of Windows host reboot.

Upgrade to Management Component 5.7 on Windows

You must manually remove any previous existing version of the PowerPath Management Component before installing or upgrading to PowerPath 5.7, which includes the Management Component. The *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides Management Component installation information.

Upgrade Management Component on Windows using interactive GUI

The interactive GUI is the default method for upgrading the Management Component.

Follow the procedure indicated in [“Install and enable Management Component on Windows using interactive GUI”](#) on page 11.

Upgrade Management Component on Windows using silent CLI

The silent CLI method is the alternative method for upgrading the Management Component.

Follow the procedure indicated in [“Install and enable Management Component on Windows using silent CLI”](#) on page 12.

There are no separate arguments or commands to upgrade using the CLI method.

Upgrade Management Component on Linux

1. Follow the procedure provided in [“Remove Management Component on Linux 5.3-5.6”](#) on page 35.
2. Follow the procedure provided in [“Install and enable Management Component on Linux”](#) on page 14.

CHAPTER 4

Modifying PowerPath Management Component Configuration Parameters

This chapter discusses the following topics:

- ◆ [Modify configuration parameters on Windows.....](#) 28
- ◆ [Modify configuration parameters on Linux and UNIX](#) 28
- ◆ [Modify configuration parameters on PowerPath/VE for VMware vSphere](#) 29

Modify configuration parameters on Windows

Note that this procedure is applicable to the following versions of the Management Component for Windows:

- ◆ 5.3 and minor releases
- ◆ 5.5 and minor releases

Beginning with PowerPath 5.7 for Windows, the Management Component is included with the PowerPath package. The *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides Management Component configuration information.

Modify the configuration parameters the using interactive GUI.

[Table 1 on page 13](#) provides configuration parameter descriptions.

1. Go to **Windows Add/Remove Programs**.
2. Right-click EMC PowerPath Management Component and select **Change**.

Alternatively, double-click on the PowerPath Management Component installer file `EMCPower.MgmtComponent.<platform>.<version>.bxxx.exe` where `<Platform>` is the platform architecture, `<version>` is the PowerPath version, and `bxxx` is the build number. For example, `EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe`
3. In the **Welcome to InstallShield Wizard for EMC PowerPath Management Component** window, click **Next**.
4. In the **Configure PowerPath Management Component** window, make any of the following configuration changes:
 - Check or uncheck the checkbox for **Enable or disable the PowerPath Management Component** to enable or disable the Management Component.
 - Check or uncheck the checkbox for **Disable Single Path Symmetrix GateKeeper Setup Warnings** to enable or disable the feature, respectively setting. Note that if you disable this setting, setup errors are reported for gatekeeper devices configured with a single path.
 - Change the number in the **Port Number** field to modify TCP port number. The valid, alternate port range is 49152–65535 and indicated as **Alternatives** under the **Port Number** field.
 - Change the number in the **Heartbeat Interval** field to modify the heartbeat interval. The valid heartbeat interval value is 1–60. EMC recommends that the heartbeat interval be based on the number of hosts being managed.
5. Click **Finish**.

Modify configuration parameters on Linux and UNIX

[Table 1 on page 13](#) provides configuration parameter descriptions.

1. Log in as root.
2. Go to `emcp_mond_edit` in `/etc/emc/bin` to start the Management Component editor.

3. To modify the heartbeat interval:
 - Type 2
 - Type the number of the desired heartbeat interval. The valid range in minutes is 1–60.
4. To modify the port number:
 - Type 3.
 - Type the number of the desired port. Ensure that the port is not already in use by another application. Note that the Management Component defaults to port 9083 if the port number entered is already in use.

The default and recommended port number is 9083. The valid range is 49152–65535.
5. To disable Single Path Symmetrix GateKeeper warnings:
 - Type 4.

Note that options 5 through 11 apply to modification of SNMP features, not PowerPath Viewer. The PowerPath release notes for your platform provide information on SNMP support.
6. Type the number option depending on your platform to confirm `emcp_mond.conf` and save, then type the number option to exit, save, and restart the Management Component.

Modify configuration parameters on PowerPath/VE for VMware vSphere

- ◆ VMware vSphere host polling interval

The polling interval is user-configurable in the Preferences > Settings tab of PowerPath Viewer. The default value is 10 minutes. The valid range is from 1 to 60 minutes.

The following parameters are not user-configurable on PowerPath/VE for VMware vSphere:
- ◆ Enable/disable

PowerPath Viewer Console communicates with the remote VMware vSphere host through the CIMOM, which is automatically enabled by default upon installation of PowerPath/VE on VMware vSphere hosts. As such, it is not possible to disable service between the remote VMware vSphere hosts and PowerPath Viewer Console once you have discovered your VMware vSphere hosts on PowerPath Console. To stop communication between the remote VMware vSphere hosts and the CIMOM, delete the remote VMware vSphere hosts from the Viewer.
- ◆ Allow single path configured gatekeepers

Disabling of Single Path Symmetrix GateKeeper Setup Warning is not supported on PowerPath/VE VMware vSphere hosts (see “Limitations” in *EMC PowerPath Viewer Release Notes*). As such, this parameter is not configurable on PowerPath/VE VMware vSphere hosts.
- ◆ PowerPath/VE VMware vSphere host port connection number

The VMware vSphere Port Connection number is limited to 5989. The VMware vSphere Port Connection number is not user-configurable. “Technical Notes” in *EMC PowerPath Viewer Release Notes* provides information on the PowerPath/VE VMware vSphere host connection port.

CHAPTER 5

Removing PowerPath Viewer Console

This chapter discusses the following topics:

- ◆ [Before you remove PowerPath Viewer Console.....](#) 32
- ◆ [Remove PowerPath Viewer Console](#) 32
- ◆ [After you remove PowerPath Viewer Console](#) 32

Before you remove PowerPath Viewer Console

- ◆ Ensure that PowerPath Viewer Console is closed before beginning removal. Attempts to remove the Console while a session is open results in an error. Issue 367152 in *EMC PowerPath Viewer Release Notes* provides more information.

Remove PowerPath Viewer Console

1. Go to the location where you installed the PowerPath Viewer shortcut in [“Install PowerPath Viewer Console”](#) on page 6 and select **Uninstall EMC PowerPath Viewer**.
Alternatively, go to:
 - a. **Settings > Control Panel > Programs > Programs and Features** > Select **EMC PowerPath Viewer**
 - b. Select **Uninstall**.
2. In the **Change PowerPath Viewer Installation, Uninstall PowerPath Viewer** window, click **Next**.
3. In the **Change EMC PowerPath Viewer Installation** window, select the radio button corresponding to your selection for user configuration preservation and click **Next**.
4. In the **Change PowerPath Viewer Installation, Uninstall Complete** window, click **Done**.

After you remove PowerPath Viewer Console

- ◆ Verify that the Console is removed:
Go to the location that you selected for PowerPath Viewer Shortcut Folder in [“Install PowerPath Viewer Console”](#) on page 6 and verify that PowerPath Viewer is not there.

CHAPTER 6

Removing PowerPath Management Component

This chapter discusses the following topics:

- ◆ Remove Management Component on PowerPath 5.3-5.5 for Windows 34
- ◆ Remove Management Component on PowerPath 5.7 for Windows 35
- ◆ Remove Management Component on Linux 5.3-5.6 35
- ◆ Disable Management Component on Linux 5.7 36
- ◆ Remove Management Component on Solaris 5.3 and minor releases 36
- ◆ Disable Management Component on Solaris 5.5 36
- ◆ Remove Management Component on HP-UX on 5.1 SP2 37
- ◆ Disable Management Component on HP-UX 5.2 37
- ◆ Remove Management Component on AIX 37
- ◆ After you remove PowerPath Management Component 37

Remove Management Component on PowerPath 5.3-5.5 for Windows

This section provides procedures to remove the Management Component for Windows on the following versions and using the following methods:

- ◆ Windows 5.3 and minor releases
- ◆ Windows 5.5 and minor releases
- ◆ Interactive GUI
- ◆ Silent CLI

Remove Management Component on Windows using interactive GUI

User settings are not preserved when PowerPath Management Component is removed from the host.

Removal on Windows 2003

1. Open the Control Panel and double-click **Add or Remove Programs**.
2. In the Add or Remove Programs panel, select **EMC PowerPath Management Component**, and click **Remove**.

Removal on Windows 2008

1. Open the Control Panel and double-click **Programs and Features**.
2. If User Account Control (UAC) is turned on, click **Yes** on the elevation. If UAC is not turned on, skip to [step 4 on page 34](#).
3. If you:
 - belong to the Administrative group, click **Allow** in the elevation.
 - are a standard user, type the administrative credentials to uninstall.
4. When prompted to remove PowerPath Management Component, click **Yes**.
5. Verify that PowerPath Management Component is no longer listed among the programs on the hosts where you have installed PowerPath Management Component:

Go to **Control Panel > Add or Remove Programs** and verify that PowerPath Management Component entry is not there.

Remove Management Component on Windows using silent CLI

1. At the command prompt, type the following command:

```
# <drive>:\<PowerPathManagementComponent_pkg_name> /s /v"/q REMOVE=ALL /L*v <logfile>"
```

Where:

- *<drive>* is the drive letter, for example, C.
- *<PowerPath_pkg_name>* is the PowerPath package name.

For example, EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe

For example,

```
C:\EMCPower.MgmtComponent.X64.5.3.SP1.P01.b022.exe /s /v"/q REMOVE=ALL /L*v C:\logs\Uninstall_ManagementComponent.log"
```

2. Verify that PowerPath Management Component is no longer listed among the programs on the hosts where you have installed PowerPath Management Component:
Go to **Control Panel > Add or Remove Programs** and verify that PowerPath Management Component entry is not there.

Remove Management Component on PowerPath 5.7 for Windows

This section provides procedures to remove the Management Component for Windows on the following versions and using the following methods:

- ◆ Windows 5.7
- ◆ Interactive GUI
- ◆ Silent CLI

Remove Management Component on Windows using interactive GUI

1. Go to **Add/Remove Programs** or **Programs and Features** and select the installed version of PowerPath.
2. Click **Change**.
3. In the Setup wizard Welcome window, click **Next**.
4. Select **Modify** and click **Next**.
5. Clear **Management Component** feature selection from the drop-down menu and click **Next**.
6. Click **Change**.
7. Click **Finish**.

PowerPath 5.7 uninstallation also removes the Management Component.

Remove Management Component on Windows using silent CLI

You can pass PPREMOVE=HA parameter to PowerPath installation program to remove the MANAGEMENT COMPONENT. "Uninstalling with the PowerPath command line" in the *PowerPath and PowerPath/VE for Microsoft Windows 5.7 Installation and Administration Guide*, available on EMC Online Support, provides more information.

Remove Management Component on Linux 5.3-5.6

This section provides procedures to remove the Management Component for Linux on the following versions:

- ◆ Linux 5.3 and minor releases
- ◆ Linux 5.5 and minor releases
- ◆ Linux 5.6 and minor releases

1. Log in as root.
2. Display the package name. Type:

```
# rpm -qa | grep EMCPower.MgmtComponent
```

3. Remove the software. Type:

```
# rpm -e EMCPower.MgmtComponent.<platform>- <version>- xxx
```

where *<Platform>* is the platform, *<version>* is the PowerPath version, and *xxx* is the build number.

For example:

```
rpm -e EMCPower.MgmtComponent.LINUX- 5.3.2.00.00- 044
```

8. Verify that the Management Component is removed from the hosts where you had installed it. Type:

```
# rpm -qa | grep EMC
```

Output such as the following appears:

```
EMCpower.LINUX-5.3.1.02.00-007
```

The output shows that the Management Component package is no longer installed.

Disable Management Component on Linux 5.7

Beginning with PowerPath 5.7 for Linux, the Management Component is included with the PowerPath package. There is no separate Management Component package to remove.

1. Type:

```
> /etc/emc/bin/emcp_mond_edit
```

2. Using configuration parameter values, type **1** and **13** to disable the Management Component, confirm the changes and save, then type the number option to exit, and save.

Remove Management Component on Solaris 5.3 and minor releases

1. Log in as root.

2. Remove the package: Type:

```
# pkgrm EMCPower.MgmtComponent
```

3. Verify that the package is removed. Type:

```
# pkginfo EMCPower.MgmtComponent
```

Upon successful package removal the following message displays:

```
ERROR: information for "EMCPower.MgmtComponent" was not found.
```

Disable Management Component on Solaris 5.5

Beginning with PowerPath 5.5 for Solaris Management Component, the Management Component is included with the PowerPath package. There is no separate Management Component package to remove.

1. Type:

```
> /etc/emc/bin/emcp_mond_edit
```

- Using configuration parameter values, type **1** and **13** to disable the Management Component, confirm the changes and save, then type the number option to exit, and save.

Remove Management Component on HP-UX on 5.1 SP2

- Log in as root.
- Remove the package. Type:

```
# swremove -x mount_all_filesystems=false EMCpower_MgmtComponent_patch
```

- Verify that the package is removed. Type:

```
# swlist
```

The output lists all installed packages. PowerPath Management Component should not be listed among the installed packages.

Disable Management Component on HP-UX 5.2

Beginning with PowerPath 5.2 for HP-UX Management Component, the Management Component is included with the PowerPath package. There is no separate Management Component package to remove.

- Type:

```
/etc/emc/bin/emcp_mond_edit.
```

- Using configuration parameter values, type **1** and **6** to disable the Management Component, confirm the changes and save, then type the number option to exit, and save.

Remove Management Component on AIX

- Log in as root.
- Remove the Management Component. Type:

```
# > installp -u EMCpower.MgmtComponent
```

- Verify that the package is removed. Type:

```
# lsllp -l | grep EMCpower.MgmtComponent
```

The output lists all installed packages. "EMCpower.MgmtComponent x.x.0.0 COMMITTED PowerPath Management Component" should not be listed among the installed packages.

After you remove PowerPath Management Component

Reboot is not required after removing the Management Component.

APPENDIX A

Files changed by PowerPath Viewer

This appendix discusses the following topics:

- ◆ [Files or programs changed by PowerPath Viewer.....](#) 40

Files or programs changed by PowerPath Viewer

Table 3 on page 40 lists the files or programs that are created or modified by the PowerPath Viewer installation, the PowerPath Viewer element affected by the program or file, and the file directory location.

Table 3 PowerPath Viewer installation file or program and location

PowerPath Viewer element	File or program and version	Directory Location
Console	<ul style="list-style-type: none"> Java™ SE Runtime Environment (build 1.6.0_13-b03) PowerPath Viewer Runtime Files 	<install location>\EMC\EMC PowerPath Viewer
	User-specific config files	<user home>\emc\PowerPath
Management Component for Windows	PowerPath Binaries <ul style="list-style-type: none"> Emcp_mpapi_rtl.dll EmcpLogMsgs.dll EmcpMgmtComp.exe 	<PowerPath Installation Directory>\PowerCommon
	Third Party Library: <ul style="list-style-type: none"> PthreadVC2.dll Ssleay32.dll Libeay32.dll 	
	Run Time: <ul style="list-style-type: none"> hostid_summary.xml hostid_detail.xml hostid_License.xml pp_version.bat powermt_version.txt 	
Management Component for Linux	<ul style="list-style-type: none"> /sbin/emcp_mond /sbin/emcp_mond_edit /lib/emcp_mond_netsnmp.so /lib/libemcp_mpapi_rtl.so /etc/init.d/emcp_mond.sh /etc/opt/emcpower/emcp_mond-sample.conf /etc/opt/emcpower/server.pem 	Root directory
Management Component for Solaris	Run Time: <ul style="list-style-type: none"> hostid_perf.xml 	
Management Component for HP-UX	Run Time: <ul style="list-style-type: none"> hostid_perf.xml 	

APPENDIX B

PowerPath Management Component Log Messages and Troubleshooting

This appendix discusses the following topics:

- ◆ Log messages 42
- ◆ Message types 42
- ◆ Message categories and descriptions..... 42
- ◆ Troubleshoot..... 48

Log messages

Error types

The types of errors that are logged to the application event log are:

- ◆ Asynchronous alert processing—These messages include errors that occur under the following circumstances:
 - Collecting PowerPath kernel events
 - Processing events
 - Collecting data from the PowerPath multipathing library (MPAPI)
 - Generating XML alerts
- ◆ Command packet processing—These messages include errors that occur while generating responses to incoming command requests from the PowerPath Viewer Console.

Message types

The message types that can be logged are:

- ◆ Error
- ◆ Warning
- ◆ Info (Informational)
- ◆ Debug

These message types are consistent with PowerPath Family message types and priorities.

Message categories and descriptions

[Table 4 on page 43](#) lists the Management Component log message categories and descriptions of the messages.

Table 4 Management Component log message categories and descriptions (page 1 of 5)

Log category	Log message	Additional information provided	Log priority	Possible causes, Management Component reaction
Management Component startup and configuration	Service cannot be started, port invalid.	Requested port number	Error	Management Component exits if the port number used is less than or greater than 0, or greater than 65535.
	Attempting to start. Version [version number][[build number]].		Info	Attempting to start Management Component.
	Heartbeat interval invalid, setting to default.	Requested heartbeat, default heartbeat (in minutes)	Warning	After setting the heartbeat to the default value, Management Component initialization continues.
	Config parameters valid. Config: port#[valid port number], heartbeat interval=[valid heartbeat value] mins, singlePathGkOk=[0 = False, 1 = True].	Configured port number, heartbeat (in minutes)	Info	Management Component configuration parameters are valid; connection is being established.
	Socket library log message. fd: -1, call: bind, err: 10013, msg: Permission denied.	Requested port number	Warning	Management Component exits because it cannot connect to the requested port.
	[timestamp] [hostname] PowerPath: Management Component: Info: Service started.		Info	This is the status update if the port connection is successful.
	Cannot retrieve PowerPath version information		Error	Error accessing version information using powermt command.
	Could not create yellow alert XML packet	—	Error	There has been an error creating yellow alert Management Component at startup. Possible causes are memory error, protocol error, or XML error.

Table 4 Management Component log message categories and descriptions (page 2 of 5)

Log category	Log message	Additional information provided	Log priority	Possible causes, Management Component reaction
Management Component shutdown	Stopping PowerPath host monitor daemon	Applicable to Solaris hosts only	Info	Management Component is stopped.
	Service terminated	[Applicable to version 5.6 on all supported platforms.]	Info	Management Component is stopped.
	Failed to kill PowerPath host monitor daemon	Applicable to Solaris hosts only	Error	An unexpected processing error by which the Management Component cannot be terminated without reboot. If you receive this message, contact your EMC Customer Service representative.
MPAPI	MPAPI initialization failed.	MPAPI error code	Error	Management Component exits because the MPAPI initialized before connections could be accepted.
	Cannot retrieve host info from MPAPI.	MPAPI error code	Error	Management Component exits because the host or PowerPath starts using MPAPI before connections could be accepted.
	Cannot retrieve devices from MPAPI.	MPAPI error code	Error	If encountered while creating a response to a command, an error XML is sent to the Console. If encountered while creating an asynchronous alert, a yellow alert is sent on timer expiry.

Table 4 Management Component log message categories and descriptions (page 3 of 5)

Log category	Log message	Additional information provided	Log priority	Possible causes, Management Component reaction
Connection request	Incoming socket connection Accepted.	Remote host IP and hostname	Info	The host has tried to establish a connection to the Management Component.
	Max socket connection limit reached, incoming connection dropped.	Remote host IP and hostname that will be dropped	Warning	The maximum connection limit has been reached and no more connections will be accepted. The maximum connection limit is 5.
	Socket library log message. fd: 796, call: read() after shutdown, err: 783, msg: bytes read		Warning	The Management Component has shut down a message that it received and began reading when it realized that the maximum connections were exceeded. You can ignore this warning.
	Accepted socket connection deleted.	Remote host IP and hostname	Info	Possible cause for this is internal Management Component communication library error. Message logged by the Management Component when a PowerPath Console session is ended. Can be ignored.
	Socket library log message. fd: -1, call: Remove, err: -1, msg: Socket destructor called while still in use		Warning	Message logged by the Management Component when the user or admin shuts the Management Component down in the middle of the session <ul style="list-style-type: none"> on Windows, from the Windows Services terminal window or <ul style="list-style-type: none"> on Linux, mond using the /etc/init.d/emcp_mond.sh stop Can be ignored.
	Socket connection accept failed.	Remote host IP and hostname	Error	The connection timeout expires.

Table 4 Management Component log message categories and descriptions (page 4 of 5)

Log category	Log message	Additional information provided	Log priority	Possible causes, Management Component reaction
Command request/XML	Incoming XML command invalid.	Description of XML command.	Info Warning Error	Possible causes for this are invalid request, request packet length overrun (buffering), and junk or missing header on request packet.
	Could not parse XML document.	—	Error	SAX Parser returns an error parsing the incoming request packet.
	Could not create summary path XML document.	—	Error	Possible causes for this are XML errors, MPAPI errors, or inability to access the XMO file to write on the disk.
	Could not create detail path XML document.	—	Error	Possible causes for this are XML errors, MPAPI errors, or inability to access the XMO file to write on the disk.
	Could not create license information XML document.	—	Error	There was an error creating the license XML document.
	Cannot retrieve License Information.	License API error code, no license found	Error	Possible causes for this are XML API errors, license API errors, or inability to find the license.
Bus XML	Bus Down XML error	—	Error	There are XML errors building the bus alert.
	Bus XML successfully created	—	Debug	The Bus XML alert is created.
Communication library log	Socket library log message	Socket descriptor, message string, library function name	Error Info Warning	The Management Component communication library's connection log interface converts its log messages into a PowerPath system log utility call.

Table 4 Management Component log message categories and descriptions (page 5 of 5)

Log category	Log message	Additional information provided	Log priority	Possible causes, Management Component reaction
Miscellaneous/ Exceptions	Cannot access file.	File path	Error	Details or license XML files could not be accessed to read or write data in the case summary.
	Memory error.	File and line number	Error	An allocation exception has occurred. The Management Component continues running.
	Error queuing kernel events.	—	Warning	There are issues with queue buffer allocation.
	Shutting down the management component because of an exception.	The exception that has occurred and the reason.	Error	Logged when an exception occurs. For example, after the Management Component tries to use a port that is already in use.
	Exiting, unrecoverable error.	The reason that the Management Component is exiting.	Error	The Management Component exits if the SSL certification file is not found at Management Component startup.
	Thread could not be stopped: (thread name).		Error	Error occurred in shutdown processing.
	Missed Heartbeat. Lapsed seconds = (number of seconds).	Lapsed seconds indicates the amount of time since the last HB was sent.	Warning	Has two possible causes: <ul style="list-style-type: none"> • The system clock was changed, thus the Management Component thinks that a heartbeat interval was missed. • The Management Component was not awakened to send a heartbeat for an unknown reason.
	Error generating timestamp		Error	System library error.

Troubleshoot

Obtain information on Management Component

Use the **netstat** command with the *-a* option to obtain information about PowerPath Viewer connection with the Management Component. For example:

```
netstat -a | grep <port>
```

where <port> is the TCP/IP port number associated with PowerPath Management Component. The output provides information about the Management Component connection with the Viewer Console.

Start and stop the emcp_mond Service on Linux

The PowerPath emcp_mond daemon is managed as Service on PowerPath 5.7 for Linux.

- If you need to start or stop the emcp_mond Service, run:

```
/etc/init.d/emcp_mond.sh start | stop
```

Stop and start the emcp_mond Service on Solaris

The PowerPath emcp_mond daemon is managed as Service on PowerPath 5.5 for Solaris.

- If you need to stop the emcp_mond Service, run:

```
svcadm disable system/emcpower/emcp_mond
```

- If you need to start the emcp_mond Service, run:

```
svcadm enable -s system/emcpower/emcp_mond
```

- To get the state of the emcp_mond Service, run:

```
svcs system/emcpower/emcp_mond
```

Stop and start the emcp_mond daemon on HP-UX

- ◆ If you need to stop the emcp_mond daemon, run:

```
/sbin/init.d/emcpmond stop
```

- ◆ If you need to start the emcp_mond daemon, run:

```
/sbin/init.d/emcpmond start
```