DX*i*6500 and DX*i*6700 Site Planning Guide

Contents

Product Overview

The DXi6500 and DXi6700 disk backup and replication appliances use Quantum's data deduplication technology to expand the amount of backup data users can retain on fast-recovery RAID systems by 10 to 50 times. The result is a cost-effective way for IT departments to store backup data on disk for months instead of days, providing high speed, reliable restores, increasing available data recovery points, and reducing media management.

For disaster recovery in distributed environments, the DXi6500 and DXi6700 systems makes automated WAN replication practical by dramatically reducing the bandwidth required to move backup data securely between sites.

DXi6500 and DXi6700 solutions are integrated systems that are easy to install and use with all leading backup applications. They provide best-in-class performance with flexible, easy-to-use NAS and OST presentations as well as Ethernet and optional Fibre Channel connectivity. DXi6500 and DXi6700 appliances are part of a comprehensive set of backup solutions, serviced and supported by Quantum, the leading global specialist in backup, recovery, and archive.

Included With Your DXi6500 and DXi6700

The DXi6500 and DXi6700 are fully configured to your specifications and pre-tested in the factory. Every DXi6500 and DXi6700 configuration arrives with all necessary parts included. Each system comes with an accessory kit containing rack-mount hardware and a Quick Reference and Documentation CD which includes the *User's Guide*.

Licenses

The following licenses are included with the DXi6500 and DXi6700. Some licenses are pre-installed and some are included on license certificates, as noted below.

- **NAS** — Enables the NAS interface to hosts. (License key is pre-installed on all DXi6500 models.)
- **VTL** — Enables the VTL interface to hosts on the DXi6700 only. (License key is pre-installed on all DXi6700 models.)
- **Backup Application Specific** — Enables the OST Direct Path to Tape (PTT) capability on DXi6500, Model 6540 and Model 6550. (This license is enabled when the OST license is installed on DXi6500, Model 6540 and Model 6550. A separate license key is not required.) The license key is pre-installed on the DXi6700.

  Note: A Fibre Channel card must be installed in the system to enable PTT.

- **Data Deduplication** — Enables the data deduplication capability. (License key is pre-installed on all DXi6500 and DXi6700 models.)
- **Replication** — Enables the replication capability. (License key is pre-installed on all DXi6500 and DXi6700 models.)
- **Storage Capacity** — Enables the installed storage capacity for the system. (License key is pre-installed on all DXi6500 and DXi6700 models.)

  Note: A storage capacity license key is pre-installed for all capacity shipped from the factory. You must install license keys for additional capacity purchased after the initial point of sale are installed. If you purchase a storage capacity upgrade, a license certificate to enable the additional capacity is included with the upgrade.

- **OST** — Enables the Open Storage Technology (OST) connection. (License certificate is included with all DXi6500 models.)

  Note: Follow the instructions on the license certificate to obtain a license key at www.quantum.com. Installing the OST license on a DXi6500, Model 6540 or Model 6550 also enables the OST Direct PTT capability on the DXi.

- **DXi Advanced Reporting** — Enables the DXi Advanced Reporting capability. (License key is pre-installed on all DXi6500 and DXi6700 models.)

Installation

Rack Compatibility

Nearly all standard four-post 19" server racks meeting EIA-310 specifications are compatible with the DXi6500 and DXi6700 rack mount kits. Rack cabinets meeting EIA-310 specifications have an alternating pattern of three holes per rack unit with center-to-center hole spacing (beginning at the top hole of a 1-U space) of 15.9 mm, 15.9 mm, and 12.7 mm (0.625 inch, 0.625 inch, and 0.5 inch) for the front and back vertical rails. For detailed information, refer to the *Quantum DXi6500 and DXi6700 User's Guide* (PN 6-66639).

Note: The rack mounting rails extend to support rack depths from 26.5 to 36.4 inches (67.3 to 92.4 cm).

When planning your rack installation, be sure to consider leaving room in the rack for future system expansion. You can expand the storage capacity of the DXi6500 and DXi6700 (some configurations) by adding up to six expansion modules.

See Physical Characteristics on page 13 for node and expansion module rack space requirements.

DXi6500 and DXi6700 Setup and Configuration

After hardware has been installed and initially configured, you are ready to use your DXi6500 and DXi6700. The remote management Web pages allow you to reconfigure your DXi6500 and DXi6700 at any time.

Required Network Information

To utilize the remote management pages of the DXi6500 and DXi6700, you must connect it to your network.

Note the following considerations:

- DHCP (Dynamic Host Configuration Protocol) is not supported.You must provide a static IP address at the time of installation.
- The default IP Address is: **10.1.1.1**

You and other administrative users can always return to the remote management pages to modify all DXi6500 and DXi6700 settings, including network settings. Refer to the *DXi6500 and DXi6700 User's Guide* included on the Quick Reference and Documentation CD for additional information on initially configuring your DXi6500 and DXi6700.

Network Segmentation

Network segmentation provides the ability to split your network into subnetworks or segments. There are two main purposes for segmenting your network:

- **Separate Physical Interfaces** - If your network is physically partitioned with no connectivity between the partitions, the DXi6500 and DXi6700 needs the ability to communicate with each partition individually.

- **Combine or Separate Network Traffic** - Network traffic is either separated according to specific network needs or combined on a single IP address for simplicity. The DXi6500 and DXi6700 has the capability of separating data traffic, replication traffic, and management traffic. Each traffic type can have its own IP address or they can be combined on a single IP address.

Some DXi network settings and configuration combinations can have wide ranging and subtle effects throughout the server and storage ecosystem. Possible negative effects of improper configuration range from sub-optimal performance to "silent" network problems that are hard to diagnose. In general, the simplest configuration that meets your requirements is preferred. The guidelines below are presented in sequence from basic through advanced.

All configuration items described are located in the DXi6500 and DXi6700 remote management pages, on the **Configuration > Network > IP** page and the **Configuration > Network > Segmentation and Bonding** page.

The recommendations and configurations presented below assume that the DXi6500 and DXi6700 system is being deployed in an environment that is not VLAN managed, or in a VLAN managed environment that is properly configured for visibility to the DXi.

If your specific requirements cannot be met using any of the configurations described below, please contact Quantum Customer Support for additional options.

Chapter 5, "DXi6500 and DXi6700 Configuration," in the *DXi6500 and DXi6700 User's Guide* contains descriptions of the network segmentation options, however, refer to the following sections for network segmentation recommendations:

- General Recommendations
- DXi6500 Segmentation Options
- DXi6500 Performance Guidelines

General Recommendations

When considering the use of network segmentation, refer to the following general recommendations:

Avoid Segmentation Where Possible

Segmentation options are provided for use in environments where it is required to separate management, data, and replication traffic, but in most cases this is not necessary and simply introduces unneeded configuration complexity.

Avoid LACP

While the use of LACP (Link Aggregation Control Protocol) to manage the allocation of traffic across bonded DXi ports is supported as an advanced configuration option, its use is discouraged. LACP configuration can be complex, and improper configuration can render your system inaccessible.

Use Round Robin

Where possible, use of balanced Round Robin (Mode zero) bonds is preferred for simplicity. Round Robin refers to the method used by the DXi system to balance outbound data transmission. It has no effect on data reception inbound to the DXi system. Inbound traffic is controlled by the load balancing algorithm within the upstream Ethernet switch. Based on the switch algorithm in use, traffic observed inbound to the DXi system may or may not appear balanced. This is normal.

DXi6500 Segmentation Options

The following network segmentation recommendations are listed in order of complexity:

- Basic Network Recommendations
- Intermediate Network Recommendations
- Advanced Network Recommendations

Basic Network Recommendations

Basic network configurations do not include network segmentation, do not require switch re-configuration, and conform to the General Recommendations on page 4. No Segmentation means that data, replication, and management traffic may use the same network. If your network policies require separation of replication or management traffic, continue to the Advanced Network Recommendations on page 7.

DXi6500, Model 6510 (2 x 1 GbE Ports) and DXi6500, Models 6520, 6530, and 6540 (6 x 1 GbE Ports) and DXi6700 (2 x 1 GbE Ports)

If less than 1 Gb per second (~450 GB/hr) of performance is required, follow these steps. Otherwise proceed to the Intermediate Network Recommendations on page 6.

1. For **Segmentation**, select **BOND ALL (Not segmented)**.
2. For **Bonding**, select **Round Robin (Mode 0).**
3. Connect a single DXi Ethernet port (ETH0 preferred) to your switch and configure IP information appropriately on the **IP** page.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2 x 10 GbE Ports) -10 GbE Connectivity Not Available

If single 1 Gb port connectivity meets requirements, follow these steps. Otherwise proceed to the Intermediate Network Recommendations on page 6.

1. For **Segmentation**, select **BOND ALL 1 Gb (Not segmented)**.
2. For **Bonding**, select **Round Robin (Mode 0)**.
3. Connect a single DXi 1 Gb Ethernet port (ETH0 preferred) to your switch and configure IP information appropriately on the **IP** page.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2x 10 GbE Ports) - 10 GbE Connectivity Is Available

If single 10 Gb connectivity is desired and meets requirements, follow these steps. Otherwise proceed to the Intermediate Network Recommendations on page 6. Use of multiple 10 Gb connections is currently not recommended.

1. For **Segmentation**, select **BOND ALL 10 Gb (Not segmented)**.
2. For **Bonding**, select **Round Robin (Mode 0)**.
3. Connect a single DXi 10 Gb Ethernet port (ETH4 preferred) to your switch and configure IP information appropriately on the **IP** tab.

Intermediate Network Recommendations

Intermediate network configurations do not include segmentation, but do require switch re-configuration and conform to the General Recommendations on page 4. No Segmentation means that data, replication, and management traffic may use the same network. If your network policies require separation of replication or management traffic, continue to the Advanced Network Recommendations on page 7.

DXi6500, Model 6510 (2 x 1 GbE Ports) and DXi6500, Models 6520, 6530, and 6540 (6 x 1 GbE Ports)

If multiple 1 Gb port connectivity is required, follow these steps:

1. For **Segmentation**, select **BOND ALL (Not segmented)**.
2. For **Bonding**, select **Round Robin (Mode 0)**.
3. Connect multiple DXi Ethernet ports (ETH0–ETH1 for DXi6500 Model 6510, or ETH0–ETH5 for DXi6500 Models D6520, 6530,and 6540) to your switch based on your requirements. Configure IP information appropriately on the **IP** page.
4. Contact your network administrator to create a **Round Robin** compatible Link Aggregation Group on the switch encompassing all connected ports.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2 x 10 GbE Ports) -10 GbE Connectivity Not Available

If dual 1 Gb port connectivity meets requirements, follow these steps:

1. For **Segmentation**, select **BOND ALL 1 Gb (Not segmented)**.
2. For **Bonding**, select **Round Robin (Mode 0)**.
3. Connect both DXi 1 Gb Ethernet ports (ETH0 and ETH1) to your switch and configure IP information appropriately on the **IP** page.
4. Contact your network administrator to create a **Round Robin** compatible Link Aggregation Group on the switch encompassing the ports connected to ETH0 and ETH1.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2 x 10 GbE Ports) - 10 GbE Connectivity Is Available

For simplicity, use of both 10 GbE ports simultaneously is discouraged. Configuration recommendations for the use of bonded 10 GbE ports are unique to the type of 10 Gb switch used. Contact Quantum Customer Support for specific guidance if you require dual-10 GbE connectivity.

Advanced Network Recommendations

Advanced configurations include segmentation for separation of data, management, and replication traffic, but otherwise conform to the General Recommendations on page 4. Switch configuration changes may be required. Note that segmentation is discrete. For example, if an option indicates **ETH0 (Replication) BOND ALL-1 (Management/Data)**, replication traffic will exclusively traverse port ETH0, and Management and Data traffic will exclusively traverse ETH1.

DXi6500, Model 6510 (2 x 1 GbE Ports) and DXi6500, Models 6520, 6530, and 6540 (6 x 1 GbE Ports)

For advanced network configuration, follow these steps:

1. For **Segmentation**, select the appropriate configuration option to isolate traffic as necessary.
1. For **Bonding**, select **Round Robin (Mode 0)**.
2. Connect the required Ethernet ports (ETH0–ETH1 for DXi6500 Model 6510, or ETH0–ETH5 for DXi6500 Models 6520, 6530, and 6540) to your switch. Configure IP information appropriately on the **IP** page.
3. If a **Bonded** configuration was selected under **Segmentation**, contact your network administrator to create a Round Robin compatible Link Aggregation Group on the switch encompassing the bonded ports.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2 x 10 GbE Ports) -10 GbE Connectivity Not Available

For advanced network configuration, follow these steps:

1. For **Segmentation**, select **BOND ALL 1 Gb (Replication/Management/Data**).
2. Connect both DXi 1 Gb Ethernet ports (ETH0 and ETH1) to your switch and configure IP information appropriately on the **IP** page.
3. Switch configuration changes are required. Contact your network administrator to create a Round Robin compatible Link Aggregation Group encompassing the bonded ports.

DXi6500, Model 6550 (2 x 1 GbE Ports and 2 x 10 GbE Ports) - 10 GbE Connectivity Is Available

For advanced network configuration, follow these steps:

1. For **Segmentation**, select the appropriate configuration option to isolate traffic as necessary.
2. For **Bonding**, select **Round Robin (Mode 0)**.

3 Connect the required Ethernet ports to your switch and configure IP information appropriately on the **IP** page.

   For simplicity, use of both 10 GbE ports simultaneously is discouraged. Configuration recommendations for the use of bonded 10 GbE ports are unique to the type of 10 Gb switch used. Contact Quantum Customer Support for specific guidance if you require dual-10 GbE connectivity.

4 Contact your network administrator to create a Round Robin compatible Link Aggregation Group on the switch corresponding to each group of bonded ports.

DXi6500 Performance Guidelines

When connecting to a DXi6500 using NFS, each backup file/job written concurrently to the DXi6500 is considered a stream. For optimal performance, Quantum recommends 6–8 streams per host (media server).

The recommended number of hosts (media servers) varies by model (see Table 1).

Table 1 DXi6500 NFS Performance Guidelines

DXi6500 Model	Network Connectivity	Hosts/Streams
Model 6510	2 x 1 GbE	2–4 hosts / 6–8 streams per host
Model 6520	6 x 1 GbE	6–12 hosts/ 6–8 streams per host
Model 6530 and 6540	6 x 1 GbE	6–12 hosts/ 6–8 streams per host
Model 6550	2 x 1 GbE + 2 x 10 GbE	6–12 hosts (1 Gb) / 6–8 streams per host

Replication Firewall Port Requirements

The following firewall ports must be opened for replication to operate optimally:

- Port 80
- Port 1062

Installation and Integration Services

Installation and integration of the DXi6500 and DXi6700 systems by Quantum is not required since the DXi6500 and DXi6700 are customer installable. Quantum recommends that system installation be performed only by qualified network or system administrators who have a working knowledge of ISV setup and configuration.

If you want to purchase professional installation services, please contact your Quantum Sales representative to discuss installation services.

Phone support for the installation process is available via the Quantum support number for your area. Customers in the U.S. and Canada may call 1-800-284-5101.

Service

DXi6500 and DXi6700 Warranty

The DXi6500 and DXi6700 warranty includes one year of Quantum's Bronze Support Plan. This includes next business day on-site response, 5x9 telephone support, and on-line resources. This warranty covers the DXi6500 and DXi6700 and all drives, and includes firmware downloads, telephone support, E-mail Home, and Internet access to Quantum's online Customer Support web site. The Quantum Customer Support web site features online service request processing, Web-based event status tracking, and a comprehensive Knowledge Base. Quantum's Knowledge Base gives you 7x24 real-time electronic access to complete product and support resources and the expertise of Quantum's Global Services organization.

- **Customer Replaceable Units (CRUs)** - Power supply module, solid state drive (64 GB, 2.5") in carrier, hard disk drive (1TB, 3.5") in carrier, external SAS cable
- **Field Replaceable Units (FRUs)** - Chassis (Node), chassis (Expansion Module), 4 port 1 GbE NIC, 2 port 10 GbE NIC, 2 port 8 Gb Fibre Channel HBA, RAID controller, DDR3 memory module, battery backup module (BBU), internal SAS cable (Node), internal SAS cable (Expansion Module), DVD-ROM drive, 80mm chassis fan (internal center), 80mm chassis fan (rear exhaust)

Note: The above lists may not be comprehensive. For additional information on FRUs, please contact your Quantum sales representative.

Service Package Upgrades

Quantum's Global Services organization is geared towards delivering the fastest possible response and root cause resolution, helping you maximize your backup investments, better manage processes, and make the best use of your resources. We ensure total customer satisfaction by providing comprehensive, responsive services on a worldwide basis.

A variety of support options are available to you via Quantum's tiered hardware support plans to meet a range of budget and availability requirements. Quantum's Support Plans include **Next Business Day Gold** (Next Business Day Onsite, 7x24 Phone Support), **Gold** (7x24x4 Hr on-site, 7x24 phone support), and a customized **Platinum** offering. A Warranty extension of **Bronze** (5x9xNBD on-site, 5x9 phone support) is also an option for the second and third year of ownership. Features of these plans include: 24-hour telephone support, on-site response, access to strategic account management (available with select service packages), priority call handling, strategically located spares parts, online resources, and firmware upgrades. For more information on these service plans, please visit www.quantum.com or contact your Quantum Sales Representative.

Quantum service engineers are available around the world and are deployed to respond to on-site service demands. In addition, spare part depots are strategically located around the globe so that service technicians have access to the parts and equipment necessary to maintain or repair your DXi6500 and DXi6700.

StorageCare™ Guardian

StorageCare Guardian is a remote monitoring and diagnostic solution that enables Quantum to proactively monitor the health of Quantum systems over the Internet and use intelligent diagnostics data to remotely service the equipment if issues arise.

StorageCare Guardian delivers more reliable backups and faster resolution time for customers at no additional cost for supported products under warranty or service contract.

More Reliable Backups

Leveraging the intelligence inside Quantum's storage systems, StorageCare Guardian proactively monitors the health of the units, uses diagnostics data to predict possible failures, and determines whether or not the problem involves a Quantum product or other critical components in the environment.

Faster Resolution Time

When issues occur, StorageCare Guardian provides better diagnostics data that will enable Quantum to identify the root cause for rapid problem resolution.

StorageCare Guardian can be downloaded from:

www.quantum.com/ServiceandSupport/Services/GuardianInformation/Index.aspx

DXi6500 and DXi6700 Configurations

The DXi6500 and DXi6700 can be ordered in the following configurations (see Table 2).

Table 2 DXi6500 and DXi6700 Configurations

DXi6500 Configurations	Usable Capacity	Rack Space Required
Model 6510 1 Node (1 RAID controller card, 2 x 1 GbE Ethernet ports)	8 TB	3U
Model 6520 1 Node (2 RAID controller cards, 6 x 1 GbE Ethernet ports) 0–3 Expansion modules	8–32 TB	3U for node 2u for each expansion module
Model 6530 1 Node (4 RAID controller cards, 6 x 1 GbE Ethernet ports) 2–6 Expansion modules	24–56 TB	3U for node 2U for each expansion module
Model 6540 1 Node (4 RAID controller cards, 6 x 1 GbE Ethernet ports, 2 x 8 Gb Fibre Channel ports) 2–6 Expansion modules	24–56 TB	3U for node 2U for each expansion module
Model 6550 1 Node (4 RAID controller cards, 2 x 1 GbE Ethernet ports, 2 x 10 GbE Ethernet ports (CX4, optical, or Twinax), 2 x 8 Gb Fibre Channel ports) 2–6 Expansion modules	24–56 TB	3U for node 2U for each expansion module
DXi6700 Configuration	**Usable Capacity**	**Rack Space Required**
DXi6700 1 Node (4 RAID controller cards, 2 x 1 GbE Ethernet ports, 4 x 8 Gb Fibre Channel ports) 2–6 Expansion modules	24–56 TB	3U for node 2U for each expansion module

DXi6500 and DXi6700 Shipping Information

The DXi6500 and DXi6700 are delivered in the following configurations (see Table 3). Each node and expansion module ships in its own box. Each node box weighs approximately 125 lbs. (56.7 kg). Each expansion module box weighs approximately 75 lbs. (34.0 kg). All boxes for each DXi6500 or DXi6700 configuration are shipped on a single pallet.

Table 3 DXi6500 and DXi6700 Shipping Configurations

Number of Nodes	Number of Expansion Modules	Pallet Dimensions	Total Pallet Weight
1	0	**Width:** 43 in. (109.2 cm) **Length:** 28 in. (71.2 cm) **Height:** 16 in. (40.6 cm)	Approximately 125 lbs. (56.7 kg)
1	1	**Width:** 43 in. (109.2 cm) **Length:** 28 in. (71.2 cm) **Height:** 26 in. (66.0 cm)	Approximately 200 lbs. (90.7 kg)
1	2	**Width:** 43 in. (109.2 cm) **Length:** 28 in. (71.2 cm) **Height:** 35 in. (88.9 cm)	Approximately 275 lbs. (124.7 kg)
1	3	**Width:** 52 in. (132.1 cm) **Length:** 42 in. (106.7 cm) **Height:** 27 in. (68.6 cm)	Approximately 435 lbs. (197.3 kg)
1	4	**Width:** 52 in. (132.1 cm) **Length:** 42 in. (106.7 cm) **Height:** 36 in. (91.4 cm)	Approximately 510 lbs. (231.3 kg)
1	5	**Width:** 52 in. (132.1 cm) **Length:** 42 in. (106.7 cm) **Height:** 36 in. (91.4 cm)	Approximately 585 lbs. (265.4 kg)
1	6	**Width:** 52 in. (132.1 cm) **Length:** 42 in. (106.7 cm) **Height:** 46 in. (116.8 cm)	Approximately 660 lbs. (299.4 kg)

DXi6500 and DXi6700 Specifications

This section lists characteristics and specifications the DXi6500 and DXi6700. These characteristics and specifications are categorized as follows:

- Physical Characteristics
- Performance Characteristics
- Environmental Specifications

Note: For hard drive specifications see the appropriate hard drive product manual.

Physical Characteristics

The following tables provide dimensions and other physical characteristics of the DXi6500 and DXi6700 system components:

- Table 4 - Physical Characteristics
- Table 5 - Storage Capacity
- Table 6 - Cable Drops
- Table 7 - DXi6500 Virtual Device Limits and Hardware Interfaces
- Table 8 - DXi6700 Virtual Device Limits and Hardware Interfaces
- Table 9 - Power Requirements

Table 4 Physical Characteristics

	Node	Expansion Module
Height	5.2 in. (13.2 cm)	3.5 in. (8.9 cm)
Width (side to side)	17.2 in. (43.7 cm)	17.2 in. (43.7 cm)
Depth (front to back)	25.5 in. (64.8 cm)	25.5 in. (64.8 cm)
Weight (stand alone)	72 lbs. (32.7 kg)	52 lbs. (23.6 kg)
Rack Space Required	3U	2U
Air clearance	Open 4 in. (10.2 cm) behind unit for proper air flow	

Table 5 Storage Capacity

DXi6500 and DXi6700 Storage Capacity	
Usable capacity	DXi6500 — From 8 to 56 TB DXi6700 — From 24 to 56 TB
Capacity increments	8 TB

Table 6 Cable Drops

DXi6500 and DXi6700 Cable Drops	
Ethernet Cable Drops	**Model 6510 (2 x 1 GbE ports) -** 1 to 2 1 GbE Ethernet connections for NAS or OST connectivity, replication, and remote management **Model 6520, 6530, 6540 (6 x 1 GbE ports) -** 1 to 6 1 GbE Ethernet connections for NAS or OST connectivity, replication, and remote management **Model 6550 (2 x 1 GbE ports and 2 x 10 GbE ports) -** 1 to 2 1 GbE Ethernet connections and 1 to 2 10 GbE Ethernet connections (CX4, optical, or Twinax) for NAS or OST connectivity, replication, and remote management **Note:** The 10 GbE Copper (Twinax) cable options that Quantum provides do not support all switches. Please note the supported switches during the purchase-configuration process, and if the Twinax cables supplied by Quantum are NOT compatible with your switch, then you will need to provide your own compatible Twinax cables from your switch vendor. Be sure to have these available before the system installation takes place. **DXi6700 (2 x 1 GbE ports) -** 1 to 2 1 GbE Ethernet connections for replication and remote management
Fibre Channel Drops	**Model 6540, 6550 (2 x FC ports) -** 1 to 2 Fibre Channel connections for path-to-tape connection **DXi6700 (4 x FC ports) -** 1 to 4 Fibre Channel connections for VTL data backup and path-to-tape connection

DXi6500 and DXi6700 Cable Drops	
Power Outlets	**Node** - 2 USA type 3-prong power outlets (**IEC320 C13**) or 2 Continental Europe type 2-prong power outlets (**CEE7**). For additional information, see Table 9. **Expansion Module (each)** - 2 USA type 3-prong power outlets (**IEC320 C13**) or 2 Continental Europe type 2-prong power outlets (**CEE7**). **USA type 3-prong power outlet (IEC320 C13)**  **Continental Europe type 2-prong power outlet (CEE7)** 

Table 7 DXi6500 Virtual Device Limits and Hardware Interfaces

DXi6500 NAS / OST — Maximum Shares and Storage Servers	
Virtual Device Limits	**DXi6500 NAS backup target:** 128 shares maximum (NFS or CIFS) **DXi6500 OST backup target:** 100 storage servers maximum **Note:** Samba version: 3.5.2
Hardware / Interfaces	**Model 6510** 2 ports 10/100/1000 BaseT Ethernet (RJ45 connector) **Model 6520, 6530** 6 ports 10/100/1000 BaseT Ethernet (RJ45 connector) **Model 6540** 6 ports 10/100/1000 BaseT Ethernet (RJ45 connector) and 2 ports 8 Gb Fibre Channel (LC connector) **Model 6550** 2 ports 10/100/1000 BaseT Ethernet (RJ45 connector), 2 ports 10,000 BaseT Ethernet (CX4 connector, optical LC connector, or Twinax connector), and 2 ports 8 Gb Fibre Channel (LC connector)

Table 8 DXi6700 Virtual Device Limits and Hardware Interfaces

DXi6700 Virtual Drives and Partitions	
Virtual Device Limits	**Number of Virtual Drives:** 40 standard, 80 maximum **Number of Partitions:** 64 maximum
Hardware / Interfaces	2 ports 10/100/1000 BaseT Ethernet (RJ45 connector) and 4 ports 8 Gb Fibre Channel (LC connector)

Table 9 Power Requirements

DXi6500 and DXi6700 Power Requirements		
Power Supplies and Cords	**Node**	Two (2) hot-swappable redundant power supplies
		Two (2) USA type 3-prong power cords with **IEC320 C13** connectors: 
		Two (2) Continental Europe type 2-prong power cords with **CEE7** connectors: 
	Expansion Module	Two (2) hot-swappable redundant power supplies Two (2) USA type 3-prong power cords with IEC320 C13 connectors Two (2) Continental Europe type 2-prong power cords with CEE7 connectors
Voltage	**Node**	100–240 VAC
	Expansion Module	100–240 VAC
Frequency	**Node**	50–60Hz
	Expansion Module	50–60Hz

Average AC Current	**Node**	570 Watts, 5.7A @ 100 VAC, 1945 BTU/hr 570 Watts, 2.4A @ 240 VAC, 1945 BTU/hr
	Expansion Module	230 Watts, 2.3A @ 100 VAC, 785 BTU/hr 230 Watts, 1.0A @ 240 VAC, 785 BTU/hr
Inrush Peak AC Current	**Node**	1100 Watts, 11.0A @ 100 VAC 1120 Watts, 4.7A @ 240 VAC
	Expansion Module	300 Watts, 3.0A @ 100 VAC 420 Watts, 1.75A @ 240 VAC

Caution: To safeguard backups and to avoid potential data loss in the event of a power outage, Quantum recommends that you connect the DXi6500 or DXi6700 to an uninterruptable power supply (UPS) with a minimum UPS capacity rating that meets the power requirements stated above.

Performance Characteristics

Table 10 lists the performance characteristics of the DXi6500 and DXi6700 system.

Table 10 Performance Characteristics

Performance Characteristics	
DXi6500 and DXi6700 Product family	Adaptive ingest performance of up to 3.5 TB / hour (depending on model).

Environmental Specifications

Table 11 provides various DXi6500 and DXi6700 environmental specifications.

Table 11 Environmental Specifications

Climatic Environment		
Temperature	Operating	10° to 35°C (50° to 95°F) up to 3048m (10,000 ft)
	Shipping and storage	–20° to 60°C (–4° to 140°F) up 12,000m (39,370 ft)
Relative humidity	Operating	20% to 80% (non-condensing)
	Shipping and storage	5% to 95% (non-condensing)
Altitude	Operating	–30m to 3048 m (–100 to 10,000 ft)
	Shipping and storage	–30m to 12,000 m (–100 to 39,370 ft)
Vibration and Shock		
Operational Shock	Peak Acceleration	3G
	Duration	8 milliseconds
	Wave Shape	½ Sine
Operational Vibration	Mode	Swept frequency
	Frequency Range	20Hz–300Hz
	Amplitude	0.25G
	Rate/Duration	0.75 octaves/minute
	Application	X, Y, and Z axes
Shipping and Storage	Mode	Random Vibration
	Frequency Range	4Hz–300Hz
	Amplitude	0.96 Grms
	Rate/Duration	(PSD can be provided) 30 minutes X, Y, Z axes
Acoustic		
Acoustic output	Operating	< 67 dBA at 1 meter, room temperature (20C)
Agency Approvals		
Safety	IEC 60950-1 (ed. 1), CSA 60950-1-03/UL 60950-1 1st Edition	
Emissions	EN55022 Class A, FCC Part 15 Class A, ICES-003 Class A, VCCI Class A, CISPR 22 Class A, CNS13438 Class A, KN22 Class A	

Immunity	EN55024/KN24: EN 61000-3-2 - Harmonic current emissions test EN 61000-3-3 - Voltage fluctuations and flicker in low-voltage supply systems test EN 55024:1998 - Information technology equipment - Immunity characteristics - Limits and methods of measurements EN 61000-4-2 - Electrostatic discharge immunity test EN 61000-4-3 - Radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-4 - Electrical fast transient/burst immunity test EN 61000-4-5 - Surge immunity test EN 61000-4-6 - Immunity to conducted disturbances, induced by radio-frequency fields EN 61000-4-8 - Power frequency magnetic field immunity test EN 61000-4-11 - Voltage dips, short interruptions and voltage variations immunity test

Caution: The DXi6500 and DXi6700 system are designed to be installed in a rack enclosure. Ensure that the operating temperature inside the rack enclosure does not exceed the maximum rated ambient temperature. Do not restrict air flow to the DXi6500 and DXi6700 components.

6-66638-02 Rev E, January 2011

For assistance, contact the Quantum Customer Support Center:
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About Quantum

Quantum Corp. (NYSE:QTM) is the leading global storage company specializing in backup, recovery and archive. Combining focused expertise, customer-driven innovation, and platform independence, Quantum provides a comprehensive range of disk, tape, media and software solutions supported by a world-class sales and service organization. This includes the DXi™-Series, the first disk backup solutions to extend the power of data deduplication and replication across the distributed enterprise. As a long-standing and trusted partner, the company works closely with a broad network of resellers, OEMs and other suppliers to meet customers' evolving data protection needs.