



Product Bulletin 92

Product	StorNext® QX-Series
Summary	Firmware bundle version CF100R38-02 may encounter a PCIe MTO error resulting in multiple controller hangs and performance degradation.
Date	August 2014

Problem

The PCIe link which provides communication between the two controllers may fail to recover from a Message Time Out notification (MTO) that results in a controller hang. This issue is timing related, caused by incoming PCIe resets while the PCIe bus is performing error recovery and coming up.

Symptoms

Controller B will not receive or process any commands resulting in a 50% or more degradation of performance. It will require user interaction; firmware upgrade and possibly the need to re-seat or replace the controller.

Solution

To prevent this situation from occurring, upgrade both controller modules to Controller Firmware Bundle CF100CP002. The firmware in each controller module can be updated by loading the file CF100P002.bin obtained from Quantum.

Note: For best results, the storage system should be in a healthy state before starting the firmware update.

To ensure success of an online update, select a period of low I/O activity. This helps the update complete as quickly as possible and avoids disruptions to host and applications due to timeouts.

Attempting to update a storage system that is processing a large I/O-intensive batch job will likely cause hosts to lose connectivity with the storage system resulting in a failed upgrade.

WARNING: Do not cycle power or restart devices during a firmware update. If the update is interrupted or there is a power failure, the module could become inoperative.

If this occurs, contact Quantum Technical Support.

Firmware Update

- 1 Obtain the file from Quantum.com at [StorNext Q-Series Firmware](#) and download the firmware to your computer or network. Refer to the QX-1200 and QX-2400 Release Notes for more information.
- 2 If possible, stop I/O to the array before you start the firmware update.
- 3 Download a copy of the logs prior to starting the update. Using the Web Base Interface **Tools** tab, select **Save Logs**.
- 4 Log into the Web Base Interface. Select **Tools** and then select the **Update Firmware** option.

Note: The Update Firmware panel opens. The Update Controller Modules tab shows versions of firmware components that are currently installed in each controller.

- 5 Verify that **Partner Firmware Update** (PFU) is enabled.
 - a To automatically update both controllers using **Partner Firmware Update**, PFU must be enabled.
 - b To enable PFU, select **Configuration > Advance Settings > Firmware**, select the **Enabled** check box and click **Apply**.
PFU is enabled by default.

Note: If PFU is disabled, after updating firmware on one controller you must log into the partner controller and perform this firmware update on second controller.

- 6 Click **Choose File** and select the firmware file to install.

7 Click **Install Controller-Module Firmware File**.

A panel shows firmware-update progress.

The process starts by validating the firmware files.

- If the file is invalid, verify that you specified the correct firmware file. If you did, try downloading it again from the source location.
- If the file is valid, the process continues.

Note: Firmware updates typically take about 20 minutes. If the controller enclosure has connected expansion enclosures, allow additional time for each expansion module's enclosure management processor (EMP) to be updated. This typically takes approximately 3 minutes for each EMP in an expansion enclosure.

8 Verify the firmware update was successful by reviewing the Web Based Interface again.

You may have to refresh your browser to update.

Problem Persists

If the Storage Controller cannot be updated, the update operation is canceled. Verify that you specified the correct firmware file and repeat the update. If this problem persists, contact Quantum Technical Support.

Workaround

None. See the section [Solution](#) on page 1.

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Contacting Quantum

More information about StorNext is available on the Quantum Service and Support website at www.quantum.com/ServiceandSupport. The Quantum Service and Support website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, contact the Quantum Technical Assistance Center:

United States	800-284-5101 Option 5 (toll free)
EMEA	00800 7826 8888 (toll free) 49 6131 3241 1164
Online Service and Support	www.quantum.com/OSR
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