hp StorageWorks
edge switch

Product Version: FW V04.01.02-4/HAFM SW V06.03.01-5

Second Edition (April 2003)

Part Number: AA–RTDZB–TE/958–000284–002

These release notes contain late-breaking and supplemental information for the HP StorageWorks Edge Switch 2/24 and Edge Switch 2/32.

For the latest version of these Release Notes and other edge switch documentation, access the HP storage website at: http://www.hp.com/country/us/eng/prodserv/storage.html.

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About this Document

These Release Notes contain late breaking and supplemental information for the HP StorageWorks Edge Switch 2/24 and Edge Switch 2/32.

Be sure to read these Release Notes before installing an edge switch. This information is periodically updated and available on the World Wide Web at: http://www.hp.com/country/us/eng/prodserv/storage.html.

This section describes the content reflected in this document, including:

Release Notes Information

These Release Notes cover the following major topics:

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Intended Audience

This document is intended for customers who purchased the HP StorageWorks Edge Switch 2/24 and Edge Switch 2/32.

Firmware Version 04.01.02, Build 04

Firmware Version 04.01.00, Build 12 is the initial firmware released with the Edge Switch 2/24 and Edge Switch 2/32. A copy of the latest version of the firmware, 04.01.02, Build 04 (as of this date) is contained on the *HP StorageWorks Edge Switch Documentation and Firmware CD* (Part Number 524-000001-001). The latest firmware is also available on the HP website at:

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

You need to upgrade Version 04.01.00, Build 12 to Version 04.01.02, Build 4. For more information on upgrading firmware versions, refer to the appropriate *HP StorageWorks Edge Switch Service Manual*. The features of this firmware version are detailed in the accompanying manuals.

Other Edge Switch Documentation

In addition to these release notes, HP provides corresponding information:

- *hp StorageWorks edge switch 2/24 rack mount kit installation instructions, AA-RTDGB-TE/958-000285-001*

- *hp StorageWorks edge switch 2/24 flexport upgrade instruction, AA-RTDHA-TE/958-000286-000*

- *hp StorageWorks edge switch 2/24 installation guide, AA-RTDWA-TE/958-000283-000*

- *hp StorageWorks edge switch 2/24 service manual, AA-RTDXA-TE*

- *hp StorageWorks edge switch 2/24 product manager user guide, AA-RTDYA-TE*

- *hp StorageWorks edge switch rack mount kit installation instructions, AA-RT4MB-TE/958-000293-000*

- *hp StorageWorks edge switch 2/32 flexport upgrade instruction, AA-RS33B-TE/958-000291-000*

- *hp StorageWorks edge switch 2/32 installation guide, AA-RSTZB-TE/958-000290-000*

- *hp StorageWorks edge switch 2/32 service manual, AA-RS2GB-TE*
- *hp StorageWorks edge switch 2/32 product manager user guide, AA-RS2HB-TE*
- *hp StorageWorks CLI reference guide for directors and edge switches, AA-RQ7AC-TE*
- *hp StorageWorks SNMP reference guide for directors and edge switches, AA-RQ7BC-TE*
- *hp StorageWorks SAN high availability planning guide, AA-RS2DB-TE*
- *hp StorageWorks embedded web server user guide, AA-RTDRA-TE*
- *hp StorageWorks ha-fabric manager user guide, AA-RS2CB-TE*
- *hp StorageWorks HAFM server installation guide, AA-RT4KB-TE*
- *hp StorageWorks ha-fabric manager release notes, AV-RSNXD-TE*

CD-ROM Directory Structure

The *HP StorageWorks Edge Switch Documentation and Firmware CD* contains the following items:

CD-ROM Directory Structure for Edge Switch 2/24 and Edge Switch 2/32 Documentation

- Manuals.pdf – (HP StorageWorks Edge Switch 2/24 and Edge Switch 2/32 Documentation; links to all documents below and search function)
- Docs
    - README.TXT – (HP Doc Structure; late breaking doc changes)
    - AA-RTDWA-TE/958-000283-000 – (hp StorageWorks edge switch 2/24 installation guide)
    - AA-RTDXA-TE – (hp StorageWorks edge switch 2/24 service manual)
    - AA-RTDYA-TE – (hp StorageWorks edge switch 2/24 product manager user guide)
    - AA-RSTZB-TE/958-000290-000 – (hp StorageWorks edge switch 2/32 installation guide)
    - AA-RS2GB-TE – (hp StorageWorks edge switch 2/32 service manual)
    - AA-RS2HB-TE – (hp StorageWorks edge switch 2/32 product manager user guide)

- — AA-RQ7AC-TE – (hp StorageWorks CLI reference guide for directors and edge switches)
  - — AA-RQ7BC-TE – (hp StorageWorks SNMP reference guide for directors and edge switches)
  - — AA-RS2DB-TE – (hp StorageWorks SAN high availability planning guide)
  - — AA-RS2CB-TE – (hp StorageWorks ha-fabric manager user guide)
  - — AA-RTDRA-TE – (hp StorageWorks embedded web server user guide)
  - — AA-RT4KB-TE – (hp StorageWorks HAFM server installation guide)
- ■ Firmware
  - — HPQ_HAF_v04.01.00-12.bin – (HP StorageWorks edge switch preloaded Firmware)
  - — HPQ_HAF_v04.01.02-04.bin – (HP StorageWorks edge switch Firmware)
  - — firmwareupdate.txt – (Instructions for updating Firmware)
- ■ Acrobat
  - — RP505ENU.EXE – (Windows installation file for Acrobat Reader 5.0 with Search)

Supported Configurations

Operation of multiple switches in a fabric topology is subject to the following topology limits. Consider the impact of these limits when planning the fabric.

> **Note:** For more information about planning the fabric, refer to hp StorageWorks SAN high availability planning guide.

- ■ **Fabric Elements**—Each fabric element is defined by a unique domain ID that ranges between 1 and 31; therefore, the theoretical limit of interconnected switches in a single fabric is 31. The supported limit of interconnected switches in a single fabric is 24. Because this number is subject to change, contact your HP authorized service representative for the current number of interconnected switches supported in a single fabric.

- **Inhomogeneous fabric**—To determine if interoperability is supported for a product, or if restrictions apply, refer to the product publications, or contact your HP authorized service representative.

- **Number of Interswitch Links (ISLs)**—Theoretically, the ISL limit per Edge Switch 2/24 is 24 and for Edge Switch 2/32 is 32. The maximum supported number of ISLs per switch is half of the switch ports. For redundancy, at least two ISLs should connect any two switch-class fabric elements. Because this number is subject to change, contact your HP authorized service representative for the current number of ISLs supported per switch.

- **Hop Count**—The fibre channel theoretical limit of ISL connections traversed (hop count) in a single path through a fabric is 7. The maximum supported hop count in a single path through a fabric is 3. Because this number is subject to change, contact your HP authorized service representative for the current hop count supported by a single fabric path.

Note: The hop count is equal to the number of ISL connections traversed in a single path, not the total number of ISL connections between devices.

Cable Requirements

Note: Please note that optical cables for the Edge Switch 2/24 and Edge Switch 2/32 must be ordered separately.

For cables measuring up to 500 meters (1 Gbps) or 300 meters (2 Gbps), use multi-mode Fibre Channel cables. For longer cables, use single-mode Fibre Channel cables.

Multi-mode optical cables are connected to short-wave optical transceiver modules in a switch. Single-mode optical cables are connected to long-wave optical transceiver modules in a switch. Multi-mode cables should use 50/125 optical fibers, and single-mode cables typically use 9/125 optical fibers for distances up to 10 km.

Verify that connectors interfacing with the Edge Switch 2/24 and Edge Switch 2/32 use LC Duplex connectors with a PC finish. In addition, the connector at the opposite end of the cable must use either LC or SC type, depending on the requirements of the connected device.

Important Information

This section describes important information related to the Edge Switch 2/24 and Edge Switch 2/32.

HAFM Upgrade Required for Firmware Version 04.01.02 Build 04

If you are using the HAFM server to manage the Director 2/140, Director 2/64, Edge Switch 2/32, Edge Switch 2/24, and/or Edge Switch 2/16, and they are running firmware version 04.01.02 build 4, you need to upgrade HAFM to version 06.03.01 build 5 (minimum). For more information on upgrading software versions, refer to the *HP StorageWorks HA-Fabric Manager User Guide.* The features of this software version are detailed in the accompanying manuals.

Zoning is Disabled by Default

The default zone on the Edge Switch 2/24 and the Edge Switch 2/32 is disabled by default. Zoning must be configured in order for any devices connected to the edge switches to communicate.

Known Issues

This section describes the known issues related to the Edge Switch 2/24 and Edge Switch 2/32.

HSG80 Transparent Mode Not Supported with IBM AIX

Use of an HSG80 with IBM AIX is restricted to operating the HSG80 in Multibus mode with the Edge Switch 2/24 and Edge Switch 2/32. Transparent mode is not supported at this time.

Workaround

None.

HSG80 Transparent Mode Not Recommended with Controller in SCSI-3 Mode with HP-UX Operating Systems

Due to an issue with non-existent duplicate LUNs being displayed with the HP-UX operating systems, the HSG80 controller is restricted to SCSI-2 mode of operation when set to Transparent failover mode.

SCSI-3 mode of operation in Multibus failover mode is fully supported with the use of Secure Path software, Version 3.0.

Workaround

None.

ISL Disconnect Causes NOS Error with the OpenVMS Operating Systems

When an ISL connection is physically removed between directors or switches, the Fibre Channel Adapter model FCA2354 transmits a Not Operational Sequence (NOS) error. This is observed as an entry in the HAFM server Link incident log for the port in which the FCA2354 is attached. The director's Hardware View also displays a yellow triangle icon over the port that detected this incident. The fabric operation or data movement is not disrupted by these incidents, which can be cleared using the following procedure.

Workaround

Use these steps to clear the incident alerts.

1. At the **HAFM Hardware View**, click the port module to open the **Port Card View**.

2. Right click on the port with the yellow triangle icon, and choose **Clear Link Incident Alert(s)**.

Disconnecting the Null Modem Cable

Always log out and disconnect the Null Modem cable from the serial maintenance port when not in use or when the switch is reset.

Updating an Earlier Version of Firmware

FW that predates the 1.3/1.4 FW release must first be updated to a 1.3 FW version or higher before the final update to 2.00.00_33 or 2.00.02_1 can be completed.

Using the Same Firmware

All switches and directors managed by HAFM should have the same FW level installed—whether 1 Gbps or 2 Gbps capable.

Reinstalling Feature Licenses

Feature Licenses (or keys) must be reinstalled after performing a factory reset on a switch to regain use of the licensed features (e.g., SANtegrity).

Multiple FC HBA Ports in Separate Zones

Multiple FC HBA ports in the same host should be placed in separate zones, or they might be perceived as potential targets (some HBAs log-in as both host and target).

CTP Controls Port Lights

Port lights on the edge switch and director products are controlled by the CTP functionality. Certain activities such as FW updates, IPLing the CTP, or switching over to the backup CTP (Director) can cause these port lights to extinguish momentarily until control is reasserted by the CTP. The actual FC traffic is not affected during these times.

Support for Speed Auto-Negotiate

Currently, Speed Auto-Negotiate is not supported for HA and Failover SAN configurations and is not recommended in general at this time. The speed should be hard set to match the attached host or target port capability whenever possible.

Hot Insertion of an Optical Transceiver May Produce Port Failure Event

There should be no impact to the switching and throughput capabilities of the switch and the error event can be cleared by performing a **Port Reset**.

Ports May Accumulate Spurious Events

A port may accumulate "Invalid transmission word" and "Bit-Error Threshold Link Incident" events when a transceiver is poorly seated resulting in a poor ground connection.

Workaround

Reseating the optical transceiver will correct the problem.

HP-UX - Potential Conflict Between Command View and ioscan

There is an issue involving a conflict between the Command View host agent and the UNIX command ioscan. When this conflict is encountered, ioscan may erroneously report that storage LUNs have been lost (ioscan output results in report of "NO_HW"). There is no actual impact on any of the servers, storage, or any fibre channel data transfers. When encountered, re-running ioscan after a short time will yield correct results.

The OpenView Storage Area Manager (OVSAM) Command View Host agent on HP-UX has a discovery agent (diald) which periodically checks the system for new I/O devices including HBAs. The default polling cycle is 19 minutes but is user configurable from 1 minute to 24 hours. The Command View products use this host agent component for discovery of XP and VA arrays.

Workaround

On a stable system after the diald software has run for a few cycles the discovery information will remain unchanged. In order to minimize the opportunity for this conflict to occur with any programs using ioscan, you can modify the polling period to a larger value. To do this, the entry

"DIAL_DISCOVERY_DELAY"

in the file

/opt/sanmgr/hostagent/config/dial.cfg

should be changed. The polling period value should be specified in minutes, e.g. a value of 60 would result in a 1 hour discovery poll cycle. The polling period value should be modified considering the time and frequency that ioscans are being run, in order to avoid diald and ioscan being executed simultaneously.

This issue will be corrected in the next release of director and edge switch firmware.