

Multi-boot Image for 4Gb FC HBAs

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Table of Contents

1. [Version](#)
2. [4Gb BIOS](#)
 - 2.1 [Changes](#)
 - 2.2 [Bug Fixes](#)
 - 2.3 [Known Issues](#)
 - 2.4 [Additional Information](#)
3. [4Gb EFI](#)
 - 3.1 [Changes](#)
 - 3.2 [Bug Fixes](#)
 - 3.3 [Known Issues](#)
 - 3.4 [Additional Information](#)
4. [4Gb FCode](#)
 - 4.1 [Changes](#)
 - 4.2 [Bug Fixes](#)
 - 4.3 [Known Issues](#)
 - 4.4 [Additional Information](#)
5. [Trademarks](#)
6. [Notices](#)
7. [Contacting Support](#)

1. Version

These release notes describe the changes, fixes, known issues, and release details that apply to the multi-boot package for 4Gb HBAs, version 1.56. This package is a compressed file that contains 4Gb BIOS version 1.24, 4Gb FCode version 1.24, 4Gb EFI version 1.08, and firmware version 4.00.26. This package also includes FlasUtil version 1.66.

2. 4Gb BIOS

This section describes the changes, fixes, known issues, and release details that apply to the 4Gb BIOS.

2.1 Changes

The following changes have been made to the 4Gb BIOS between versions 1.18 and 1.24.

Hardware Support

- Added code to support QLE2xx.

OS Support

N/A

Software Components

- Added code to load NEC switch port 1 and 2 pci config register offset 68h with port 0 config register offset 54h value.
- Added support for `exit` CLP string. Changed CLP string to support new format: `PermanentAddresses` was changed to `PermanentAddress`.
- Removed Extended Error Logging option from **CTRL-Q**.
- Removed code to use Memory Map I/O for PCI express.

Industry Standards Compliance

N/A

2.2 Bug Fixes

The following fixes have been made to the 4Gb BIOS between versions 1.18 and 1.24.

- Fixed bug where task attributes in IOCB type 7 were not always being initialized.
- Fixed bug in **CTRL-Q** utility configuring LUNs using Report Luns data when LUN list has more lun entries after lun 255.
- Fixed bug in **CTRL-Q** cursor positioning for some user input displays.
- Fixed bug in not setting `rc_hba` when different HBA types installed in system.

2.3 Known Issues

None

2.4 Additional Information

None

3. 4Gb EFI

This section describes the changes, fixes, known issues, and release details that apply to Fibre Channel EFI driver and utilities.

3.1 Changes

The following changes have been made to the EFI between versions 1.05 and 1.08.

Driver:

- Enabled driver to update the Serial Link Control parameters.
- Added SSIDs for new HBAs.
- Added CLP support, which implements the following CLP commands:
 - Setting the Behavioral Data (WWNN and WWPNN).
 - Setting the High-Speed Parameters (HSS). Command does nothing and returns success.
 - Return to default.
 - Port Enable/Disable (AKA e-keying port disable).
- Added support for device IDs (6422/6432).
- Added the Multi-Start feature. The driver start routine can now be called multiple times. Each call can specify a different Remaining Device Path.
- Added a `World Login` Driver Configuration switch. When enabled, this switch forces the driver to discover all targets/LUNs.
- Added support for CLP "exit" command.
- Changed banner strings for HP HBAs.
- Added SSIDs for the following HBAs: AB378B, AB379B.

EfiUtil:

- Added the following message for write operations:
`You must reboot the system for changes to take effect`
- Added support for device IDs (6422/6432).
- Added support for `unload batch mode` command in EfiUtil. This command unloads the existing driver from the HBA. This command forces EfiUtil to use the latest aux driver available in the current directory.
- Added support to run `DrvDiag` (diagnostics) within EfiUtil, just like `DrvCfg`.
- Added support to print decoded detailed description of SFP data for `Transceiver` field.

Documentation:

- Updated `readme.txt`.
- Updated `EfiUtil.pdf`.
- Updated `Eficfg.pdf`.

3.2 Bug Fixes

The following fixes have been made to the EFI between versions 1.05 and 1.08.

Driver:

- Fixed a bug that causes the VPD Protocol to return misaligned data for standard Qlogic HBAs. Standard Qlogic HBAs do not have all of the VPD fields required by the VPD Protocol Spec (v4). The driver now returns NA for the missing fields. This fixes the alignment issues.
- Fixed a bug that caused the driver to not attach to 54xx devices.
- In Driver Configuration, `Edit database` function now has improved error checking for WWNs.
- The driver now prints the correct WWNN for Standard QLogic HBAs. The WWNN is displayed on the Driver Configuration Info screen.
- Fixed a bug that caused an EFI fatal error when the Driver Configuration Info screen was displayed. The fatal error only happened with 2432-based HBAs.
- Added D3 hot fix for 2432-based HBAs.
- Removed HBA S/N from the Driver Config Info screen.
- Driver Configuration Show Translation screen now works correctly.
- Fixed PCI bus speed bug in FC Obj Attrib Protocol.
- Changed CLP keyword: `PermanentAddresses` is now `PermanentAddress`.
- Added support for the Alternate Boot Device feature.
- In Driver Configuration, Database Entry 0 now has a 16-bit LUN field.
- In Driver Configuration, the `HardId` field only accepts the following values: 0-7Dh.

EfiUtil:

- Fixed `efi_verify` failure with 1Mb flash on secondary port.
- Fixed EfiUtil error while updating image on HBA with Device ID 0x5432 (PCIe).
- Fixed `risc_fw_verify` related problem in EfiUtil.
- Corrected constant for `Copper Pigtail` field in SFP implementation.
- Corrected EfiUtil behavior for 54xx device ID support.
- Changed Help command message. Long help messages will be displayed irrespective expert mode or normal mode.
- Fixed a bug that caused EfiUtil to load a network driver when certain FC/Ethernet combo HBAs were installed.

3.3 Known Issues

The EFI driver, version 1.08, has the following known issues:

- If 4.0.8 firmware is in the HBA, you must unload the old driver before the flash update starts. To do this, use the `unload` command with the EfiUtil flash update commands.
- This driver only works with firmware version 4.0.10 and above.

3.4 Additional Information

EfiUtil and the EFI driver are a matched set. Always make sure that EfiUtil and the EFI driver are from the same release package.

4. 4Gb FCode

This section describes the changes, fixes, known issues, and release details that apply to the 4Gb FCode.

4.1 Changes

The following changes and fixes have been made to the 4Gb FCode between versions 1.17 and 1.24.

Hardware Support

- Added support for QLE220, SSDID=x132(Sun) & SSDID=x13E(Qlgc).

OS Support

N/A

Software Components

- Changed `luns=256` (max # of LUNs per target) to match the driver.
- Changed `execute-command` to check status returned by `login-device`; will fail if bad.
- Changed `selftest` to use `init-chip`, which waits for `fw-ready`, instead of a delay.
- Changed behavior for executing external-LB test from `selftest` to occur only if it is in a FL-port or NL-port topology.
- Created `ext-loopback-test` command, which allows user to manually run an external loopback.
- Changed `ldfcode` in `flash-pgm` to allow flashing of 1Mb multi-boot images.
- Added `~ * sec.` delay before executing `show-nport-devices` in `show-children`.
- Added more debugging features.
- Moved tools directory up one level to prevent retrieving a copy in every version.
- Increased `max-fab-devs` to 2048.
- Changed initial value of topology to `x0f`.
- Added `show-settings` word to list the HBA settings and made version word external.
- Changed names of prom output files to `isp2400.sun.fc` and `isp2400.ibm.fc`.
- Added firmware initialization stub loader at probe time and in the close method. This applies only to PCIe HBAs (Dev-ID not equal to 2422).
- Changed the makefile: Changed the `tokenizer` directory to tools and a stored local copy of `cpp` and `makearray` in tools.
- Changed `info-count` from an instance value to simple value. This limits the version banner to appear only once during the boot process.
- Prohibited `connection-mode` change if `DevID=54xx`. Print: Model # will Auto-negotiate.
- Prohibited `data-rate` change if `DevID=54xx`. Print: Model # will Auto-negotiate.
- Added `get-model-prop` word. For printing model # if data-rate change is rejected.
- Decreased the memory size tested in `mem-test` to half its size on all HBAs with Device ID = 54xx, such as the QLE220. The word `reduce-func?` was created.
- Created a word for reading config space `regs`, `vid@`, `did@`, `ssvid@`, & `ssdid@`.
- Added restriction of `qla-mode` change on all SUNW type HBAs.
- Removed extra version string displayed during `selftest`.
- Added display of non-zero FCP/SCSI status during debug mode.
- Changed `max-luns=16K` for `qlc-mode` to limit LUN field range to 8-bits in `qla-mode`.

Industry Standards Compliance

N/A

4.2 Bug Fixes

The following fixes have been made to the 4Gb FCode between versions 1.17 and 1.24.

- Fixed `report-luns` buffer: added 8 bytes for number of LUNs field and fixed `report-luns-cmd`.
- Fixed `isp2400-probe` bug on PCIe HBAs. HBA regs were not mapped when `load-stub-fw` was executed. Also, moved `isp2400-probe` execution to the end of `ifp.fth`.
- Fixed `list-wwns` word so `set-boot-wwn` will work for `N-port` topology.
- Fixed `selftest` again so `connection-mode` always = `Auto` during the test.
- Fixed `get-ID-list` word to work for `N-port` topology on the ISP2400.
- Fixed `selftest` to work independently of NVRAM `connection-mode` setting.
- Fixed processing of `get-ID-for-fc4type` `GID_FT` buffer to check for null buffer.
- Fixed problem found on Sun T2000 PCIe where `pci-compat-str` did not handle `dev-ID=5432`.
- Removed `class-code-string` * word. It was producing a bad string `pciclass,0400`.
- Fixed `read-block-ext` to only use `read-capacity` command, not try `mode-sense` first.
- Fixed initialization of `port-update-occurred` flag during wait for `isp-fw-ready?`

4.3 Known Issues

None

4.4 Additional Information

None

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[Go to Top](#)



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