

Release Notes

# hp StorageWorks Secure Path v3.0C Service Pack 2.1 for NetWare and NetWare Workgroup Edition

**Product Version:** 3.0C SP2.1

Eleventh Edition (February 2005)

**Part Number:** AA-RN73L-TE

This document summarizes the features and characteristics of HP StorageWorks Secure Path v3.0C SP2.1 for Novell NetWare and Novell NetWare Workgroup Edition, a high-availability software solution for use with Enterprise Virtual Array, Enterprise/Modular Storage RAID Array (RA/MA6000, RA/MA8000, ESA/EMA12000, and EMA16000), Modular Smart Array 1000 and Modular Smart Array 1500 systems.

For the latest version of these Release Notes and other Secure Path documentation, access the HP storage web site at <http://www.hp.com/country/us/eng/prodserv/storage.html>.



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Secure Path v3.0C Service Pack 2.1 for NetWare and NetWare Workgroup Edition Release  
Notes

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## About this document

These release notes provide information for StorageWorks Secure Path v3.0C SP2.1 for NetWare and NetWare Workgroup Edition not available elsewhere in the product documentation, and takes precedent over all other sources. Individuals responsible for configuring, installing, and using this software should use this document.

Please visit the following web site to obtain the latest information and upgrades:

<http://www.hp.com/country/us/eng/prodserv/storage.html>.

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**Note:** Read this entire document before installing or upgrading the software.

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## Release notes information

These Release Notes include the following topics:

- [Secure Path installation contents](#), page 5
- [Notes and corrections](#), page 6
- [Fixes and enhancements for Secure Path v3.0C SP2.1](#), page 14
- [Secure Path supported configurations](#), page 15
- [Migrating from Secure Path v3.0B to v3.0C](#), page 16

## Other Secure Path documentation

The Secure Path v3.0C Service Pack 2.1 documentation kit also includes:

- *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide*, part number AA-RN72C-TE
- *HP StorageWorks Secure Path v3.0C Service Pack 2.1 for Novell NetWare Release Notes*, part number AA-RN73L-TE (This document)
- *HP StorageWorks Secure Path Manager v4.0C Installation Guide*, part number AA-RRR4D-TE
- *HP StorageWorks Secure Path Manager v4.0C Release Notes*, part number T3037-98002
- HP StorageWorks Secure Path Manager Online Help (accessible with a Web browser interface)

Additional documentation, including white papers and best practices documents, are available via the HP web site at: <http://www.hp.com>.

## Secure Path installation contents

The Secure Path v3.0C Service Pack 2.1 for Novell NetWare software resides in the following locations:

- NetWare directory
- Windows directory
- Docs directory - Includes *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide*

Refer to the *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide* for specific file locations.

### Current component versions

Table 1 lists the Secure Path v3.0C Service Pack 2.1 for Novell NetWare component versions.

**Table 1: Driver and agent revision levels**

Agent or driver	Version
HPQSPAGT.NLM (Secure Path Agent)	2.01
HPQSP.CDM	0.11.25
CPQSHD.CDM	2.02
QL2300.HAM	6.80f
FCA2210 HBA	BIOS 1.45 – Download this BIOS from <a href="http://h18006.www1.hp.com/products/storageworks/fca2210/index.html">http://h18006.www1.hp.com/products/storageworks/fca2210/index.html</a>

## Notes and corrections

### Support for storage array systems

- Secure Path v3.0C Service Pack 2.1 for NetWare supports NetWare 5.1, 6, and 6.5 on Enterprise Virtual Array (EVA) 5000, Enterprise Virtual Array 3000, EMA12000, ESA/EMA12000 FC, or RA/MA8000, Modular Smart Array 1000 (MSA1000), and Modular Smart Array 1500 (MSA1500).
- Secure Path v3.0C Service Pack 2.1 for NetWare Workgroup Edition supports NetWare 5.1, 6, and 6.5 on MSA1000 and MSA 1500.
- Enterprise/Modular Storage RAID Array (HSG80) is not supported with NW 6.5.

### Configuration limitations when using the MSA Fabric Switch 6

NetWare servers may ABEND during Secure Path v3.0C failback operations in certain MSA1000 configurations using the MSA Fabric Switch 6. The ABEND can occur in NetWare 5.1, 6, and 6.5 environments, both standalone and cluster configurations.

This issue only occurs in cascaded MSA Fabric Switch 6 configurations. A cascaded configuration is created when there are two MSA1000 systems connected together by an Inter Switch Link (ISL) between a port on the MSA Fabric Switch 6 in one MSA1000 to a port on another MSA Fabric Switch 6 in a second MSA1000.

For greater storage capacity, you can connect additional MSA1000 systems containing MSA Fibre Channel I/O modules through the MSA Fabric Switch 6. These configurations do not experience the problem.

### Auto Failback reset

If auto failback is disabled, in the event that you restart the server, auto failback gets reset to **Enable** when the server reboots.

### Cluster support

This release of Secure Path v3.0C Service Pack 2.1 for Novell NetWare supports up to 12 node clusters.

## Secure Path Manager

- Secure Path Manager v4.0C Service Pack 1.0 is the current version supported with Secure Path v3.0C Service Pack 2.1 for NetWare and NetWare Workgroup Edition.
- Secure Path Manager does not support dual monitor configurations.
- Secure Path Manager reports both EVA5000 and EVA3000 systems as HSV110. You must use the WWN to positively identify the system.
- Secure Path does not allow individual volumes on the same LUN to be moved to different paths.
- Passwords are case-sensitive. You must use the same letter case each time you enter the password.
- SPM displays only the first (or primary) appearance of all repeated logical device names in a cluster. Therefore, do not use the same logical device name on different clusters.
- To ensure that no-single-point-of-failure is maintained throughout your Secure Path Storage System, only redundant RAID types should be configured. Those include RAID 1+0, 5, 1, and ADG.
- A single profile of SPM is capable of managing heterogeneous or homogeneous configurations of Novell NetWare and Windows systems. Clusters **MUST** be either Windows NT, Windows 2000, or NetWare.
- Install the modified SP Agent on Windows server systems in heterogeneous environments.
- If there are multiple volume labels, drive letters, or other identifiers associated with a LUN, the SPM precedes the device icon with the plus (+) box (this is true only if there are multiples of the specific identifier type currently displayed for the LUN); clicking on the box causes a left-pane expansion under the LUN, showing a list of the multiple identifiers, with one entry per line (even for drive letters).

## Editing the startup.ncf file before Secure Path installation

Before you perform the Secure Path installation, make sure you edit the `startup.ncf` file, and remove or comment out all occurrences of lines containing the following text:

```
load QL2300
```

## Novell NetWare operating systems

- When installing with the Secure Path v3.0C CD-ROM, to specify a path name other than the default, perform the following procedure:
  1. Under **Product Options**, choose **Install product not listed**.
  2. Press **Enter**.
  3. On the Install Product Not Listed screen, press **F3**.
  4. Enter the installation path in the following format:

```
NWSPV30C: NetWare
```
  5. The following message displays:

```
NWCONFIG is loading another NLM...
```

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**Note:** Find a complete description of the Automatic Server Software Install procedure in the *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide*.

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- Path verification is defaulted to **enabled** for all Novell NetWare systems.
- Load distribution is not provided for Novell NetWare systems.
- Secure Path supports NetWare 5.1, 6, and 6.5. In cluster configurations, all servers must have the same version of cluster services and the latest service pack, if applicable.
- Do not unload the *QL2300.HAM* driver while running the Secure Path Agent.
- If the arrays become totally inaccessible, all servers in the clusterabend. Therefore, mirror your SBD partitions across storage devices during the cluster installation if you have two identical external storage devices. By mirroring the SBD partitions, you can lose one array and still maintain the cluster connectivity. Refer to the NetWare documentation for more information.



- Novell NetWare does not currently support clusters in a mixed environment of NetWare 5.1, 6, or 6.5 servers.
- NetWare Cluster Server/Software (NWCS) issues a “heartbeat” every 10 seconds or so to make sure all the servers are still alive. If this “heartbeat” is not received in the appropriate amount of time, the cluster abends the server in question in an attempt to reestablish connections and also to prevent any file system corruption that can occur. Running the install from a diskette, or simply loading any nlm from a floppy, can potentially delay the server from sending it's “heartbeat”. This is basically a timing issue. As long as the floppy access starts and completes within the same “heartbeat” window, everything works fine. As soon as the floppy access keeps the “heartbeat” from being issued however, the abend occurs.

## Documentation corrections

Please note the following corrections to the *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide*, part number AA-RN72C-TE. [Table 2](#) contains the following information:

**Table 2: Secure Path Installation Prerequisite**

Host feature	Requirement
Operating systems	<ul style="list-style-type: none"> <li>■ NetWare 5.1, NetWare 6, or NetWare 6.5 updated with the latest Novell Support Packs</li> <li>■ Minimum Support Pack 7 for NetWare 5.1, Support Pack 5 for NetWare 6, and Support Pack 2 for NetWare 6.5</li> <li>■ The latest Proliant Support Pack for Novell NetWare is available on the HP web site at: <a href="http://h18006.www1.hp.com/products/servers/management/psp/index.html">http://h18006.www1.hp.com/products/servers/management/psp/index.html</a></li> <li>■ NetWare Cluster Services V1.01 for NetWare 5.1</li> <li>■ NetWare Cluster Services V1.6 for NetWare 6</li> <li>■ NetWare Cluster Services V1.7 for NetWare 6.5</li> </ul>
Secure Path software kit	<ul style="list-style-type: none"> <li>■ HP StorageWorks Secure Path v3.0C Service Pack 2.1</li> <li>■ HP StorageWorks Secure Path Manager v4.0C Service Pack 1.0</li> </ul>
Storage systems	<ul style="list-style-type: none"> <li>■ HP StorageWorks EVA</li> <li>■ Element Manager for StorageWorks Enterprise Virtual Array V3.10, Build 20 or later</li> <li>■ HP StorageWorks EMA12000, ESA/EMA12000 FC, or RA/MA8000 with NetWare 5.1 and NetWare 6 only</li> <li>■ HP StorageWorks Modular Smart Array 1000</li> <li>■ HP StorageWorks Modular Smart Array 1500</li> </ul>
Host Bus Adapters	<ul style="list-style-type: none"> <li>■ HP StorageWorks FCA2210</li> <li>■ HP StorageWorks FCA 2214</li> <li>■ HP FC Mezzanine card for BL20P G2</li> </ul>
FC interconnect hardware	<p>Cables, switches and connection hardware as required. For the configuration information about the latest supported switches, refer to the HP StorageWorks SAN Design Reference Guide at <a href="http://h18006.www1.hp.com/products/storageworks/san/documentation.html">http://h18006.www1.hp.com/products/storageworks/san/documentation.html</a></p>

**Table 2: Secure Path Installation Prerequisite (Continued)**

Host feature	Requirement
Technical documentation	The reference guides for the RAID system, the host server, and the Novell NetWare software.
Network	TCP/IP Networking services configured on all units in the LAN
Optional components	<ul style="list-style-type: none"> <li>■ HP Insight Manager (CIM) software installation if remote management of the server with problem reporting is desired</li> <li>■ SNMP service installed if using remote management</li> </ul>

- Pages 19 through 20 in the *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide* should read as follows:

## Installing Secure Path 3.0C on Novell NetWare Servers

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**Note:** Before installing this service pack, make sure Secure Path v3.0C for Novell NetWare or later is installed on the server. Refer to the `readme.txt` in the service pack zip file for detailed information.

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### Automated Server Software Install Procedure

Use the following procedure to install the Secure Path Server with little intervention.

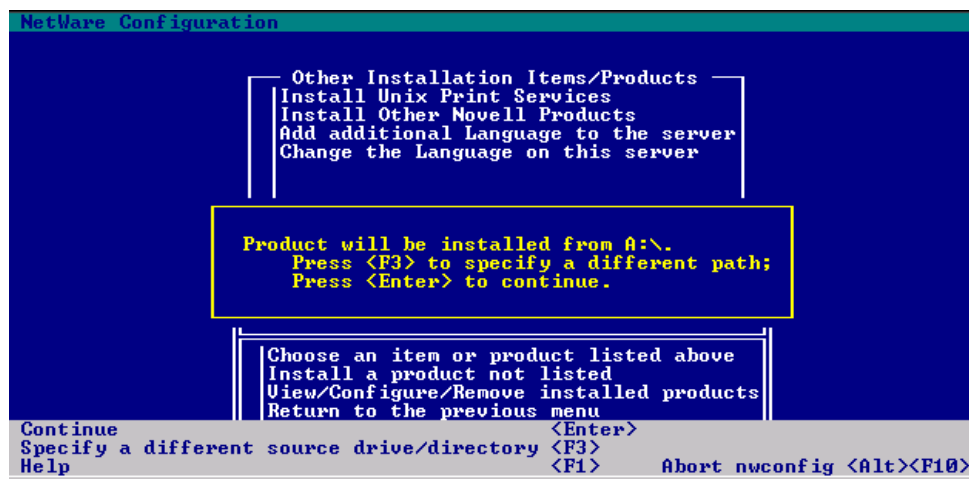
1. Insert the Secure Path software CD-ROM into the CD-ROM drive of a NetWare Server.
2. Mount the Secure Path CD-ROM by entering **CDROM** at the prompt. If the volume does not mount automatically, mount the CD-ROM by entering:

VOLUME

Note the CD-ROM volume name. Enter:

LOAD NWCONFIG.NLM

3. Under Product Options, choose **INSTALL PRODUCT NOT LISTED**. The following screen displays:



4. Press **F3** and enter the following path:

NWSPV30C: NETWARE

The following message displays:

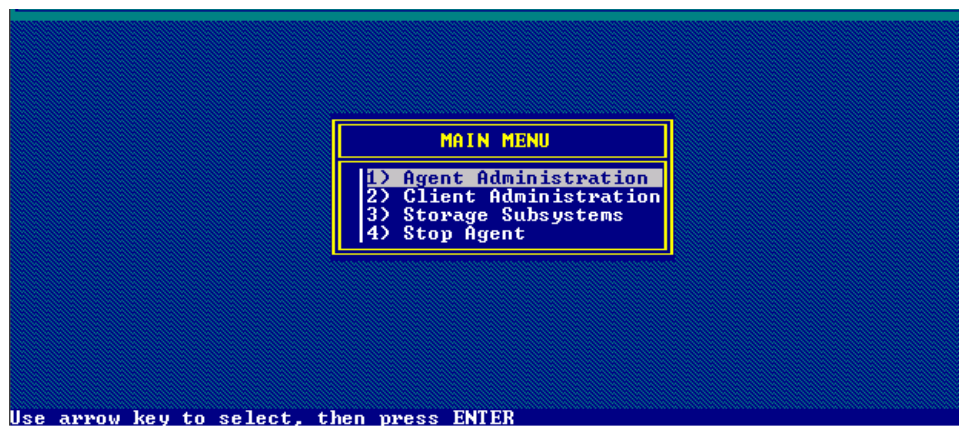
NWCONFIG is loading another NLM

The screen changes from the NetWare NWCONFIG screen to the Secure Path installation program, which performs the following steps:

- Checks the drivers and lists them on screen.
- Starts installing files from CD-ROM.
- Returns to the NetWare NWCONFIG screen when complete. (**Exit NWCONFIG.**)

The HPQSPAGT.NLM line is now available on the NetWare OS Available Screens menu (when you press **CTRL+ESC**).

5. Enter the number on your screen associated with HPQSPAGT .NLM to display the Secure Path v3.0C NetWare Loadable Module screen displays with the options shown in the following example:



Installation is complete. You must now configure the server agent using the Main Menu.

## Fixes and enhancements for Secure Path v3.0C SP2.1

### Novell NetWare operating systems

- Using Secure Path Manager v4.0C Service Pack 1.0:
  - Path verification is enabled by default.
  - Autofailback is enabled by default.
  - Load balancing is disabled by default and cannot be changed.

## Secure Path supported configurations

The following list defines operational configuration limits for Secure Path v3.0C Service Pack 2.1 for Novell NetWare and NetWare Workgroup Edition. The effective limit may be less, because of NetWare storage constraints, storage system type, or interconnect requirements. Configuration limits include:

- Maximum 16 hosts per set of shared storage systems (per profile)
- Maximum 16 profiles
- Maximum of 128 LUNs per host.
- For Novell NetWare single path configuration, maximum of 64 LUNs per storage subsystem.

## Supported storage system types

- Enterprise Virtual Array 3000 with VCS 3.020
- Enterprise Virtual Array 5000 with VCS 3.020
- Modular Smart Array 1000, controller version 4.24
- Modular Smart Array 1500, controller version 4.82
- HSG 80 with 8.7 firmware and all updates

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**Note:** HSG 80 is not supported with NetWare 6.5

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## Migrating from Secure Path v3.0B to v3.0C

Use the following procedure to migrate your storage systems from Secure Path v3.0B to v3.0C before installing v3.0C SP2.1

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**Note:** Persian and Qlogic HBAs cannot coexist in a server running Secure Path. The system must be running Secure Path v3.0B with all Persian HBAs, Secure Path v3.0C with all Qlogic HBAs.

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1. Make two backups off all storage devices.
2. Using `nwconfig`, edit the `Startup.ncf` and `Autoexec.ncf` files to remove all lines installed by Secure Path v3.0B.
3. Remove all load lines for `CPQFC.HAM`.
4. Turn off the system.
5. Remove the 32-bit Compaq Fibre HBA if installed.
6. Install the FCA2210 or FCA2214 HBA.
7. Turn on the system.
8. Install Secure Path v3.0C as described in the *HP StorageWorks Secure Path v3.0C for Novell NetWare Installation Guide*.
9. Install Secure Path v3.0C, Service Pack 2.1.
10. Configure the SAN to accept the HBAs.
11. Configure Selective Storage on all arrays that the new HBAs will access.
12. Eliminate the connections associated with the HBAs you removed from your storage and selective storage.