QLOGIC

Readme File

SANbox 5000/9000 Series Switch Firmware Version 6.8.0.03

50697-05 Rev A

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1. Notes

- A hotreset (Non-Disruptive Code Load Activation or NDCLA) is not supported when downgrading firmware versions. A switch reset must be performed.
- A hotreset or NDCLA from a firmware version earlier than version 6.2.1.06 on the SANbox 9000 series switch to a later version is not supported. The SANbox 9000 switch must be at version 6.2.1.06 or later for a hotreset to a later version.
- The maximum number of devices tested with this release are defined as follows:
  - Maximum of 32 devices per port
  - Maximum of 32 ports running loops in the chassis
  - Maximum of 1024 devices connected to the chassis (any E-ports count as one device each)
  - Maximum of 2048 devices in the fabric
- The maximum number of hops (ISL links) tested per fabric is 7.
- Any feature licenses applied to SANbox 5000 series switches with firmware 6.x or later will be lost if the switch firmware is downgraded to 5.x or earlier. If at some point the switch firmware is then upgraded to 6.x or later, an NDCLA cannot be successfully executed; a switch reset will be performed. Any licenses applied when the switch firmware was 6.x or later will have to be reapplied. Any licenses applied when the switch firmware was 5.x do not have to be reapplied.
- You are allowed one active Enterprise Fabric Suite 2007 or API session while executing an NDCLA when you have a fabric with switches with pre-6.x firmware. If all the switches in the fabric are at 6.x, then multiple Enterprise Fabric Suite and/or API sessions are allowed.

- Loop devices are not supported on the 10G I/O blade in the SANbox 9000 switch.
- Whenever a new CPU blade is inserted into a running SANbox 9000 switch, the switch will attempt to automatically update the firmware so that both CPU's match. The firmware on the newly installed CPU will be replaced (upgraded or downgraded) with the firmware from the currently running CPU. Very rarely, this operation will fail. If it does, you will receive a FW_UPDATE_FAIL error and the CPU will be powered down. If this happens, resetting the CPU via the Command Line Interface (CLI) or Enterprise Fabric Suite 2007 will update the firmware and the CPU will return to service. No interruption of other switch operations will occur.
- When using Fault Tolerant firmware on the SANbox 9200, the user is required to install Ethernet connections to the back of both CPUs (default ports for Ethernet connection) or both Ethernet ports on the MP if the MP has been selected to be used for Ethernet connection. If both Ethernet connections are not installed and the primary CPU faults, the user pulls the primary CPU or the user issues a switchover command, the SANbox 9200 will not be reachable over the Ethernet. If the user adds an Ethernet connection after the previous hotstandby CPU has become primary, the SANbox 9200 may not be reachable over the Ethernet until after ARP cache timeouts have occurred. ARP cache timeouts can be anywhere from a couple of minutes to several hours depending on your network infrastructure.
- If Default Zoning is set to TRUE, the fabric contains a large activated zone set with 64 or less members, the number of members in the large zone plus the number of unzoned members in the fabric totals greater than 64, and the large zone is then deactivated, the "new" orphan zone set of greater than 64 members will revert to soft zoning. Any zone set that is then created and activated that reduces the number of members in the orphan zone set to less than 64, will revert to hard zoning. The orphan zone set will remain soft zoned until the ports on the switch to which the members are attached are reset. An alternative solution is to remove enough members from the fabric to reduce the orphan set to 64 or less members and then reset the ports on the switch.
- If you are running firmware 6.7 or later with DefaultZoning set to TRUE on a SANbox 5000 series switch, downgrade to firmware 5.0.1 or earlier, and the switch has an active zoneset, any devices outside of the zone will see each other regardless of the setting of DefaultVisibility. To maintain the correct firmware 5.0.1 behavior, you should set the DefaultZoning parameter to FALSE before downgrading to firmware 5.0.1 or earlier.
- If a host connected to a port on a SANbox 5000/ 9000 Series switch sends a LINIT or LSTS ELS frame to a remote domain address, the response from the storage will be held up in the SANbox 5000/ 9000 Series switch as a result of Implicit Hard Zoning. The requested action to reinitialize the storage port via the LINIT or LST frame does take place.
- Storage devices may support a limited number of host logins (this limit is device dependent). If this limit is exceeded, the storage will send an LS_RJT in response to a PLOGI from any additional hosts. If the setup of the fabric is such that a host cannot successfully PLOGI any storage in the fabric due to this limit, the host may log out of the fabric (or drop the link) and retry the process. Symptoms observed when this occurs can include an incrementing count of link failures (see "show port < port number>") as well as repeated alarms similar to the following:
  Alarm Msg: [Fri Jan 27 16:27:08.172 CST 2006][A][1004.0050 [Port: 3][Maximum hard zoning member limit exceeded, Reverting to soft zoning. Requires port reset.]
  This issue has only been observed in fabrics with large numbers (hundreds) of storage devices and hosts sharing a single zone.
- Having inactive large zone sets may cause the switch to exceed its zoning database limits upon deactivation and activation of the zone sets. You may see the error message "Activation failed, SFC failure received from remote switch ..." when this occurs. To avoid this issue, the best practice is to manage the fabric from a single switch and to set the DiscardInactive

attribute to True for the other switches in the fabric.

- If you have fabrics that cross time zones, please be aware that this will cause time stamp differences in the various switch logs.
- If you are not using NTP to manage the date/time and manually change the date/time and then change the time zone, the subsequent date/time will be incorrect. To avoid this issue, change the time zone first and then the date/time.
- If you are not using NTP to manage the date/time and you downgrade the firmware to a version earlier than version 6.6 on the SANbox 9000 series or version 6.7 on the SANbox 5000 series, the date/time will be incorrect due to a difference in the way time is stored in the firmware. You will need to manually reset the date/time.
- If the SANbox 9000 is attached to another switch, and both have the same domain ID, the port on the SANbox 9000 will isolate. The error message "Eport isolating due to EFP Domain Overlap" will be displayed. To work around this issue, you must explicitly change the domain ID on one of the switches. Note: dual HyperStacked SB9200 Model switches must also have different domain IDs.
- A switch configuration backup does not archive the primary or secondary secrets for any security groups. As a result, the security secrets need to be reconfigured using the Command Line Interface (CLI) after a "config restore". Otherwise, the restored switch will isolate from the fabric due to the missing secrets.
- With the SANbox 9000 Series platform, the "create support" command creates dump_support. tgz files with the same name in multiple sub-directories representing the different I/O blades. When using WinZip, if the file listing is sorted by filename, this may appear confusing if the display is not wide enough to show the subdirectory names.
- The CLI displays 64-bit port counters. SNMP port counters are only allowed, by MIB definition, to display 32-bit counters. The SNMP port counters will not match the CLI port counters once the values exceed 32-bits.
- For Picolight Model #PL-XPL-VC-SG3-22 SFPs, the Tx Bias and Tx Pwr parameters will intermittently show values of 0.00 when the "show media" command is executed. LowAlarm status on Tx Bias, Tx Pwr, and RxPower may also be displayed. The 0.00 values and alarms can be ignored when this occurs. This only applies if the switch has a SANdoctor license.
- For Agilent Model #AFBR-57R5AP SFPs, the Tx Bias parameter will go to LowAlarm status on "show media" commands that follow multiple "show media n" commands during port autospeed negotiation. This can also occur after moving ports between offline and online status. The LowAlarm status and any 0.00 values can be ignored in this situation. This only applies if the switch has a SANdoctor license.
- For some Seagate storage, the "fcping" command will report "failed" if the storage is attached to a remote switch. The command will work if the storage is attached to the local switch. This only applies if the switch has a SANdoctor license.
- The embedded application for basic discovery, setup, configuration, and zoning management is QuickTools.
- While running QuickTools, if you change the IP address of the switch where QuickTools resides, the QuickTools session (at the old IP address) will stop responding. To work around this issue, specify the new IP address in a new browser window.
- When running QuickTools, Java plug-in caching should be disabled. If caching is enabled and you load a different version of QuickTools from a switch onto your client, the previously running version of QuickTools will load from the cache even though the version number will be for the QuickTools loaded from the switch. Also, if you have Java plug-in caching disabled and you upgrade your Java version, caching may become enabled and will have to be disabled again.
- If Java support is disabled in the browser, or if scripting support is disabled in the browser,

QuickTools will not launch. The scripting support is referred to as "Enable JavaScript" in most browsers, and as "Active scripting" or "Active Web Content" in Internet Explorer.

- When navigating within QuickTools, use the buttons within the application instead of the browser buttons to insure proper operation.
- When running QuickTools with Windows Internet Explorer, if you select a file which specifies Windows Internet Explorer as the default browser to use for that file type, when the page is brought up in the same Windows Internet Explorer browser window, QuickTools is automatically closed. You can work around this issue by opening a second Internet Explorer browser window after loading QuickTools in the first Internet Explorer browser window. Files that specify the use of Internet Explorer will be opened up in the second window.
- If you disable QuickTools through the System Services dialog while in a QuickTools session, you will still be able to manage the switch while in the current browser session. You must close the current browser to completely enable the change.

The host platform requirements for QuickTools are as follows:

Element	Requirement
Host OS	Windows 2003 and XP SP1/SP2, Red Hat Enterprise Linux 4 and 5, SUSE Linux Enterprise Server 9 and 10, Solaris 9, 10, and 10 x86, Mac OS X 10.4
Memory	256 MB or more (512MB or more recommended)
Processor	1 GHz or faster
Hardware	RJ-45 Ethernet Port, RS-232 Serial Port (optional)
Internet Browser	Microsoft Internet Explorer 6.0 and later, Netscape Navigator 6.0 and later, Safari 1.0 and later, Firefox 1.5 and later, Java Plugin JRE 1.4.2

2. Installing the Firmware via telnet

The following procedure should be used to download Version 6.8.0.03:

1. After downloading new firmware from QLogic, change to the directory where the new firmware is located.
2. Use FTP and log in to the switch. The FTP user name is *images* and the password is *images*.
3. Enter the following commands:

```
> bin
> put 6.8.0.03.00_xxxx (where xxx is mpc for SANbox 52xx and 56xx series, and
                        ThCP for SANbox 9000 series)
> quit
```

4. Use Telnet to log in to the switch. The Telnet user name is *admin*, and the password is *password*.
5. Enter the following commands:

```
> admin start

> image unpack 6.8.0.03.00_xxxx (where xxx is mpc for SANbox 52xx and 56xx
                                 series, and ThCP for SANbox 9000 series)
```

Refer to the instructions in the Installation Guide listed in the Documentation section of these readme notes for further installation methods and for the types of reset that can be performed to

activate this new firmware.

3. Interoperability

The QLogic Switch Interoperability Guide (http://www.qlogic.com/interoperability/interoperability.aspx) provides all other information regarding QLogic interoperability with Brocade and Cisco including:

- Configuration information
- Feature limitations in mixed configuration
- Known issues

The following interoperability modes were tested for the stated Brocade, McDATA, and Cisco switch models and firmware versions:

- InteropMode set to Standard (FC-SW-2) supports Brocade, McDATA, and Cisco switches in their "interop" or "Open" modes:
  - Brocade Silkworm 3200/3800; Firmware tested: v3.2.0
  - Brocade Silkworm 3900; Firmware tested: v5.2.0b
  - Brocade Silkworm 3250, 200E, 4100; Firmware tested: v5.2.0b, v5.3.0
  - Brocade M4400, M4700, M6140; Firmware tested: 9.00.00 build 76, 9.01.00.50
  - Cisco MDS 9509, 9216, 9216i; Firmware tested: 3.0.2a, 3.1.2a

3.1 Known Issues with Brocade/QLogic operation that are not documented in the Interoperability Guide:

- InteropMode of 1 (Interop_1) is no longer supported with this version of firmware. Only InteropMode of 0 (Standard) is supported.
- Connecting a QLogic switch via a GL port to a Brocade switch will cause the Brocade switch to become inoperable. To work around this issue, change the QLogic port to a G port. The Brocade switch demonstrates this issue with non-QLogic switches.
- With InteropMode set to Standard (FC-SW-2) and connected to a Brocade 3250 switch (4.2.0c firmware), Brocade BB credit negotiation does not work properly while traffic is running if the non-Brocade switch has fewer BB credits than the Brocade 3250 switch. To resolve this issue, reconfigure the BB credits on the Brocade switch to match those on the non-Brocade switch.
- With InteropMode set to Standard (FC-SW-2) and connected to a Brocade 3200/3800 switch (3.1.0 or later firmware) and a Brocade 3900 switch (4.1.0 firmware or later), if a cfgsave command is issued from the Brocade switch for a zone change with a full zone database, a non-standard value is included in the save command payload. The QLogic switch will reject the command which causes the save to fail. A workaround is to issue a cfgenable command from the Brocade switch which activates and saves the zone change.
- When in "standard" mode in a fabric containing Brocade switches, the domain ID of the QLogic switch should be configured to a value in the range 0x61 - 0x7f. If the domain ID is not set to a value in this range, servers connected to a Brocade switch may not be able to connect to storage connected to the QLogic switch.

3.2 Known Issues with McDATA/QLogic operation that are not documented in the Interoperability Guide:

- McDATA's EFCM Basic embedded application and command line interface do not display devices attached to the QLogic switch. A workaround is to use their stand-alone EFCM application, v7.0 or later.
- When in "standard" mode in a fabric containing McDATA switches, the domain ID of the QLogic

switch should be configured to a value in the range 0x61 - 0x7f. If the domain ID is not set to a value in this range, servers connected to a McDATA switch may not be able to connect to storage connected to the QLogic switch.

- With a mixed fabric of QLogic and McDATA switches running in "standard" mode, one the McDATA switches must be configured as the principal switch. If this is not done, you may see zoning, nameserver, and security issues.
- The embedded CIMAgent will return invalid port state, ProtocolEndpoint, and ActiveConnection information for remote switches in the fabric if there is a McDATA 6140 switch running firmware 09.00.00 build 76 anywhere in the fabric. To work around the issue, disable Management Server (OSMS) on the McDATA switch. This will cause port information on the McDATA switch to lost, but other switches in the fabric will no longer be affected.
- If a fabric has the CHAP secret enabled, contains a McDATA switch, and fabric binding is enabled or disabled from the McDATA switch, the SANbox 5000 may report a “Topology change, lost route to switch with domain ID xxx” error. After 5 to 10 seconds the lost route is recovered.
- When configuring Fabric Binding with a McDATA switch in the fabric, for the Binding domain id, use the running domain id of the switch minus 60hex.

3.3 Known Issues with Cisco/QLogic operation that are not documented in the Interoperability Guide:

- If using Security Sets, and a Cisco switch is in the fabric, the Cisco's base WWN will have to be typed in when using Enterprise Fabric Suite 2007. It will not be automatically presented in the drop down menu in the Security Set's WWNs. This is because of the VSAN address structure which doesn't present its base address which is needed by security.

4. Documentation

Installation, setup and management of the SANbox 5000 Series switches and the SANbox 9000 Series Stackable Chassis switches are described in the following manuals:

- SANbox 5000 Series Quick Start Guide, 50328-09 Rev A
- SANbox 5000 Series Fibre Channel Switch Installation Guide, 59096-05 Rev A
- SANbox 5000 Series Enterprise Fabric Suite 2007 User Guide, 59097-05 Rev A
- SANbox 5000 Series QuickTools Switch Management Guide, 59235-02 Rev A
- SANbox 5000 Series Fibre Channel Switch Command Line Interface Guide, 59183-02 Rev A
- SANbox 5000 Series Fibre Channel Switch XPAK Cable Instructions, 50326-03 Rev. A
- SANbox 3000/5000 Series Fibre Channel Switch Rack Mounting Guide, 50372-01 Rev A
- SANbox 3000/5000 Series Fibre Channel Switch Power Supply Installation Guide, 59109-01 Rev A
- SANbox 9000 Series Quick Start Guide for Windows, 50688-03 Rev A
- SANbox 9000 Series Stackable Chassis Switch Installation Guide, 59229-03 Rev A
- SANbox 9000 Series Enterprise Fabric Suite 2007 User Guide, 59230-03 Rev A
- SANbox 9000 Series QuickTools Switch Management User Guide, 59234-03 Rev A
- SANbox 9000 Series Stackable Chassis Switch Command Line Interface Guide, 59231-02 Rev A
- SANbox 9000 Series Stackable Chassis Switch Customer Replaceable Unit Installation Guide, 59232-01 Rev A
- SANbox 9000 Series Stackable Chassis Switch Chassis Replacement Guide, 59245-00 Rev A

- SANbox 9000 Series Stackable Chassis Switch HyperStack Cable Installation Guide, 59238-00 Rev A
- SANbox 9000 Series Stackable Chassis Switch Rack Mounting Guide, 59233-01 Rev B
- SANbox 5000/9000 Series Switch Stacking Cable Instructions, 50326-05 Rev A
- QLogic Fibre Channel Switch Event Message Guide, 59060-04 Rev A
- CIM Agent Reference Guide, 59223-02 Rev A
- SANbox Simple Network Management Protocol Reference Guide, 59047-08 Rev A
- SANbox Fibre Channel Switch Command Line Interface Quick Reference Guide 59261-01 Rev A

5. Additional Notes

Read the following document files for more information:

- readme_EFS_2007_ 60802.html or readme_EFS_2007_60802.pdf
- release_EFS_2007_60802.html or release_EFS_2007_60802.pdf
- release_firmware_60803.html or release_firmware_60803.pdf

6. Contacting Support

Please feel free to contact your QLogic approved reseller or QLogic Technical Support at any phase of integration for assistance. QLogic Technical Support can be reached by the following methods:

Web: http://support.qlogic.com

North America Contact Information
Email: support@qlogic.com
Phone: (952) 932-4040

Support contact information for other regions of the world is available at the QLogic website: http://support.qlogic.com

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