



Converting InfiniBand HIC from iSER to SRP

StorNext QD7000

Firmware 8.30.xx.xx



Converting InfiniBand HIC from iSER to SRP, 6-68566-01 Rev A, April 2017 Product of USA.

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Preface

Note: The 8.30.xx.xx firmware (Lehigh) is used in the QD7000 (E5600, Titan RAID controller, only). Refer to the [NetApp to Quantum Naming Decoder](#) section for additional information.

This section provides the following information:

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Audience

This manual is intended for storage customers and technicians.

Prerequisites

Prerequisites for installing and using this product include knowledge of:





- Servers and computer networks
- Network administration
- Storage system installation and configuration
- Storage area network (SAN) management and direct attach storage (DAS)
- Fibre Channel (FC) and Ethernet protocols

NetApp to Quantum Naming Decoder

Use [Table 1](#) to correlate the NetApp product nomenclature to the equivalent Quantum-storage naming conventions.

Table 1 Product Nomenclature

E-Series NetApp Product	Quantum-Storage	Description
Controller-Drive Tray	Base System	Quantum uses Base System when referring to a drive tray with the RAID controllers.
Drive Tray	Expansion Unit	Quantum uses Expansion Unit when referring to a drive tray with the environmental services modules (ESMs).
E5600 (Code Name: Titan)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5500 (Code Name: Soyuz)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5400 (Code Name: Pikes Peak)	RAID Controller	Four 8Gb/s FC SFP+ host ports
DE6600 (Code Name: Wembley)	4U 60-drive enclosure	Sixty 3.5 inch disk drives

E-Series NetApp Product	Quantum-Storage	Description
<p>E5560 or E5660 (DE6600 4U drive enclosure with E5500 or E5600 RAID controllers)</p>	<p>Quantum StorNext QD7000</p>	
<p>E5460 (DE6600 4U drive enclosure with E5400 RAID controllers)</p>	<p>Quantum StorNext QD6000</p>	
<p>E5424 (DE5600 24-drive 2U drive enclosure (Code Name: Camden with E5400 RAID controllers)</p>	<p>Quantum StorNext QS2400</p>	
<p>E5412 (DE1600 12-drive 2U drive enclosure (Code Name: Ebbets with E5400 RAID controllers)</p>	<p>Quantum StorNext QS1200</p>	

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Converting an InfiniBand HIC from iSER to SRP

You can apply a feature pack in SANtricity Storage Manager to convert the protocol used by the host interface card (HIC) in an E-Series storage array or an EF-Series flash array.

These instructions are intended for system administrators who want to convert the protocol of a 56-Gbps InfiniBand (IB) HIC from iSCSI Extensions for Remote Direct Memory Access (iSER) to SCSI RDMA Protocol (SRP). You can perform this conversion on the following storage systems:

- E5600
- EF560

Before you begin

Be aware of the following:

- You can perform this conversion only on new installations and not on systems with live data. If this is not your situation and you have already created volumes on your system, you must stop host input/output (I/O) and delete these volumes before applying the feature pack. For more information about how to stop host I/O and delete volumes, see the online Help for the SANtricity Storage Manager Array Management Window.
- You do not have to make any changes to your hardware when you convert from iSER to SRP.
- The Data Assurance (DA) feature is not supported for SRP.

Confirm the following:

- SANtricity Storage Manager is installed.
- The storage system is running SANtricity OS (controller firmware) version 08.20.11.00 or later.
 - To determine which firmware you have, check the **Summary** tab in the Array Management Window.
 - To download new firmware, go to [NetApp Downloads](#) and select **Downloads > Software**. Download the correct version of **E-Series/EF-Series SANtricity OS (Controller Firmware)** for your E-Series storage array or EF-Series flash array.

Obtaining the feature pack key file

You can apply a feature pack in SANtricity Storage Manager to convert the protocol of the host interface card (HIC). To obtain the key file for the feature pack, you need a Feature Activation Code, the serial number for your storage system enclosure, and the Feature Enable Identifier for your storage system.

Steps

1. From the following table, locate the Feature Activation Code that applies to your storage system and copy the value to a text file.

Storage system	Feature Activation Code
E5600	MFY-YHR-Z71JA
EF560	TFW-FHR-Z5J8A

2. Locate the serial number for your storage system. You can look at the silver label affixed to the top of your system enclosure, or you can get the serial number from the software, as follows:
 - a. From the Array Management Window, select the **Summary** tab and click **View Storage Array Profile** in the Monitor area.
 - b. On the Storage Array tab, locate the **Chassis Serial Number**.
 - c. Copy and paste the value into a text file.
3. Locate and record the Feature Enable Identifier for your storage system:
 - a. From the Array Management Window, select **Storage Array > Features** to display the **Features and Feature Pack Information** window.

The 32-digit Feature Enable Identifier is displayed under **Storage Array Feature Information**.
 - b. Copy and paste this 32-digit identifier into a text file.
4. Go to [NetApp License Activation: Storage Array Premium Feature Activation](#) and enter the information required to obtain the feature pack.
 - Feature Activation Code from the table
 - Serial number for the storage system
 - Feature Enable Identifier

Note: The Premium Feature Activation web site includes a link to “Premium Feature Activation Instructions.” Do not attempt to use those instructions for this procedure.
5. Choose whether to receive the key file for the feature pack in an email or to download it directly from the site.

Applying the feature pack key file

You can apply a key file for a conversion feature pack to change the protocol of your HIC.

About this task

This task describes how to apply the key file to a single storage array.

Steps

1. From the Array Management Window, select **Storage Array > Features**.
2. In the **Feature Pack** section at the bottom of the screen, click **Change**.

Note: Do not click the **Use Key File** button in the **Enable a Premium Feature** section.

The Select Feature Key File dialog box opens, which lets you select the key file.
3. Select the folder in which you placed the key file.
4. Select the key file, and click **OK**.
5. Click **Close**.

Both controllers automatically reboot to allow the new feature pack to take effect. The storage array returns to a responsive state after the reboot is complete.

Configuring the host to use SRP

After you apply the feature pack key file to convert the protocol used by your InfiniBand HIC from iSER to SRP, you need to configure the host to use SRP.

For step-by-step instructions, see the [InfiniBand Configuration and Provisioning for Linux Express Guide](#) from the *E-Series and EF-Series Systems Documentation Center*. To connect the host to the storage array, you must enable the InfiniBand driver stack with the appropriate options. Specific settings might vary between Linux distributions. Check the NetApp [Interoperability Matrix](#) for specific instructions and additional recommended settings for your solution.

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