

StorageWorks by Compaq

Release Notes – SAN Switch 2/16 Performance Bundle

Part Number: AA-RR89A-TE

First Edition (February 2002)

Product Version: 3.0

These release notes contain late-breaking and supplemental information for the Compaq StorageWorks Fibre Channel Storage Area Network (SAN) 2/16 Switch software license option.

For the latest version of these Release Notes and other switch documentation, visit the Compaq storage website at: <http://www.compaq.com>

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Release Notes Contents

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Intended Audience

This document is intended for customers who purchased a Compaq SAN 2/16 Fibre Channel Switch optional software license(s).

Other SAN Switch 2/16 Documentation

In addition to these release notes, Compaq provides the following corresponding information:

- *StorageWorks by Compaq SAN Switch 2/16 Release Notes*,
Part Number: AA-RR85A-TE
- *StorageWorks by Compaq Fabric OS Procedures User Guide*,
Part Number: AA-RQ6EA-TE
- *StorageWorks by Compaq Fabric OS Reference Guide*,
Part Number: AA-RQ6FA-TE
- *StorageWorks by Compaq Web Tools User Guide*,
Part Number: AA-RQ6GA-TE
- *StorageWorks by Compaq MIB Reference Guide*,
Part Number: AA-RQ6HA-TE
- *StorageWorks by Compaq ISL Trunking User Guide*,
Part Number: AA-RR81A-TE
- *StorageWorks by Compaq Advanced Performance Monitoring User Guide*,
Part Number: AA-RR7UA-TE

- *StorageWorks by Compaq Zoning Guide*,
Part Number: AA-RQ6YA-TE
- *StorageWorks by Compaq QuickLoop User Guide*,
Part Number: AA-RR7LA-TE
- *StorageWorks by Compaq Extended Fabric Version 3.0 User Guide*,
Part Number: AA-RR7QA-TE
- *StorageWorks by Compaq Fabric Watch Version 3.0*,
Part Number: AA-RR7YA-TE

Additional documentation, including white papers and best practices documents, are available via the Compaq website at: <http://www.compaq.com>.

Compaq StorageWorks SAN Switch 2/16 Product Overview

The Compaq StorageWorks SAN Switch 2/16 is a 16-port, auto-sensing 1 GB and 2 GB Fibre Channel switch, delivering the next generation of performance and functionality for Fibre Channel Storage Area Networks. Based on third generation ASIC technology, the Compaq StorageWorks SAN Switch 2/16 not only delivers Fibre Channel throughput at twice the previous speeds, but delivers a number of new features designed to enhance the manageability of the switch.

Fabric Operating System Firmware Version 3.0.2

The Compaq StorageWorks SAN Switch 2/16 with version 3.0.2 Firmware includes Web Tools and Advanced Zoning. These features were enabled at the factory via a software license key. It is recommended that you record the software keys in case they are deleted by accident.

The Compaq StorageWorks SAN Switch 2/16 with version 3.0.2 firmware supports the following optional software components:

- Enhanced Trunking (Compaq part number 262872-B21),
- Advanced Performance Monitor (Compaq part number 262870-B21),
- Fabric Watch (Compaq part number 262864-B21),
- Performance Package (all three above) (Compaq part number 262874-B21),
- QuickLoop/Fabric Assist (Compaq part number 262866-B21),

- Extended Fabric(Compaq part number 262868-B21).

Performance Bundle

The Performance Bundle kit contains three high-performance optional software upgrades: Advanced Performance Monitoring, ISL Trunking, and Fabric Watch. Descriptions of the upgrades follow.

Advanced Performance Monitoring License

This license allows you to monitor and watch specific fabric metrics, and provides the fabric administrator flexibility and control of the fabric. Advanced Performance Monitoring allows you to fine tune and scale the fabric, and provides early warning detection of hot-spots within the fabric. It is a powerful tool for maintaining balanced performance throughout the fabric.

Fabric Watch License

Fabric Watch software monitors the performance and status of Compaq StorageWorks Fibre Channel SAN Switches, and alerts SAN managers when problems arise. The real-time alerts from Fabric Watch help the SAN administrator solve problems before they become costly failures. Fabric Watch monitors the following:

- Fabric events (such as topology reconfigurations and zone changes),
- Physical switch conditions (such as fans, power supplies, and temperature),
- Port behavior (such as state changes, errors, and performance),
- GBICs (for switches equipped with SMART GBICs or the Small Form Factor, Pluggables (SFFPs), such as the Finisar SMART GBIC FTRJ-8519-3-2.5).

Fabric Watch includes a default set of threshold and alarm settings. In addition, a Fabric Watch user-defined configuration profile can be created. This custom profile can be downloaded to the switch. Each profile is for a different purpose, and contains only the configuration information that is different from the default configuration. The default information is always preserved.

A profile may contain the following information:

- Threshold values: Unit string, time base, lower boundary, upper boundary, buffer size,
- Alarm values: Change, exceed, below, above, in-between, behavior type.

ISL Trunking License

Enhanced trunking provides a true load balancing between multiple Interswitch Links (ISLs). Up to four E-ports may be logically grouped to provide a high-bandwidth trunk between two SAN 2/16 switches. When routing connections between switches, the Industry Standard Fibre Shortest Path First (FSPF) routing algorithm views the trunk as a single, high-bandwidth resource (up to 8 GB). Connections are load-balanced across the individual links, which comprise the logical trunk group. Frames between two end points can traverse different links within the group. However, frames always maintain in-order delivery.

NOTE: Enhanced trunking is only supported between SAN Switch 2/16 switches.

Licenses

The optional software components are enabled via a license key which is obtained when you purchase the product. The licenses enabled in a switch can be viewed using the Web Management Tools or telnet commands. The table below lists the license key translations. The display format follows this format, but the information is presented in hex format, for example: 01B (hex) = 27 (decimal) which translates into Web+Zoning+QL+Fabric=1+2+8+16=27.

Table 1: License Number

License	Decimal	Hex
WEB_LICENSE	1	1
ZONING_LICENSE	2	2
SES_LICENSE	4	4
QL_LICENSE	8	8
FABRIC_LICENSE	16	10
REMOTE_FABRIC	64	40
EXTEND_FABRIC	128	80
ENTRY_FABRIC	256	100

Switch Firmware

The Compaq StorageWorks SAN Switch 2/16 ships with the latest version of the firmware installed. A copy of the latest version of the firmware as of this date, v3.0.2, is also contained on the CD included with the switch. Instructions for downloading it into a switch and the required loaders are also contained on the Compaq StorageWorks SAN Switch Software CD.

Please note that v3.0.2 firmware is for the Compaq StorageWorks SAN Switch 2/16 switches only. v3.0.2 firmware will not work if loaded into the 1 Gigabit Compaq StorageWorks SAN Switches.