

Compaq SANworks

Secure Path Software Update 3 Notes

SANworks Secure Path Software Update 3 for Versions 3.0 and 3.1 for Microsoft Windows

SANworks Secure Path Software for Microsoft Windows, is a High-Availability software solution for Intel Platforms for use with StorageWorks RA7000/8000 and ESA10000/12000 RAID Storage Systems.

Note: This update of Secure Path software can be applied only to previously installed version 3.0 or version 3.1 of Secure Path for Microsoft Windows. It supports installations on both Windows NT 4.0 and Windows 2000. Please read this entire document before upgrading the software.

Please visit our web site <http://www.compaq.com/storageworks> to obtain the latest information and upgrades.

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1. NOTES AND WARNINGS

- Secure Path version 3.1 contains separate executables for Windows 2000 and Windows NT 4.0 installations. The InstallShield Wizard automatically detects and installs the proper executables based upon your operating system.
- In a Microsoft Cluster configuration, use selective storage presentation to present LUNs through only one port per controller (two ports per LUN maximum). All four controller ports may be used as long as any single LUN is accessible through two ports. For example, LUN A is presented through port 1 of both controllers while LUN B is presented through port 2 of both controllers.
- If you are using Microsoft Cluster Server Software please go to site <http://search.support.microsoft.com/kb/c.asp> and do a search for the “specific article ID number” on the following Technical Bulletins:

Q247065 - Microsoft Cluster Server with Service Pack 6A

Q258750 – Recommended Private “Heartbeat” Configuration on a Cluster Server

- For Windows 2000, if paths become broken or are missing **DO NOT** perform the “re-scan disks” operation from the Computer Management/Disk Management applet. Devices may become inaccessible to the operating system if this is done. In the event the user inadvertently performs this operation, rebooting the system will restore lost devices.
- Secure Path Manager (SPM) is unable to start with hosts that use hyphenated Host Names (for example, *my-host*). Any hyphen indicates a cluster profile member to SPM. The workaround is to add the name of the host without the hyphen to the Host file. Add this name to the *client.ini* file with the Agent Configuration program, and use this name to log in with SPM. The Host file needs to be modified with the un-hyphenated name on all client systems.
- In a Windows 2000 installation, addition of new LUN(s) may cause the hardware wizard to display an error in initializing the LUN(s) and “yellow warning” signs may show up in the device manager. This is resolved by reboot(s) of the system.
- The Secure Path Agent Configuration utility will occasionally append a period to the end of the client’s name as shown in the Client box. This will prevent client connections to the agent. If this occurs, first select the client name with the period from the Client box and choose Delete Client. Then re-enter the name without the period in the Selected Client box and choose Add Client.

2. SECURE PATH GUIDELINES

- The controller CLI command *restart<this/other>* is not supported on operational RA8000/ESA12000 storage systems.
- Booting from Secure Path devices is not supported.
- Load distribution is not supported and is automatically disabled in Microsoft Cluster Service (MSCS).
- The Windows NT Fault-Tolerant driver (for host-based RAID sets) may not be used in conjunction with Secure Path.
- There is no support for large LUNs (greater than eight LUNs per target ID).
- There is no support for Windows 2000 dynamic disks.
- All controller-based partitions built on a single storageset must be assigned to the same controller and the same host.
- Standalone and clustered hosts may not be assigned to the same SPM profile.
- SPM **CANNOT** be launched from StorageWorks Command Console (SWCC).

If you double-click the SPM window icon in the Secure Path folder of SWCC, the following message will appear:

AppletManager: Failed to create object. Make sure the object is entered in the system registry.

- Replacement of a controller requires that all cluster servers sharing the affected storage system be rebooted to re-synchronize the Secure Path databases
- SPM passwords for all hosts in a profile must be the same.
- Changing the Agent's list of authorized clients or passwords requires that the Agent be manually stopped and restarted.
- Modifications to device volume labels made with Windows NT Disk Administrator require that the Agent be manually stopped and restarted before they will become visible in SPM.
- A Secure Path Windows 2000 host cannot access a transparent mode RA8000/ESA12000.

3. SECURE PATH SOFTWARE UPDATE INSTALLATION

This Secure Path Software Update 3 can be applied only to previously installed version 3.0 or version 3.1 of Secure Path for Microsoft Windows.

The following sequences provide supplemental procedures for the most common installation scenarios.

3.1 Updating Stand-alone Server

- Stop all applications which access Secure Path storage.
- Backup data on Secure Path Storage.
- Install the Secure Path Server software.
- Install the Secure Path Client software on desired systems.
- Shutdown the server.
- Reboot the server.

3.2 Updating Cluster Servers

- Stop any non-cluster aware applications on one of the servers to be updated.

- Using Cluster Administrator, move all Secure Path storage groups from the server to be upgraded.
- Install Secure Path Software Update 3 Server (or Server and Client) software.
- Shutdown and reboot the updated server.
- Using Cluster Administrator, move all Secure Path storage groups to the updated server.
- Install Secure Path Software Update 3 Server (or Server and Client) software.
- Shutdown and reboot this server.
- Using Cluster Administrator, restore Secure Path storage groups to the original configuration.

4. SECURE PATH OPERATIONAL FEATURES

4.1 Secure Path Manager Refresh

SPM automatically refreshes the display every 90 seconds. If you wish to update the displayed information sooner use the F5 key.

4.2 Secure Path Manager Controller Designations

In the SPM display, the controller designations are based on manufacturing designated serial numbers assigned to physical controllers in your RAID Array cabinet. This does not necessarily correlate to the physical position (upper and lower) of the controllers within the cabinet. Always reference the controller serial numbers if you need to associate information in the SPM display with the controllers.

4.3 Controller Hot-Swap

If it becomes necessary to hot-swap one of the RAID Array controllers in a storage system, schedule a reboot of each cluster server sharing that system as soon as possible to re-synchronize the Secure Path databases. If only one of the servers is rebooted, SPM management capability is compromised.

5. CONFIGURATION INFORMATION

5.1 Operating System Compatibility

Secure Path Software Update 3 is supported on Intel-based platforms running the following operating systems:

- Windows NT Enterprise Edition Version 4.0, Service Pack 5 or Service Pack 6A
- Windows 2000 Advanced Server

Microsoft Cluster Server (MSCS) may be optionally installed.

5.2 Supported Storage System Types

- Fibre Channel RA8000/ESA12000 RAID Arrays with StorageWorks HSG80 controller and ACS version 8.5
- SCSI RA7000/ESA10000 RAID Arrays with StorageWorks HSZ70 controller and HSOF version 7.3

5.3 Secure Path Supported Configurations

The following list defines operational configuration limits for Secure Path Software Update 3 for versions 3.0 and 3.1. The effective limit may be less due to Windows storage constraints, storage system type, or interconnect requirements. Refer to the appropriate Application Notes included with the install kit (also available from the <http://www.compaq.com> web site) for details.

- Maximum 8 storage systems shared by a set of hosts (per profile)
- Maximum 8 hosts per set of shared storage systems (per profile)
- Maximum 8 LUNs per target
- Maximum 8 paths per LUN
- Maximum 24 storage sets per subsystem for parallel SCSI configurations
- Maximum 16 storage sets per subsystem for Fibre Channel configurations

5.4 Fibre Channel Configurations

NOTE: Please check the <http://www.compaq.com/support/storage> Compaq web site for the latest HBA device drivers.

Fibre Channel configurations are supported with the StorageWorks KGPSA HBA for Windows NT 4.0 and Windows 2000. The following revision levels are required:

- KGPSA device driver for Windows 2000 – CPQKGPSA.SYS, version 5-4.41a5
- KGPSA device driver for Windows NT 4.0 – LP6NDS35.SYS, version 4-4.41a5
- KGPSA Firmware SF2.20X2

During installation, all parameters required by Secure Path for the HBA driver are set automatically. It is required that you follow configurations included in the appropriate Application Notes.

5.5 Parallel SCSI Configurations

5.5.1 Parallel SCSI Adapter Setup

Parallel SCSI configurations are supported with the Adaptec AHA2944-UW HBA for Windows. The following revision levels are required:

- Adaptec device driver AIC78xx.sys, version 1.25c for Windows NT 4.0 SP6A
- Adaptec device driver version 5.0.2144.1 for Windows 2000

Use SCSI Select to implement the following BIOS settings for each HBA:

- Adapter SCSI ID assignments must be different for each host in a multiple host configuration
- Disable Reset at initialization
- Enable SCSI Parity Checking
- Host Adapter Termination=LOW OFF/HIGH OFF (for configurations using external termination)

5.5.2 Parallel SCSI Constraints

When configuring Secure Path with the Adaptec 2944UW it is required that HBAs and their connections to the storage controllers be configured symmetrically between the two hosts. Cross cabling is not supported. For example:

- HBA #1 of Host A must connect with HSZ70 controller #1
- HBA #1 of Host B must connect with HSZ70 controller #1
- HBA #2 of Host A must connect with HSZ70 controller #2
- HBA #2 of Host B must connect with HSZ70 controller #2

Maximum configurations supported for Parallel SCSI:

- 4 hosts (standalone or configured as 2 MSCS clusters) for each set of shared storage systems
- 3 storage systems for each set of shared hosts

6. SECURE PATH SOFTWARE UPDATE 3 CONTENTS

- Secure Path V3.1 Update 3 Software
- Secure Path V3.1 Software Update 3 Release Notes (this document)
- Secure Path V3.1 Software Update 3 Readme File