



RELEASE NOTES

EMC® PowerPath® for Windows

Version 5.2 and Service Pack Releases

Release Notes

P/N 300-006-817

Rev A13

March 19, 2010

These release notes contain information about features, system requirements, known problems, and limitations in PowerPath for Windows. Topics include:

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Revision history

The following table presents the revision history of this document

Revision	Date	Description
A01	June 9, 2008	First release of PowerPath 5.2 for Windows.
A02	August 18, 2008	Added problem description and resolution for uninstall and upgrade issue (Technical Advisory emc194413).
A03	August 21, 2008	Added OPT 283022 to “Fixed problems” on page 7 .
A04	December 19, 2008	Added miscellaneous fixed issues of or pertaining to mismatched paths and binding a volume in the Microsoft iSCSI initiator. Added end-of-life announcements.
A05	December 30, 2008	Added OPTs to “Fixed problems” on page 7 and “Known problems and limitations” on page 13 .
A06	January 9, 2009	Updated the third-party array support information
A07	May 13, 2009	Added problem description and workaround for MPIO memory leak issue (Technical Advisory emc207833)
A08	October 8, 2009	Updated the Windows Server 2003 to Windows Server 2008 upgrade procedure.
A09	October 22, 2009	Added OPT 273758 to “Known problems and limitations” on page 13 .
A10	October 27, 2009	Added OPT 309041 to “Known problems and limitations” on page 13 .
A11	November 23, 2009	Changed Windows Server 2003 to Windows Server 2008 upgrade procedure to include Windows Server 2008 R2.
A12	March 1, 2010	Modified “Changed behavior” on page 6 . Added OPT 302865 to “Known problems” on page 13
A13	March 16, 2010	Added a notification about the removal of PowerPath 5.2 and 5.2 SP1 from Powerlink.

Product description

The EMC® PowerPath® family of products includes PowerPath multipathing software, PowerPath Migration Enabler®, and PowerPath Encryption with RSA®.

PowerPath is a server-resident software solution designed to enhance performance and application availability. PowerPath combines automatic load balancing, path failover, and multiple path I/O capabilities into one integrated package.

PowerPath for Windows is an intelligent path management application specifically designed to work within the Microsoft Multipathing I/O (MPIO) framework. PowerPath enhances application availability by providing load balancing and automatic path failover and recovery functionality.

Your license type determines the extent of PowerPath functionality available. If you have questions about your license, contact your EMC Customer Support Representative.

New features and changes

This section lists the new features and changes in PowerPath 5.2 and service packs for Windows.



IMPORTANT

Because PowerPath 5.3 contains fixes for EMC Technical Advisories emc202413 and emc207833, PowerPath 5.2.x releases for Windows have been removed from Powerlink. If you require these software versions, open a service request with EMC Global Services. These versions continue to be supported according to the EMC support duration policy. Refer to the *PowerPath and PowerPath/VE Family for Windows Version 5.3 Release Notes* for more information.

More information about emc202413 appears in “[Known problems](#)” on page 13. More information about emc207833 appears in “[Microsoft MPIO memory leak \(Technical Advisory emc207833\)](#)” on page 19.

PowerPath 5.2 SP1

PowerPath 5.2 SP1 for Windows has the following new features.

- ◆ Support for Microsoft MPIO framework version 1.22.

- ◆ Support for persistent binding of volumes with Microsoft iSCSI initiator.
- ◆ Resolving the mismatched paths issue when a LUN occupies the slot of its predecessor.

PowerPath 5.2 software update

A new PowerPath 5.2 for Windows software package (build 145) was posted on Powerlink on August 12, 2008 to address Technical Advisory emc194413. A subsequent package (build 146) was posted on August 14, 2008. The updated software package (EMCPower.WINDOWS.5.2.0.b146.GA.update.zip) fixes the uninstall problem found in PowerPath 5.2 (build 144) and PowerPath 5.1 SP2.

A utility that repairs PowerPath 5.2 (build 144) and 5.1 SP2 is also available on Powerlink (Support > Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems. Scroll down to the **PowerPath for Windows Utilities** heading).

Refer to [“Uninstall problem resolution \(Technical Advisory emc194413\)”](#) on page 22 for more information and corrective action.

PowerPath 5.2



IMPORTANT

Refer to [“Before upgrading PowerPath”](#) on page 26 before you upgrade PowerPath.

PowerPath 5.2 for Windows has the following new features.

- ◆ Support for the Windows Server 2008 operating system.
- ◆ Support is provided for the **emcprep** command. This command is used to support the core version of Windows Server 2008, which is a command line-based operating system.
 - The **emcprep** command manages PowerPath license registration. The emcprep command is invoked automatically by the PowerPath installation process. Once installation is complete, emcprep can also be invoked manually.
- ◆ Modifications were made to support the User Account Control feature in Windows 2008.
- ◆ Microsoft MPIO framework version 1.21.

- ◆ Custom installation is a new feature which implies that the user can install the following features in addition to the regular PowerPath installation. These features can be selected through either the GUI methodology or using appropriate CLI commands:
 - Migration Enabler
 - RSA Encryption
- ◆ Support for PowerPath Migration Enabler using host-based copy as the underlying technology. Host Copy is a new migration technology that allows the migration of data to and from an encrypted logical unit. This migration technology also allows plain text migrations. For further information on Host Copy migrations, refer to the *EMC PowerPath Migration Enabler 5.2 User Guide*, available on Powerlink.
- ◆ PowerPath 5.2 for Windows is supported only with Symmetrix, CLARiiON and Invista arrays.

Note: PowerPath for Windows 5.2 is a full release with a wider array of features in comparison with PowerPath for Windows 5.1 SP2.

PowerPath Encryption with RSA software

PowerPath 5.2 introduces support for PowerPath Encryption with RSA software. PowerPath Encryption with RSA is host-based software distributed as part of the PowerPath 5.2 package; however, a separate product license is needed to use PowerPath Encryption.

PowerPath Encryption provides the following security benefits:

- ◆ Ensures the confidentiality of data on a disk drive that is physically removed from a data center.
- ◆ Prevents anyone who gains unauthorized access to the disk from reading or using the data on that device.

PowerPath Encryption uses strong encryption protocols to safeguard sensitive data on disk devices. It transparently encrypts data written to a disk device and decrypts data read from it.

The following documents, available on the Powerlink website, contain more information about PowerPath Encryption:

- ◆ *EMC PowerPath Encryption with RSA Release Notes*
- ◆ *EMC PowerPath Encryption with RSA User Guide*

Third-party arrays

PowerPath 5.2 for Windows does not currently support third-party arrays. However, the next major release of PowerPath for Windows will include support for third-party arrays, but will not include support for selected HP arrays listed in [“End-of-Life announcements”](#) on page 6.

Changed behavior

PowerPath 5.2 for Windows has the following changed behaviors:

- ◆ When upgrading from PowerPath 5.1 to PowerPath 5.2, applications that directly read from or write to SCSI devices (disk or tape) via SCSI port could be negatively impacted when Migration Enabler and Encryption are enabled. For example, you might be unable to access to tape or other devices. This is of or pertaining to issue 302865.
- ◆ Modifications were made to support the User Account Control feature in Windows Server 2008.
- ◆ Windows Server 2000 is not supported.

End-of-Life announcements

PowerPath Version 5.2 has the following end-of-life announcements:

- ◆ Consistency groups will not be supported starting with the next major PowerPath release. Symmetrix Engenuity Versions 5568 and later provide support for consistency groups with the Engenuity Consistency Assist (ECA) feature. ECA can perform consistent split operations across multiple, heterogeneous hosts without the use of PowerPath. The PowerPath `emcpcg` extension associated with consistency group support will be removed from the next software version, and associated output and files will no longer appear.
- ◆ EMC is phasing out PowerPath support for HP StorageWorks EMA12000, EMA16000, and MA8000 arrays. PowerPath Version 5.2.x is the last version for Windows to include qualified support for these arrays, and subsequent releases will not support them. Earlier PowerPath for Windows versions will continue to support the arrays in accordance with the EMC software support duration policy. EMC strives to minimize customer impact when implementing support changes and to maintain backward compatibility whenever possible.

Fixed problems

Table 1 on page 7 lists the fixed problems in PowerPath 5.2 and service packs for Windows. For the most up-to-date information on fixed problems, refer to E-Lab Issue Tracker on Powerlink®.

Table 1 Fixed problems in PowerPath 5.2 and service packs for Windows (1 of 2)

Description	Found in Version	Fixed in Version
292421 After installing PowerPath 5.2, the user is unable to shut down the Windows 2008 x64 server. Server only shuts down if three out of the four paths are disabled or PowerPath is removed.	5.2	5.2 SP1
291550 PowerPath 5.2 on Windows 2008 with Veritas Foundation suite 5.1 does not shutdown when prompted.	5.2	5.2 SP1
288603 The EMCPowSrv.exe file consumes excessive memory when executed on a specific server. Subsequently, the quantum of memory consumed increases exponentially.	5.1	5.2 SP1
288046 The EMCPowSRV.exe and services.exe files are each consuming approximately 50% of the CPU capacity.	5.2	5.2 SP1
286594 The support for iSCSI persistent binding should be enabled by default.	5.1 SP2	5.2 SP1
286204 The PowerPath services (EMCpowSrc and EMCAdminSvr) use an excessive amount of CPU. This occurs in a scenario where two Windows 2003 hosts are running PowerPath 5.2.	5.2	5.2 SP1
281337 The execution of the emcAdminSrv.exe file results in a wrong Symmetrix ID getting displayed in the graphical user interface.	5.0 SP1	5.2 SP1
282890, 262356 While attempting to bind a volume in the Microsoft iSCSI Initiator under the Bound Volumes/Devices tab during the installation of the initiator, the following error message is displayed: The device specified does not originate from an iSCSI disk or a persistent iSCSI login	5.0	5.2 SP1

Table 1 Fixed problems in PowerPath 5.2 and service packs for Windows (2 of 2)

Description	Found in Version	Fixed in Version
<p>285425</p> <p>When a target LUN is presented to a host through multiple paths with PowerPath installed, PowerPath remembers the original order of the paths to the LUN and compares it to the current order of the paths. Thereby confusing PowerPath into thinking there are mismatched paths.</p> <p>For example, when a LUN on a CLARiiON is first unmasked to a host, the order could be SP-B2 > SP-A2 > SP-B3 > SP-A3. After masking and unmasking the same LUN back to the same host the LUN could arrive in different order as SP-A2 > SP-B2 > SP-A3 > SP-B3. This causes the confusion.</p> <p>This problem is exacerbated with Enterprise-class arrays that have more paths. The details of the fix provided are given in the mismatched paths in the Technical Notes section of this document.</p>	5.2	5.2 SP1
<p>285452</p> <p>During the absence of LUNs, the powermt command takes long time to execute. The time taken is in excess of 15 minutes. This issue is caused by the presence of LUNZ or VCMDB files.</p>	5.1 SP2	5.2 SP1
<p>283022</p> <p>Veritas Storage Foundation with Dynamic MultiPathing (DMP) enabled causes the PowerPath 5.2 DSM driver to overrun the WMI data buffer, thereby leading to a host crash.</p>	5.2	5.2 SP1
<p>272270</p> <p>During the upgrade procedure, InstallShield does not display either one of the following messages: To keep the saved configuration or to delete the save configuration.</p> <p>PowerPath 5.1. SP1 uses the powermt.custom file location in %SystemRoot%\system32\drivers\etc\powermt.custom rather than C:\Program Files\EMC\PowerCommon\powermt.custom.</p>	5.1	5.2
<p>272118</p> <p>In a scenario where two CLARiiON systems are connected, rebooting one of the Storage processors (SP) in the second CLARiiON system causes unnecessary trespass for those LUNs belonging to same SP in first CLARiiON system.</p>	5.1 SP1	5.2
<p>271496</p> <p>The TimeFinder split operation fails with the -ppath option. The error message is: 'DEV001' is not a PowerPath Parent or Child.</p>	5.1 SP1	5.2
<p>261601</p> <p>During an upgrade from 4.4.1 to PowerPath 5.0 or 5.1, PowerPath should also mark the existing disk devices for reinstallation at the next reboot. Since PowerPath does not currently do this, the CLARiiON devices are not visible after the reboot.</p> <p>EMC Knowledgebase Solution emc169134 also documents this issue.</p>	5.0	5.2

Environment and system requirements

Before installing PowerPath, or whenever changes are made to the host or storage environment where PowerPath operates, consult the resources and documentation described in this section. These resources will help you configure an environment in which all components, including PowerPath, can operate optimally.

Note: After installing PowerPath, it is important to verify it is working properly. EMC recommends setting up one path initially and then setting up additional paths *after* testing the PowerPath installation.

Interoperability information

PowerPath interoperability information appears in the EMC E-Lab Navigator as described in the next section. The configuration information is also available in *EMC Host Connectivity Guide for Windows* on Powerlink.

E-Lab Interoperability Navigator

For interoperability information, such as information about the hardware, software, and networked storage components that are tested and compatible with EMC storage systems and third-party storage systems, refer to the EMC E-Lab™ Interoperability Navigator, available on the Powerlink. It also includes information about supported host models, operating system revisions, host bus adapters, and connectivity devices.

Note: The information in E-Lab Navigator takes precedence over the information in this release notice in case of inconsistency.

The E-Lab Navigator is available in two formats:

- ◆ The E-Lab Interoperability Navigator link is a web-based, searchable database of configuration information.
- ◆ The PDFs and Guides tab (within E-Lab Navigator) lets you view support information in Adobe .pdf format.

To access the E-Lab Interoperability Navigator:

1. Go to Powerlink at <http://Powerlink.EMC.com>.
2. From the **Support** menu, select **Interoperability and Product Lifecycle Information > E-Lab Interoperability Navigator**.
3. Click **Launch E-Lab Interoperability Navigator**.
4. For interoperability information on PowerPath with EMC arrays:
 - a. Click the **Wizards** tab.
 - b. From the pull-down menu at the top right of the page, select **Software Support Wizard**.
 - c. Select **PowerPath** from the Product list, and then select the product version.
 - d. Select the operating system and model.
 - e. In the **Results** section on the right side of the page, click the **Combined Results** link to view the interoperability information for the PowerPath software you selected.

EMC Host Connectivity Guide (EMC storage arrays)

The *EMC Host Connectivity Guide for Windows* describes the features and setup procedures for host interfaces to Symmetrix and CLARiiON systems. Host connectivity guides are updated quarterly and published on the Powerlink website.

Note: Information in the host connectivity guide takes precedence over the information in this release notice.

Before you install PowerPath, or when changing system components, consult the E-Lab Navigator, the *EMC Host Connectivity Guide for Windows*, and the *EMC PowerPath for Windows Installation and Administration Guide*. Changing any system component can alter the way PowerPath manages storage paths. Consult these resources before undertaking any of the following common system or network management tasks:

- ◆ Upgrade or change the host OS, or the host bus adapter. (Consult Application Software chapter for your specific storage system model.)
- ◆ Change the model of the system that hosts PowerPath.

- ◆ Change or replace a host bus adapter type, or adapter cable on the system that hosts PowerPath.
- ◆ Change components (for example, switches) of your network configuration.
- ◆ Change the storage network zoning or device assignments.
- ◆ Change the array or storage system connected to the host.

Symmetrix storage systems

Refer to the E-Lab Navigator database for Symmetrix storage systems supported with PowerPath 5.2 and service packs.

CLARiiON storage systems

To properly install PowerPath on a host with CLARiiON arrays, refer to the CLARiiON Storage-System Support website (www.EMC.com\clariionsupport).

Invista systems

Refer to the E-Lab Navigator database for EMC Invista[®] releases supported with PowerPath 5.2 and service packs.

Celerra storage systems

PowerPath 5.2 and service packs is supported on Celerra NSX and NS series iSCSI Celerra. Consult the E-Lab Navigator for support information.

Host configuration

Table 2 on page 12 shows the supported Windows operating systems on PowerPath Version 5.2.

Table 2 Supported Windows operating systems

Supported operating systems	Minimum version supported	Disk space required	Required patches	Patch descriptions
Windows Server 2003 (32 bit, ia64 and X64)	Windows Server 2003 SP1	10MB	—	—
Windows Server 2008 (32 bit, ia64 and X64)	Windows Server 2008	10MB	Install Microsoft hot fix KB-958912	<p>A Windows Server 2008-based computer stops responding when using a Device Specific Module (DSM) that plugs into MPIO. Additionally, other applications and services that are simultaneously running may stop working. The problem occurs when one of the following APIs is called:</p> <ul style="list-style-type: none"> • ThrottleIO • ResumeIO • ThrottleIO_V2 • ResumeIO_V2 <p>The supported and downloadable Microsoft hotfix, 958912, is available from the Microsoft support website.</p>

Refer to the E-Lab Interoperability Navigator for supported Fibre Channel HBAs and operating systems.

Note: Install HBAs, their supporting firmware versions, and other network components using the manufacturer’s directions and the settings specified in the E-Lab Interoperability Navigator. Using improper settings can cause erratic failover behavior or extended response time for system I/O.

Connectivity requirements

Information about the requirements for SCSI, fibre, and switched fabric configurations and components that can be used with PowerPath as specified in the E-Lab Interoperability Navigator.

Known problems and limitations

This section describes known problems and limitations in PowerPath 5.2 and service packs for Windows.

Known problems

Table 3 on page 13 shows the known problems in PowerPath 5.2 and service packs for Windows.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (1 of 5)

Platform	Description	Workaround
Windows 2003	302865 PowerPath fails all SCSI pass-through read/write I/O requests sent directly to the SCSI port if PowerPath Migration Enabler and/or PowerPath Encryption with RSA are installed. Related EMC Knowledge Base Solution: emc193344. Related OPTs: 322834, 302835, 284173, 326981.	None.
Windows 2008	309041 On a Windows 2008 computer, with PowerPath 5.2 installed, when a PowerPath pseudo device is removed with SetupAPI or is uninstalled explicitly from the Device Manager, and then rescanned, a 'Yellow Bang' appears on the 'PowerDevice by PowerPath' in the Device Manager. Thus, the PowerPath pseudo device is not installed and reported in PowerPath GUI (Graphical User Interface) correctly. It needs either an update of the driver software or restart of the machine. Uninstalling the PowerPath pseudo device and then Device Rescan at 'ROOT' level could not load the driver for the PowerPath pseudo device correctly.	Programmatically perform a device rescan procedure at the 'SCSIADAPTER' level. This correctly loads the drivers for the PowerPath pseudo device and thus the device is correctly displayed in PowerPath GUI (Graphical User Interface).
Windows 2008	299826, 295220, ETA emc202413 In a cluster setup, new paths added may not go through registration on the active node. Consequently, the new paths could get picked for reservation, leading to a reservation conflict. This occurs because the path was not completely configured by PowerPath. In this scenario, the Windows Server 2008 Volmgr logs event ID 57 immediately after new PowerPath paths are added. This issue is also documented in EMC Knowledgebase Solution emc202413.	Upgrade to PowerPath 5.3. Alternatively, bring the server down before adding a path to a Windows 2008 cluster running PowerPath 5.2 or 5.2 SP1.
Windows 2003	296245 With the PowerPath Graphical User Interface (GUI) opened and the powermt command running continuously, uninstallation of PowerPath 5.2SP1 succeeds without displaying any warning messages.	None.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (2 of 5)

Platform	Description	Workaround
Windows 2003	295845 On a computer with PowerPath 5.2 SP1 already installed, the installation of PowerPath 4.5.1 continues without prompting about the pre-existing newer version of PowerPath.	None.
Windows 2003	295691 In a scenario where PowerPath Migration Enabler data migration is to be executed, if an attempt is made to uninstall PowerPath, the messages displayed are: 1. A 'pending migration' message. 2. A warning message (Fatal error during installation). The warning message is unnecessary.	None.
Windows 2008	295525 In scenarios where the target LUN is larger in size than the source LUN, execution of data migration using PowerPath Migration Enabler or using Symmetrix-to-Symmetrix is not possible for a dynamic disk.	For a successful data migration while using dynamic disks, ensure the source and target LUNs are of same size.
Windows 2008	295381 Policy is not persistent during a silent upgrade of PowerPath with certain versions only. For example, this issue occurs during the silent upgrade from PowerPath 5.2 to PowerPath 5.2 SP1.	Avoid using the powermt.custom file.
Windows 2003	295201 Adding another license by executing the emcprep command overrides existing license during the first attempt only. For example, during a PowerPath installation, a PowerPath license is added. After the computer with the PowerPath installation is activated, an initial attempt is made to add the PowerPath Migration Enabler license using the emcprep command. The addition of the PowerPath Migration Enabler license will override the previously installed PowerPath license and thereby deactivating the PowerPath license.	<ol style="list-style-type: none"> 1. Add both PowerPath Multipathing (using the PowerPath Licensing Tool) and PowerPath Migration Enabler (using the emcprep command) simultaneously. 2. After the first instance of deactivation of the PowerPath license, make a second attempt to add the PowerPath license again.
Windows 2003	294191 The PowerPath Graphical User Interface (GUI) and Command Line Interface (CLI) show different priority numbers when the policy is set to round robin (RR).	None.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (2 of 5)

Platform	Description	Workaround
Windows 2003	295845 On a computer with PowerPath 5.2 SP1 already installed, the installation of PowerPath 4.5.1 continues without prompting about the pre-existing newer version of PowerPath.	None.
Windows 2003	295691 In a scenario where PowerPath Migration Enabler data migration is to be executed, if an attempt is made to uninstall PowerPath, the messages displayed are: 1. A 'pending migration' message. 2. A warning message (Fatal error during installation). The warning message is unnecessary.	None.
Windows 2008	295525 In scenarios where the target LUN is larger in size than the source LUN, execution of data migration using PowerPath Migration Enabler or using Symmetrix-to-Symmetrix is not possible for a dynamic disk.	For a successful data migration while using dynamic disks, ensure the source and target LUNs are of same size.
Windows 2008	295381 Policy is not persistent during a silent upgrade of PowerPath with certain versions only. For example, this issue occurs during the silent upgrade from PowerPath 5.2 to PowerPath 5.2 SP1.	Avoid using the powermt.custom file.
Windows 2003	295201 Adding another license by executing the emcprep command overrides existing license during the first attempt only. For example, during a PowerPath installation, a PowerPath license is added. After the computer with the PowerPath installation is activated, an initial attempt is made to add the PowerPath Migration Enabler license using the emcprep command. The addition of the PowerPath Migration Enabler license will override the previously installed PowerPath license and thereby deactivating the PowerPath license.	1. Add both PowerPath Multipathing (using the PowerPath Licensing Tool) and PowerPath Migration Enabler (using the emcprep command) simultaneously. 2. After the first instance of deactivation of the PowerPath license, make a second attempt to add the PowerPath license again.
Windows 2003	294191 The PowerPath Graphical User Interface (GUI) and Command Line Interface (CLI) show different priority numbers when the policy is set to round robin (RR).	None.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (3 of 5)

Platform	Description	Workaround
Windows 2003	292757 Due to an inherent bug in Installshield, the following error message appears: "In order to complete the installation of EMC PowerPath 5.2SP1, you must restart the computer. Other users are currently logged on to this computer, and restarting may cause them to lose their work. Do you want to restart now?" which is based on the common string, IDS_ERROR_1732 . This occurs in a scenario wherein more than one user is connected to the host, and if the installation and/or uninstallation of PowerPath requires a reboot.	Change the string value while factoring in localization.
Windows 2003	289305 Upgrading from PowerPath 4.5.x or earlier to PowerPath 5.x on Windows Server 2003 does not uninstall the old .sys drivers in the \system32\drivers folder. During the upgrade, all of the PowerPath drivers are marked for uninstallation though the drivers remain in the \system32\drivers folder. This is expected behavior and not harmful.	None.
Windows 2003	288064 PowerPath Migration Enabler 5.2 with Open Replicator 6.5.1 fails at the OR create phase while displaying the following error message: SYSC_SESSION_DISCOVER_FAILED.	None.
Windows 2003	286807 While attempting to encrypt, the following error message was displayed: XCR_RKM error (20010): Key Manager Client could not complete the request at the Server. This occurred while using Wordpad to edit the files leading to a configuration script failure.	Whenever the conf.tmpl files are edited, either use notepad or if any other text editing software is used, then save the file as "text document".
All	286370 When a saved custom file is loaded (after failover and removal of dead paths), the powermt load command takes a longer time than usual to execute. For example, in a scenario comprising 2 LUNs and 4 paths, the time elapsed for execution of the powermt load command was approximately 1.5 minutes.	Skip the removal of dead paths process and thereafter execute the command.
All	284562 Trespass fails with large configuration during CLARiiON NDU - DIMS204103.	None.
Windows 2003	280056 The PowerPath PN library interface fails when a query is attempted from Symmetrix tools on the 64-bit platform.	None.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (4 of 5)

Platform	Description	Workaround
All	<p>278696</p> <p>When a setup program is digitally signed and the user attempts to install it, Windows 2008 Server lists the publisher's information in the User Account Control (UAC) elevation prompt that appears during installation. However, when a user attempts to uninstall PowerPath (Although the user installed a digitally signed copy of PowerPath setup program), the UAC prompt displays the following message:</p> <pre>An unidentified program wants to access your computer. Don't run the program unless you know where it's from or you've used it before. Unidentified publisher.</pre> <p>This behavior occurs for all MSI-based setup packages on Windows 2008 Server during uninstallation procedure.</p>	None.
Windows 2003	<p>277297</p> <p>Upgrades from Windows 2003 (with PowerPath 5.2 installed) to Windows 2008 fail.</p>	"Upgrading to Windows Server 2008 and Windows Server 2008 R2" on page 33 provides more information.
Windows 2003	<p>276500</p> <p>A KM error occurs during the execution of the emcp_xcryptd.exe file.</p>	None.
All	<p>273758</p> <p>On systems running PowerPath for Windows that support CLARiiON FLARE 26 array, powermt display dev=all does not display the snapshot LUN nicename. Related OPT: 268056</p>	<p>None.</p> <p>Running the powermt update lun_names command afterward, however, updates the LUN names.</p>
Windows 2008	<p>269348</p> <p>PowerPath cannot be uninstalled from the Control Panel when the Change option is selected. Though no migrations are pending, the following message appears:</p> <pre>An internal error has occurred, Migration may be Pending</pre> <p>Continuing with the uninstallation terminates the uninstall process and the following messages appears:</p> <pre>Fatal Error during installation</pre>	<p>The workaround includes the following procedure:</p> <ol style="list-style-type: none"> 1. Double click the PowerPath installation file, <code>EMCPower.<platform>.520.<x>.GA.exe</code>. 2. Click Next in the Maintenance Welcome dialog box. 3. Select the Modify option and click Next. 4. Deselect and / or select the features you want to uninstall and / or install and click Next. 5. Click Install in the Ready to modify dialog box.

Table 3 Known problems in PowerPath 5.2 and service packs for Windows (5 of 5)

Platform	Description	Workaround
All	262886 A silent uninstallation of PowerPath on a different network drive does not remove the PowerPath folders and files created at the time of the installation of PowerPath.	None.
All	262637 You may see the following issues when using the iSCSI Initiator Service with PowerPath Migration Enabler 5.2. <ul style="list-style-type: none"> • The Autoconfigure or Add button on the Volumes and Devices tab within the Microsoft Software iSCSI Initiator Service does not work with PowerPath 5.2. These buttons are necessary to identify iSCSI volumes that need to be persistent across boots. • iSCSI LUNs show up as device type=unknown when using the <code>iscscli.exe sessionlist</code> or <code>bindpersistentvolumes</code> command. 	A registry switch was added to PowerPath 5.2 to resolve an issue with the association between individual paths and top-level pseudo devices. The registry change allows the iSCSI Initiator Service to correctly build this association. To make the registry change, refer to EMC Knowledgebase Solution emc189240.

Limitations

PowerPath 5.2 for Windows has the following limitations:

- ◆ Veritas Storage Foundation (VSF) is supported with PowerPath 5.2 only when Dynamic MultiPathing (DMP) is disabled.
- ◆ After a back-end failure, path failures (where the path state transitions from alive to dead) cause a nonzero error count. While the error count should be the same for all devices, it may differ across devices (due to Windows Plug and Play behavior). Run the **powermt restore** command to reset the error count.
- ◆ If a mismatched device is configured by Plug and Play (PnP) before PowerPath loads, that device is improperly marked as mismatched.
- ◆ PowerPath can coexist with third-party path management software such as Hitachi Dynamic Link Manager (HDLM), IBM Subsystem Device Driver (SDD), HP StorageWorks Secure Path and HP StorageWorks Auto Path XP Virtual Array under the following conditions:
 - The third-party path management software must be compatible with Microsoft's MPIO framework.
 - PowerPath must be the only path-management software configured to manage EMC devices.

- ◆ It is strongly recommended that any kind of SAN configuration changes at the host, in the network, or at the back end be followed by Windows Device Manager's manual rescan to ensure proper functioning of PowerPath 5.2 capabilities.
- ◆ The log-off session from Microsoft iSCSI initiator must be followed by a manual device rescan from Windows Device Manager.

Technical notes

This section includes the following topics:

- ◆ ["Microsoft MPIO memory leak \(Technical Advisory emc207833\)" on page 19](#)
- ◆ ["Mismatched Paths" on page 22](#)
- ◆ ["Uninstall problem resolution \(Technical Advisory emc194413\)" on page 22](#)
- ◆ ["Installing a new version of PowerPath without rebooting" on page 25](#)
- ◆ ["Before upgrading PowerPath" on page 26](#)
- ◆ ["Removing PowerPath" on page 27](#)
- ◆ ["Configuring the Microsoft iSCSI Initiator for PowerPath" on page 27](#)
- ◆ ["PowerPath licenses in a CLARiiON AX and CX configuration" on page 28](#)

Microsoft MPIO memory leak (Technical Advisory emc207833)

Microsoft MPIO framework versions 1.21 and 1.22 cause a memory leak in multipathing Windows environments including native MPIO, EMC PowerPath, and MPIO solutions from third-party vendors based on Microsoft MPIO. The memory leaks are not an issue on Microsoft MPIO 1.18 or Windows Server 2008.

With PowerPath 5.2 or 5.2 SP1 on Windows Server 2003 SP1 or SP2 hosts show a steady increase in usage of non-paged memory pool. This increase can lead to applications stopping or hosts hanging when the non-paged memory pool becomes fully depleted.

This issue occurs on the following:

- ◆ On PowerPath Version 5.2 hosts running Windows Server 2003 SP1 or SP2 (32-bit, ia64, and X64) with MPIO framework version 1.21, the memory leak occurs only in clustering environments where SCSI reservations are present.
- ◆ On PowerPath Version 5.2 SP1 hosts running Windows Server 2003 SP1 or SP2 (32-bit, ia64, and X64) with MPIO framework version 1.22, the memory leak occurs in both clustered and non-clustered environments.

The memory leak can be triggered by any software installed on the server that is capable of calling either of the following function calls:

```
IOCTL_MPIO_PASS_THROUGH_PATH
IOCTL_MPIO_PASS_THROUGH_PATH_DIRECT
```

These function calls can be triggered by EMC Navisphere Agent version 6.26 or the HP Management Agent "Fibre Array Information Agent" version 7.60.

[Table 4 on page 20](#) provides the applicable workaround solutions until Microsoft MPIO framework version 1.23 is available.

Table 4 Workaround solutions

If...	Then...
PowerPath Version 5.2 or 5.2 SP1 is installed with Microsoft MPIO 1.21 or 1.22	Use the EMC MPIO update utility to downgrade to MPIO 1.18 as described in "Run the EMC MPIO update utility" on page 21 . Note: EMC recommends downgrading to MPIO 1.18.
PowerPath Version 5.2 is installed with Microsoft MPIO 1.21.	<ol style="list-style-type: none"> 1. Uninstall PowerPath Version 5.2. 2. Reboot the host. 3. Install PowerPath Version 5.1 (this installs Microsoft MPIO 1.18). 4. Reboot the host.
PowerPath Version 5.2 SP1 is installed with Microsoft MPIO 1.22.	<p>Perform one of the following:</p> <p>Install PowerPath Version 5.1</p> <ol style="list-style-type: none"> 1. Uninstall PowerPath Version 5.2 SP1. 2. Reboot the host. 3. Install PowerPath Version 5.1 (this installs Microsoft MPIO 1.18). 4. Reboot the host. <p>Stop and disable the offending service</p> <p>Stop and disable the offending service, such as EMC Navisphere Agent version 6.26 or the HP Management Agent, Fibre Array Information Agent, version 7.60.</p> <p>If a new or unknown application is installed that calls the function calls, the issue will reappear.</p>

Determine the MPIO version

To determine the MPIO version on Microsoft Windows Server 2003:

1. Right-click the computer icon on the desktop and select **Manage**.
The **Computer Management** dialog box appears.
2. In the left pane under System Tools, select **Device Manager** and then in the right pane, expand **SCSI and RAID controllers**.
3. Right-click **Multi-Path Support** and select **Properties**.
The **Multi-Path Support Properties** dialog box appears.
4. Click **Driver**.

The Driver Version is in the following format:

```
<MPIO_Framework_version>.<ddk_version>.<build_number>
```

For example, 1.22.3790.2358

Alternately,

1. Right-click any of the MPIO files (such as, mpio.sys, mpdev.sys, or mpspltr.sys).
2. Select **Properties**.
3. Click **Version**.

Run the EMC MPIO update utility

The PowerPath for Windows MPIO update utility:

- ◆ Requires one host reboot
- ◆ Can be installed on PowerPath Version 5.2 or PowerPath Version 5.2 SP1

If your host is running PowerPath 5.2 or PowerPath 5.2 SP1 for Windows with Microsoft MPIO 1.21 or 1.22 perform the following:

Note:

- Backup or rename any PowerPath custom files (powermt.custom) and then delete the powermt.custom files that are already on the host before installing the MPIO update utility.
 - If you are using the iSCSI initiator, if you update the iSCSI initiator do not enable the **Microsoft MPIO Multipathing Support for iSCSI** option. Enabling this option will update the existing MPIO driver.
-

1. Download the EMC MPIO Update utility from Powerlink.

- a. Go to Powerlink at <http://Powerlink.EMC.com>.
 - b. From the **Support** menu, select **Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems**.
 - c. Scroll down to the **PowerPath for Windows Utilities** heading.
 - d. Click the **PowerPath Windows MPIO Update Tool** link to download the **mpioupdate.zip** utility.
2. Run the MPIO update utility, which downgrades to Microsoft MPIO 1.18.
 3. Reboot the host.

Mismatched Paths

PowerPath on Windows can face a mismatched paths scenario when a new LUN takes the slots occupied by a removed LUN. A fix has been provided that autocorrects mismatched paths if the operating system is aware of the removal and addition of the LUNs. In other words, if Plug and Play (PnP) removal of the device from the system has happened when the LUN is removed and then the subsequent addition of the new LUN has caused mismatched paths, new code will autocorrect it. But, if the operating system (or, more specifically the PnP manager) is not aware of the LUN replacement, the mismatched paths will not be autocorrected by this code.

In summary, autocorrecting of mismatched paths will happen only in the cases where it can be seen. For all other cases, **powermt check reconfig** command can still be applied to correct it.

Uninstall problem resolution (Technical Advisory emc194413)

When you do any of the following:

- ◆ Uninstall PowerPath 5.2 (build 144) for Windows
- ◆ Uninstall PowerPath 5.1 SP2 for Windows
- ◆ Upgrade from PowerPath 5.1 SP2 to PowerPath 5.2 (build 144 or 145)

PowerPath generically removes registry entries from the following EMC folders:

HKEY_LOCAL_MACHINE\SOFTWARE\EMC (for x86 and IA64 hosts)

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\EMC (for x64 hosts)

Other EMC applications use this registry and are impacted when you uninstall or upgrade PowerPath. Take the appropriate corrective action described in [Table 5 on page 23](#).

Note:

- You cannot upgrade from PowerPath 5.2 (build 144) to PowerPath 5.2 (build 145 or 146); this upgrade path is unsupported.
- PowerPath 5.2 (build 145) fixes the registry issue for new PowerPath installations.
- PowerPath 5.2 (build 146) fixes the issue for new installations and also supports upgrades from 5.1 SP2 to 5.2 (build 146) without first running the repair utility on 5.1 SP2. The upgrade process alone resolves the registry issue.

Table 5 Corrective action for uninstalling or upgrading PowerPath

If...	Then...
PowerPath 5.2 (build 144) is installed on the host	Run the repair utility as described in “Run the repair utility before uninstalling PowerPath” on page 23 . Alternatively, use the manual workaround described in “Manual workaround to correct the uninstall issue” on page 25 .
PowerPath 5.2 (build 145 or build 146 is installed on the host)	No action is needed. The fix is implemented in builds 145 and 146 of the PowerPath software.
PowerPath 5.1 SP2 is installed on the host	To uninstall 5.1 SP2: <ol style="list-style-type: none"> a. Run the repair utility or complete the manual workaround described in this document. b. Uninstall PowerPath 5.1 SP2. To upgrade from 5.1 SP2 to 5.2 (build 146), refer to “Upgrading from PowerPath 5.1 SP2 to 5.2 (build 146)” on page 24 .

Determine the build number

To determine the PowerPath build number, enter:

```
powermt version
```

Output similar to the following appears:

```
EMC powermt for PowerPath (c) Version 5.2 (build 146)
```

Run the repair utility before uninstalling PowerPath

The PowerPath for Windows uninstall repair utility for PowerPath 5.2 (build 144) and 5.1 SP2:

- ◆ Resolves the registry uninstall issue
- ◆ Can be run any time after installing PowerPath 5.2 (build 144) or 5.1 SP2
- ◆ Does not require a host reboot
- ◆ Does not disrupt the normal operation of the host

If your host is running PowerPath 5.2 (build 144) or PowerPath 5.1 SP2 for Windows and you want to uninstall PowerPath, do the following before you uninstall:

1. Download the PowerPath uninstall repair utility from Powerlink.
 - a. Go to Powerlink at <http://Powerlink.EMC.com>.
 - b. From the **Support** menu, select **Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems**.
 - c. Scroll down to the **PowerPath for Windows Utilities** heading.
 - d. Click the **PowerPath Windows Uninstall Repair** link to download the repair utility named `EMCPower.Windows.Uninstall_Repair.exe`.
2. Run the repair utility, which updates the necessary registry entries.
3. Uninstall PowerPath.

Upgrading from PowerPath 5.1 SP2 to 5.2 (build 146)

To upgrade from PowerPath 5.1 SP2 to PowerPath 5.2 (build 146):

1. Verify the PowerPath 5.2 version you are upgrading to is build 146 or later. The file name for build 146 is `EMCPower.WINDOWS.5.2.0.b146.GA.update.zip`.
2. If you have PowerPath 5.2 (build 144 or 145), download the latest build (build 146 or later) from Powerlink.

Go to **Powerlink > Support > Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems**.

3. Follow the upgrade procedure described in the *EMC PowerPath 5.2 for Windows Installation and Administration Guide*, available on Powerlink.

Upgrading from 5.1 SP2 to PowerPath 5.2 (build 146) fixes the registry issue and no further action is needed. You need not run the repair utility or apply the manual fix described in this document.

Manual workaround to correct the uninstall issue

Instead of running the repair utility before uninstalling PowerPath 5.2 (build 144) or 5.1 SP2, you can complete the following manual procedure.

To manually back up the registry:

1. From the **Start** menu, select **Run** and type **regedit**.

The **Registry Editor** dialog box appears.

2. Locate the registry key:
 - For x86 and IA64 hosts:
HKEY_LOCAL_MACHINE\SOFTWARE\EMC\POWERPATH
 - For x64 hosts:
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\EMC
3. Right-click the **POWERPATH** registry node and select **Rename**. Change the name to **POWERPATHBkp**.
4. Locate the HKEY_LOCAL_MACHINE\SOFTWARE\EMC registration key.
5. Right-click the **EMC** registry node and select **Rename**. Change the name to **EMCBkp**.
6. Uninstall PowerPath 5.2 (build 144) or 5.1 SP2. Once the uninstall is complete, select **No** when prompted to reboot the host.
7. Return to the Registry Editor dialog box and rename the node from **EMCBkp** back to **EMC**.
8. Reboot the host to complete the driver update associated with the uninstall process.

Installing a new version of PowerPath without rebooting

If an early version of PowerPath is uninstalled, then a later version of PowerPath is installed without rebooting, the system panics.

To prevent this issue, rebooting is recommended after installing, uninstalling, or upgrading PowerPath.

Note: When the system is not rebooted after installing, uninstalling, or upgrading PowerPath, the operating system mixes the uninstallation of the old drivers with the installation of the new drivers causing the system panic.

Before upgrading PowerPath

Before upgrading to PowerPath 5.2 for Windows:

1. Open the **Add/Remove Programs** window (For Windows 2003). Use the **Programs and Features** panel (For Windows 2008).
2. Verify only one version of PowerPath appears in the list of installed programs.

If only one PowerPath version appears, proceed with the standard upgrade procedure, as described in *EMC PowerPath 5.2 for Windows Installation and Administration Guide*.

If multiple versions of PowerPath appear, refer to the next section.

Multiple versions of PowerPath appear in Add/Remove Programs

If you previously upgraded from PowerPath 4.x.x to PowerPath 4.x.x (for example, from 4.3.1 to 4.5.1), multiple versions of PowerPath may appear in the Add/Remove Programs window.

Upgrading from PowerPath 4.x to PowerPath 5.2 does not create multiple versions in Add/Remove Programs. However, if multiple versions existed on the host when you upgraded to 5.2, the upgrade process does not remove the older versions.

[Table 6 on page 27](#) describes the possible scenarios and how to correct them.



CAUTION

Do not attempt to uninstall the earlier PowerPath versions using Add/Remove Programs. Doing so causes a host crash.

Table 6 Removing multiple PowerPath versions

Problem	Corrective action
Two versions of PowerPath appear in Add/Remove Programs (for example, 4.3.1 and 4.5.1), and you have not yet upgraded to PowerPath 5.2.	<ol style="list-style-type: none"> 1. Contact Customer Support to get the PowerPath Removeall utility, which removes all PowerPath versions on the host. 2. After removing all PowerPath versions using PowerPath Removeall, do a fresh install of PowerPath 5.2. Follow the procedure in <i>EMC PowerPath 5.2 for Windows Installation and Administration Guide</i>.
Three versions of PowerPath appear in Add/Remove Programs (including PowerPath 5.2). Note: PowerPath 5.2 functionality works as expected in spite of the multiple version entries. However, correct this issue to avoid the host crash scenario described later in this table.	
A host crash occurred while attempting to uninstall earlier versions of PowerPath using Add/Remove Programs. Note: When the host restarts, do not attempt to uninstall PowerPath using Add/Remove Programs.	

Removing PowerPath

If you try to uninstall PowerPath using the GUI option, this will completely uninstall PowerPath. Subsequently, if you want to install or uninstall any PowerPath features, you must use the original installation executable file and select or deselect the required features from Custom Setup dialog for installation or uninstallation. Also, you can pass the parameter ADDLOCAL with the required feature name (PowerPath Migration Enabler or PowerPath Encryption with RSA) to the original installation executable file. For removing a particular feature, use PPREMOVE option with the feature name to remove (PowerPath Migration Enabler or PowerPath Encryption with RSA).

The *EMC PowerPath 5.2 for Windows Installation and Administration Guide* provides additional information.

Configuring the Microsoft iSCSI Initiator for PowerPath

To configure the Microsoft iSCSI initiator for PowerPath:

Note: Also refer to the recommended array and hardware guidelines.

1. Obtain the Microsoft iSCSI initiator installation kit and launch the installation program.
2. Select **Microsoft MPIO Multipathing Support for iSCSI** and then click **Next**.
3. Select **Enable multi-path** while creating sessions on the target and then click **OK**.

PowerPath licenses in a CLARiiON AX and CX configuration

When running PowerPath without a license on a host attached to both CLARiiON AX and CX arrays, PowerPath does not display a warning about the missing license for the CX array. This behavior may be unexpected as PowerPath does display a missing license warning when connected to CX arrays when no AX array is present. Without a license, only the AX array has full PowerPath functionality; the CX array will not have failover support.

In a configuration with both CLARiiON AX and CX arrays, ensure a valid license is present for the CX array by entering **emcpreg -list**.

Documentation

[Table 7 on page 28](#) lists additional documentation for PowerPath, PowerPath Migration Enabler, and PowerPath Encryption with RSA.

Table 7 PowerPath documentation set (1 of 2)

Part Number	Name	Operating System	Description
PowerPath Migration Enabler			
300-006-629	<i>EMC PowerPath Migration Enabler Version 5.2 User Guide</i>	All	Describes how to migrate data with Open Replicator, Invista, or Host Copy as the underlying technology. The procedure for Host Copy migrations applies to encrypted or plain text data migrations.
300-006-628	<i>EMC PowerPath Migration Enabler Version 5.2 Release Notes</i>	Solaris and Windows	Provides the latest information on PowerPath Migration Enabler for Solaris and Windows hosts.

Table 7 PowerPath documentation set (2 of 2)

Part Number	Name	Operating System	Description
PowerPath Multipathing			
300-006-627	<i>EMC PowerPath Version 5.2 Product Guide</i>	All	Provides an overview of the PowerPath software and describes configuration requirements, common configuration tasks, multipathing commands, and error messages.
300-006-625	<i>EMC PowerPath 5.2 for Solaris Installation and Administration Guide</i>	Solaris	Describes how to install and configure PowerPath on a Solaris host.
300-006-626	<i>EMC PowerPath for Solaris Version 5.2 and Service Pack Releases Release Notes</i>	Solaris	Provides the latest information on PowerPath multipathing for Solaris hosts.
300-006-818	<i>EMC PowerPath 5.2 for Windows Installation and Administration Guide</i>	Windows	Describes how to install and configure PowerPath on a Windows host.
PowerPath Encryption with RSA			
300-006-408	<i>EMC PowerPath Encryption with RSA Version 5.2 User Guide</i>	All	Describes how to configure a PowerPath Encryption with RSA environment, how to enable and disable encryption, and how to encrypt data.
300-006-409	<i>EMC PowerPath Encryption with RSA Version 5.2 Release Notes</i>	All	Provides the latest information on PowerPath Encryption with RSA, including system requirements, known problems, and limitations.

Localized versions of the *EMC PowerPath for Windows Installation and Administration Guide* are available in French, German, Italian, Japanese, Korean, Portuguese, simplified Chinese, and Spanish languages.

Electronic versions of all PowerPath manuals are available on the Powerlink website. These manuals are updated periodically, and the updated manuals are posted on the Powerlink website.

Related documentation

The following are related documentation for Symmetrix and CLARiiON storage systems.

Symmetrix storage systems

If your environment includes Symmetrix storage systems, refer to the following:

CLARiiON storage systems

EMC Host Connectivity Guide for Windows, which provides basic information about the features and setup procedures for host interfaces to Symmetrix systems.

If your environment includes CLARiiON storage systems, refer to the following:

- ◆ *EMC Host Connectivity Guide for Windows*, which provides basic information about the features and setup procedures for host interfaces to CLARiiON systems.
- ◆ CLARiiON Storage-System Support website (www.EMC.com\clariionsupport).

Note: CLARiiON customers receive PowerPath with the CLARiiON Utility Kits that ship with CLARiiON CX- and CX3-series storage systems. This version of PowerPath, referred to as PowerPath SE, provides basic failover for single HBA host configurations without the use of a license key. The *Important Information About PowerPath SE* document, available on the Powerlink website, provides additional information on the CLARiiON configurations supported by PowerPath SE.

If your environment includes other vendors' storage systems, refer to the appropriate documentation from your vendor.

End of service dates and extended support

EMC has a standard software support duration policy which specifies that a major version will reach End of Service Life (EOSL) a minimum of 36 months following the General Availability (GA). EOSL is followed by an Extended Support period during which customers may elect to pay an additional fee to extend their support coverage rather than migrate to a current software version.

Once a software product reaches EOSL, EMC Technical Support is no longer available under base support/maintenance agreements. Customers interested in uninterrupted support must upgrade to a current release or contract for Extended Support (ES).

Powerlink provides a list of documents that provide end-of-service and extended support information for PowerPath and other EMC software and hardware products. To access these documents on Powerlink, select **Support > Interoperability and Product Lifecycle Information > Product Release, End of Life Dates, Support Policy**.

Note: This policy is in effect for select releases and will be phased in as new versions are made available. In cases where a software release is not eligible for Extended Support, the previous policy, which specifies product support and maintenance under Continuous Coverage Product Maintenance (CCPM), terms still apply.

Software media, organization, and files

EMC PowerPath Version 5.2 for Windows is a full release available on CD and for download from the Powerlink and EMC.com websites.

Media

Table 8 on page 31 summarizes the PowerPath Version 5.2 for Windows package.

Table 8 PowerPath Version 5.2 for Windows package

Part Number	Description
053-002-125 Rev A01	EMC PowerPath, PowerPath Migration Enabler, and PowerPath Encryption with RSA Version 5.2 for Windows software CD.

Downloading PowerPath from Powerlink

To download PowerPath software from Powerlink:

1. Go to Powerlink at <http://Powerlink.EMC.com>.
2. From the **Support** menu, select **Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems**.
3. Download the appropriate software package.

The *EMC PowerPath for Windows Version 5.2 Installation and Administration Guide* provides installation instructions.

Localized versions of the Windows installer are available in French, German, Italian, Japanese, Korean, Portuguese, simplified Chinese, and Spanish languages.

Organization

The PowerPath 5.2 for Windows software CD has the following structure:

```
autorun.inf
```

```
install.htm
pplaunch.exe
readme.txt
\PP451
  \help
    EmcLicTool.chm
    EmcLicToolCHS.chm
    EmcLicToolDEU.chm
    EmcLicToolESP.chm
    EmcLicToolFRA.chm
    EmcLicToolITA.chm
    EmcLicToolJPN.chm
    EmcLicToolKOR.chm
    EmcLicToolPTB.chm
    EmcPowerPathAdminMMC.chm
  \w2000
    EMCPP.W2000_4.5.1.GA.exe
  \w2003
    EMCPP.W2003_32.4.5.1.GA.exe
    EMCPP.W2003_X64.4.5.1.GA.exe
\PP520
  \help
    EmcLicTool.chm
    EmcLicToolCHS.chm
    EmcLicToolDEU.chm
    EmcLicToolESP.chm
    EmcLicToolFRA.chm
    EmcLicToolITA.chm
    EmcLicToolJPN.chm
    EmcLicToolKOR.chm
    EmcLicToolPTB.chm
    EmcPowerPathAdminMMC.chm
  \w2003
    EMCPP.W2003_32.5.2.0.GA.exe
    EMCPP.W2003_x64.5.2.0.GA.exe
  \w2008
    EMCPP.W2008_32.5.2.0.GA.exe
    EMCPP.W2008_x64.5.2.0.GA.exe
\PP521
  \help
    EmcLicTool.chm
    EmcLicToolCHS.chm
    EmcLicToolDEU.chm
    EmcLicToolESP.chm
    EmcLicToolFRA.chm
    EmcLicToolITA.chm
    EmcLicToolJPN.chm
    EmcLicToolKOR.chm
    EmcLicToolPTB.chm
    EmcPowerPathAdminMMC.chm
  \w2003
    EMCPP.W2003_32.5.2.1.GA.exe
```

```
EMCPP.W2003_x64.5.2.1.GA.exe
\w2008
EMCPP.W2008_32.5.2.1.GA.exe
EMCPP.W2008_x64.5.2.1.GA.exe
```

Installation

This section includes information on installing PowerPath and upgrading from a previous revision of PowerPath.

Note: Upon installation of the PowerPath 5.2 SP1 for Windows Service Pack, it will be integrated into the main application. Thereafter, to remove this service pack, the entire application needs to be uninstalled.

For the new user

Follow the instructions in the *EMC PowerPath 5.2 for Windows Installation and Administration Guide*. This guide is available on Powerlink.

Upgrading from a previous revision

Before upgrading to PowerPath 5.2, refer to [“Configuring the Microsoft iSCSI Initiator for PowerPath” on page 27](#) and complete any steps as necessary. Then follow the instructions in *EMC PowerPath 5.2 for Windows Installation and Administration Guide*, available on Powerlink.

Upgrading to Windows Server 2008 and Windows Server 2008 R2

When upgrading the operating system in one of the following scenarios:

- ◆ From Windows Server 2003 (with PowerPath 5.2 installed) to Windows Server 2008 or Windows Server 2008 R2 (Release 2)
- ◆ From Windows Server 2008 (with PowerPath 5.2 installed) to Windows Server 2008 R2 (Release 2)

the operating system upgrade will fail. This issue is also documented in EMC Knowledgebase Solution emc221704.

Procedure To upgrade to Windows Server 2008 and Windows Server 2008 R2:

1. Remove PowerPath.
2. Upgrade the Windows operating system.
3. Install PowerPath 5.2.

Troubleshooting and getting help

EMC support, product, and licensing information can be obtained as follows:

Product information — For documentation, release notes, software updates, or for information about EMC products, licensing, and service, go to the EMC Powerlink website (registration required) at:

<http://Powerlink.EMC.com>

Technical support — For technical support, go to EMC WebSupport on Powerlink. To open a case on EMC WebSupport, you must be a WebSupport customer. Information about your site configuration and the circumstances under which the problem occurred is required.

Service packs and upgrades — You can download PowerPath service pack software from Powerlink. Determine which service packs (if any) you want to install after PowerPath, and whether those service packs have any additional installation prerequisites. To obtain service packs on Powerlink, select **Support > Software Downloads and Licensing > Downloads P-R > PowerPath for Windows Systems**.

EMC L-Lab Issue Tracker — EMC E-Lab Issue Tracker is an application that allows you to search for known problems and defects in EMC software. To access EMC E-Lab Issue Tracker, on Powerlink select **Support > Interoperability and Product Lifecycle Information > E-Lab Issue Tracker Information > E-Lab Issue Tracker**.

You can use EMC E-Lab Issue Tracker to find:

- ◆ Descriptions of PowerPath bugs existing on any PowerPath-supported host platform.
- ◆ Workarounds for existing bugs.

This database is updated regularly between scheduled releases and service pack releases.

Reporting a problem

If you find a problem in PowerPath, run the **emcgrab** utility, which collects system and software configuration information. Submit the generated tar file, along with any other supporting material, to EMC

Customer Support. PowerPath Encryption with RSA requires emcgrab version 3.9 or later.

You can download **emcgrab** from the Powerlink website. Select **Support > Product and Diagnostic Tools > Grab Utilities**. Refer to the emcgrab ReadMe.txt file on Powerlink for prerequisite information and instructions on using the utility.

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