

Compaq StorageWorks

Product Description

StorageWorks Secure Path, Version 3.0, for Windows NT A High-Availability Solution for Intel Platforms

This document provides a brief functional description of StorageWorks Secure Path, Version 3.0, for Windows NT, a High Availability Solution for Intel Platforms. It includes significant features, minimum system requirements for implementing the Solution, and an introduction to the Solution software modules.

Description

StorageWorks Secure Path is a high availability software product providing continuous data access for Ultra SCSI RAID Array 7000 / Enterprise Storage Array 10000 and Fibre Channel RAID Array 8000 / Enterprise Storage Array 12000 storage subsystems configured on Windows NT 4.0 Intel platforms. Redundant hardware, advanced RAID technology and automated failover capability are used to enhance fault tolerance and availability. Secure Path, in conjunction with the StorageWorks RAID Array, effectively eliminates controllers, disk drives, interconnect hardware and host bus adapters as single points of failure in the storage subsystem. Secure Path version 3.0 allows a StorageWorks dual-controller RAID system to be cabled on two or more independent SCSI, Fibre Channel Arbitrated Loop, or Fibre Channel Switch paths using two or more separate host bus adapters in each server. Version 3.0 provides support for single host server, Microsoft Cluster Server (MSCS) and Oracle Parallel Server (OPS) High Availability environments. Secure Path monitors each path and automatically re-routes I/O to the functioning, alternate path(s) should an adapter, cable, hub, switch or controller failure occur. This process called failover, requires no resource downtime and ensures the high availability of data.

Features

The major features of StorageWorks Secure Path v3.0 for Windows NT are:

- Automatic failover capability on occurrence of adapter, cabling, or controller failure.
- System Manager controlled failback using Secure Path Manager configuration utility to maintain system integrity.
- Auto-failback feature allows Secure Path to automatically restore storage units to their default path(s).
- Exploits the potential of dual-controller RAID Array technology to improve bandwidth and throughput performance.
- Load Distribution feature takes advantage of the potential of multiple-path access and enhances I/O performance.
- Path Verification feature implements diagnostics, which periodically determine the health of available storage unit paths ensuring current and accurate path status.
- Simple “drag-and-drop” configuration management and static load balancing capability.
- Custom event log entries facilitate problem diagnosis and repair.
- Simple installation and setup wizard.
- Single-host, Microsoft Cluster Server (MSCS), and OPS support.
- UltraSCSI and Fibre Channel support.
- Multiple storage subsystem support.
- Client/Server remote management capability.

Program Modules

StorageWorks Secure Path for Windows NT is comprised of the following basic software modules:

- **HszDisk.sys** - is the Windows NT class driver which works with DIGITAL HS*-family RAID Array controllers to enhance on-line storage availability and fault-tolerance. HszDisk maintains optimum subsystem performance during controller and storageset error recovery operations.
- **RaiDisk.sys** - is the Windows NT filter driver that provides support for multiple-bus mode operation with StorageWorks RAID Arrays.
- **Secure Path Manager** - is the application utility used to manage multiple-path StorageWorks RAID Array configurations.
- **Secure Path Agent** - is the Windows NT server application which executes commands for and reports status to Secure Path Manager clients
- **Secure Path Setup** - is the StorageWorks Secure Path for Windows NT setup program used to install and configure all required server/client software components on Intel and Alpha platforms.

Minimum System Requirements

The following are the minimum system requirements for StorageWorks Secure Path v3.0 for Windows NT:

Architecture	Intel
Operating System	Windows NT 4.0 Server, Service Pack 5
Disk Space	All Drivers and Files < 1.5 MB
File System	Single Host NTFS or FAT partitions Microsoft Cluster Server NTFS partitions only
Number of Access Paths	Up to 8
Monitor	VGA
Input Devices	Keyboard and mouse
Host Bus Adapters	UltraSCSI - Adaptec 2944UW Fibre Channel - StorageWorks KGPSA
Serial Port	(for CLI direct serial connection)
Controller Compatibility	Dual-controller RAID Array 7000 using HSOF version 7.0 or later Dual-controller RAID Array 8000 using ACS version 8.3 or later