

Contents

DXi4700 Site Planning Guide



- Product Overview..... 1
- Included With Your DXi4700 2
 - Licenses 2
 - DXi Accent..... 3
 - Data-at-Rest Encryption..... 3
- Installation 3
 - Rack Compatibility 3
 - DXi4700 Setup and Configuration..... 3
 - Network Configuration..... 4
 - Firewall Ports 5
 - Installation and Integration Services . 6
- Service 7
 - DXi4700 Warranty..... 7
 - Service Package Upgrades 7
 - Software Upgrade Utility 8
 - Email Reports 8
 - StorageCare™ Guardian..... 8
 - DXi Advanced Reporting..... 9
 - Quantum Vision 9
- DXi4700 Configurations..... 9
- DXi4700 Shipping Information 11
- Environmental Specifications 19
 - Physical Characteristics..... 13
 - Environmental Specifications 19

Product Overview

DXi4700 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 DXi4700 system makes automated WAN replication practical by dramatically reducing the bandwidth required to move backup data securely between sites.

DXi4700 solutions are integrated systems that are easy to install and use with all leading backup applications and provide best-in-class performance. Three configurations are available, offering a choice of storage presentation: NAS/OST, VTL, and Multi-Protocol (NAS/OST/VTL/PTT).

DXi4700 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 DXi4700

The DXi4700 is fully configured to your specifications and pre-tested in the factory. Every DXi4700 configuration arrives with all necessary parts included. Each system comes with an accessory kit containing rack-mount hardware and installation instructions.

Licenses

The following licenses are included with the DXi4700 (depending on configuration):

- **VTL** - (VTL/Multi-Protocol configurations only) Enables the VTL interface to hosts. Additional virtual tape drives licenses are added through the VTL license area. (License key for 32 VTDs is pre-installed on DXi4700 VTL and Multi-Protocol configurations.)
- **NAS** - (NAS/OST/Multi-Protocol configurations only) Enables NAS (NFS, CIFS) connectivity. (License key is pre-installed on DXi4700 NAS and Multi-Protocol configurations.)
- **OST** - (NAS/OST/Multi-Protocol configurations only) Enables OpenStorage backup with Symantec OST. (License key is pre-installed on DXi4700 NAS and Multi-Protocol configurations.)
- **Backup Application Specific** - (Multi-Protocol configurations only) Enables the backup application specific path to tape (PTT) capability. (License key is pre-installed on DXi4700 Multi-Protocol configurations.)

Note: DXi4700 supports NDMP V4.

- **Data Deduplication** - Enables data deduplication and compression. (License key is pre-installed on all DXi4700 configurations.)
- **Data-in-Flight Encryption** - Enables use of AES encryption (128-bit or 256-bit) when sending data to another system. (Not available in all regions.)
- **Replication** - Enables replication to other DXi systems. (License key is pre-installed on all DXi4700 configurations.)
- **Storage Capacity** - Enables the purchased storage capacity for the system. (License key for 5 TB storage capacity is pre-installed on all DXi4700 configurations.)

For configurations larger than 5 TB, a license for the total purchased storage capacity ships with the system. In addition, usable storage capacity can be upgraded at any time after purchase by adding storage capacity upgrade licenses in 6TB, 8TB, and 18TB increments to enable installed hardware capacity, up to a total of 135 TB.

Note: If you purchase a storage capacity upgrade, you will receive a License Certificate you can use to enable the additional capacity (see the section "Adding a License Key" in the *DXi4700 User's Guide*).

DXi Accent

Quantum's DXi Accent software accelerates backups and reduces network bandwidth requirements by distributing deduplication between the backup server and DXi appliances. With DXi Accent, backup windows are reduced and network bottlenecks are eliminated.

To use DXi Accent, you must install the Quantum OST Client Plug-in on the media server. For information about installing the OST Plug-in and using DXi Accent, see the *Symantec NetBackup OST Configuration Guide*.

Data-at-Rest Encryption

Data-at-Rest Encryption uses Self Encrypting Drive (SED) technology to secure all data stored on the DXi4700. This includes file data and metadata, configuration files, and the DXi software and operating system. When Data-at-Rest Encryption is enabled, all hard drives in the DXi are paired with the disk controllers using encryption keys. After this, accessing data on the drives requires the same encryption keys and controllers that were used to write the data. This ensures that a drive that is physically removed from the DXi cannot be read using another system or device.

To enable Data-at-Rest Encryption, the feature must be licensed, and all of the drive controllers and hard drives (active and hot spares) in the DXi must support Self Encrypting Drive (SED) technology. A DXi4700 configuration with all 4 TB SED hard drives meets the requirements for Data-at-Rest Encryption.

Installation

Determining the DXi4700 Model

Before starting an installation, you will need to determine if the DXi system is a DXi4700 G1 or DXi4700 G2. The DXi4700 model information is located on the pull-out information tag on the front of the Node. For more information about determining the DXi4700 model, see the *DXi4700 Installation and Configuration Guide*.

Rack Compatibility

Nearly all standard four-post EIA 19" server racks are compatible with the DXi4700 rack mount kits.

See [Physical Characteristics](#) on page 13 for system rack space requirements.

DXi4700 Setup and Configuration

After hardware has been installed and initially configured, you are ready to use your DXi4700. The remote management console allows you to reconfigure your DXi4700 at any time.

Required Network Information

To utilize the remote management console of the DXi4700, 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 console to modify all DXi4700 settings, including network settings. Refer to the *DXi4700 User's Guide* for additional information on initially configuring your DXi4700.

Network Configuration

During network configuration, each individual interface on the DXi4700 can be configured as a subnet with its own network settings. Each physical Ethernet port can be configured as an interface. In addition, you can also create bonded interfaces (logical ports) consisting of two or more physical ports.

You can specify the type of traffic allowed on each interface (management, replication, or data). Alternately, you can allow any traffic type on an interface. In this case, the routing of different traffic types, as well as firewall capability, must be controlled using the network infrastructure (routers and switches) that the DXi4700 is connected to.

Note: Each configured network interface requires its own set of network settings (IP address, network mask, and gateway).

Caution: For effective bonded network use, a properly configured network switch is required. (A network switch is not supplied with the DXi4700.) The DXi4700 bonding settings must match the switch settings. If the switch settings and the DXi4700 settings do not match, your system may become inaccessible through the switch.

Planning Network Configuration

Prior to installation of the DXi4700, make sure to work with your network administrator to determine the network settings that will be needed to properly integrate the DXi4700 with your network infrastructure. Consider the following questions:

- What hostname will the DXi be assigned?
- What are the default gateway and DNS servers for your company?
- How many Ethernet cables (1 GbE, 10 GbE, 10 GBase-T CAT6) will be connected to the DXi?
- Will you configure Ethernet ports individually or bond multiple ports into a single network device?
- If bonding Ethernet ports, what bonding mode is compatible with your network switch (Round Robin, LACP, or Active Backup)?
- How many IP addresses (network interfaces) are required, and what traffic types will be allowed on each interface (Management, Data, and Replication)?
- Will you assign a VLAN Tag ID to an interface?

- Will an interface use Jumbo Frame MTU size?
- What is the IP address, network mask, and gateway to use for each network interface?

Will host routes be required to communicate with systems that are on subnets not reachable through the default gateway?

Firewall Ports

The following firewall ports must be opened for correct function of the DXi4700.

TCP Ports Opened for Management Traffic

- 22 (SSH)
- 80 (HTTP) to and from: updates.quantum.com
- 161 (SNMP)
- 162 (SNMP, trap)
- 443 (HTTPS)
- 1311 (Dell OpenManage)
- 8406 (HTTP, jettyd)
- 8407 (HTTP, thriftfd)

TCP Ports Opened for DXi Replication Traffic

- 22 (DXi Replication)
- 80 (DXi Replication, OST)
- 1062 (DXi Replication, OST)

UDP Ports Opened for Data Traffic

- 111 (RPC, portmap)
- 628 (NFS, statd)
- 682 (NFS, rquotad)
- 880 (NFS, mountd)
- 2049 (NFS, nfsd)
- 32000 (NFS, lockd)

TCP Ports Opened for Data Traffic

- 111 (RPC, portmap)
- 139 (CIFS)
- 445 (CIFS)

- 628 (NFS, statd)
- 682 (NFS, rquotad)
- 880 (NFS, mountd)
- 2049 (NFS, nfsd)
- 3095 (OST)
- 3096 (OST)
- 3097 (OST)
- 3098 (OST)
- 3099 (OST)
- 3100 (OST)
- 3101 (OST)
- 3102 (OST)
- 10001 (OST)
- 10002 (OST)
- 32000 (NFS, lockd)

Installation and Integration Services

Installation and integration of the DXi4700 system by Quantum is not required since the DXi4700 is customer installable and upgradeable. 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. Quantum World Wide phone support is as follows:

Americas:

1-800-284-5101 (toll free)

+1-720-249-5700

Europe, Middle East and Africa:

+800-7826-8888 (toll free)

+49-6131-3241-1164

Asia Pacific:

+800-7826-8887 (toll free)

+603-7953-3010

Service

DXi4700 Warranty

One-Year Warranty. Service Requests (SRs) can be submitted via Quantum's Online Service Request Form or telephone 24x7x365. SRs will receive a response no later than the next business day. Telephone support will include diagnosis of covered warranty issues and parts replacement. Replacement parts will be shipped within one business day of Quantum's determination that a replacement part is required. Customer will perform the replacement and return of all identified CRU (Customer Replaceable Unit) components. Identified FRU (Field Replaceable Unit) components will be replaced onsite by a Quantum Field Engineer or Authorized Service Provider, with a next business day onsite response. Onsite support is provided on a Next Business Day (excluding weekends, evenings and holidays) response following determination, by Quantum, that an onsite response is the right action to resolve the equipment or operational problem that led to the creation of the Service Request. Support includes the rights for the customer to receive new software releases applicable to registered equipment under this warranty.

Note: For DXi4700, all replaceable parts are defined as FRU components rather than CRU components.

Service Package Upgrades

Quantum's Global Service 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.

Quantum service engineers are available around the world and are deployed to respond to onsite service demands. In addition, spare part depots are strategically located across the globe; service technicians have access to the parts and equipment necessary to maintain or repair your DXi4700.

Quantum Support Options

Quantum offers a variety of support options to meet a range of budget and availability requirements:

- **StorageCare Bronze Support (5x9 phone x NBD parts delivery)** - Bronze delivers support essentials during business hours, including access to skilled technical support, next-business-day delivery of replacement parts, and installation of non-customer replaceable components to ensure trouble-free problem resolution.
- **StorageCare NBD Gold Support (24x7 phone x NBD parts delivery)** - NBD Gold offers around-the-clock support for busy operations, quickly getting your systems back up and running. NBD Gold includes 24x7 technical assistance, proactive remote monitoring, next-business-day parts delivery, installation of non-customer replaceable components, and provisional loaner systems in times of disaster.

- **StorageCare Gold Support (24x7 phone x 4 parts delivery)** - Critical IT environments are always on: nights, weekends, and holidays. This support plan provides mission-critical support for fastest resolution, including 24x7 technical assistance, proactive remote monitoring and resolution, priority onsite critical issue response, 24x7 delivery and installation of all replacement parts.

For more information about these service plans, visit www.quantum.com or contact your Quantum sales representative.

Software Upgrade Utility

The Software Upgrade Utility can automatically check for software upgrades for your DXi system. If an upgrade is found, you can choose to download and install it to update your DXi to the latest software version.

Email Reports

Quantum recommends configuring the Email Reports capability to automatically send XML-based reports to e-mail recipients.

The report represents a snapshot of the system information at the time the report is generated. Quantum recommends generating and saving a report before performing a software upgrade or reconfiguring the system.

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:

<http://www.quantum.com/ServiceandSupport/Services/GuardianInformation/Index.aspx>

DXi Advanced Reporting

DXi Advanced Reporting, which is included on all DXi appliances, sets new standards for onboard intelligence by giving users a detailed view of internal appliance operations and provides them with years of backup and replication data for extended trend analysis. DXi Advanced Reporting reduces administration time, improves operations, streamlines performance tuning, and helps users maximize the value of their DXi appliances.

Quantum Vision

Quantum Vision™ management software provides industry-unique capabilities, giving IT departments global management of all their Quantum disk and tape systems from a single console. Vision's centralized reporting and flexible trend analysis tools help users optimize system value by giving them automated, flexible access to the information they need to make proactive decisions concerning on-going system administration, dynamic capacity planning, and system-wide troubleshooting.

DXi4700 Configurations

The Quantum DXi4700 can be ordered in the following configurations (see [Table 1](#)).

Table 1 DXi4700 Configurations

Configuration	Nominal Capacity*	Licensed Usable Capacity**	System Memory	Expansion Modules (JBODs)	Total Rack Space Required
DXi4700 (NAS/OST) <ul style="list-style-type: none"> • 1 Node • 3 x 1 GbE Ethernet ports • 2 x 6 Gb SAS ports (DXi4700 G1 configurations with Expansion modules only) • 2 x 12 Gb SAS ports (DXi4700 G2 configurations with Expansion modules only) • (Optional) Additional network adapter providing 2 x 10 GbE (SFP+) Ethernet ports or 2 x 10 GBase-T Ethernet ports 	12 TB	5 TB / 11 TB	32 GB	0	2U
	28 TB	19 TB / 27 TB	32 GB	0	2U
	64 TB	45 TB / 63 TB	64 GB	1	4U
	100 TB	81 TB / 99 TB	64 GB	2	6U
	136 TB	117 TB / 135 TB	96 GB	3	8U

Configuration	Nominal Capacity*	Licensed Usable Capacity**	System Memory	Expansion Modules (JBODs)	Total Rack Space Required
DXi4700 (VTL) <ul style="list-style-type: none"> • 1 Node • 3 x 1 GbE Ethernet ports • 2 x 8 Gb Fibre Channel ports (for VTL) • 2 x 6 Gb SAS ports (DXi4700 G1 configurations with Expansion modules only) • 2 x 12 Gb SAS ports (DXi4700 G2 configurations with Expansion modules only) • (Optional) Additional network adapter providing 2 x 10 GbE (SFP+) Ethernet ports or 2 x 10 GBase-T Ethernet ports 	12 TB	5 TB / 11 TB	32 GB	0	2U
	28 TB	19 TB / 27 TB	32 GB	0	2U
	64 TB	45 TB / 63 TB	64 GB	1	4U
	100 TB	81 TB / 99 TB	64 GB	2	6U
	136 TB	117 TB / 135 TB	96 GB	3	8U
DXi4700 (Multi-Protocol) <ul style="list-style-type: none"> • 1 Node • 3 x 1 GbE Ethernet ports • 2 x 8 Gb Fibre Channel ports (for VTL) • 2 x 8 Gb Fibre Channel ports (for PTT) • 2 x 6 Gb SAS ports (DXi4700 G1 configurations with Expansion modules only) • 2 x 12 Gb SAS ports (DXi4700 G2 configurations with Expansion modules only) • (Optional) Additional network adapter providing 2 x 10 GbE (SFP+) Ethernet ports or 2 x 10 GBase-T Ethernet ports 	12 TB	5 TB / 11 TB	32 GB	0	2U
	28 TB	19 TB / 27 TB	32 GB	0	2U
	64 TB	45 TB / 63 TB	64 GB	1	4U
	100 TB	81 TB / 99 TB	64 GB	2	6U
	136 TB	117 TB / 135 TB	96 GB	3	8U

* 1 TB = 1,000,000,000,000 bytes

** Usable storage capacity can be upgraded at any time after purchase by adding a storage capacity upgrade license to enable installed hardware capacity, or by adding additional hardware capacity to the system. For information about upgrade options, see the *DXi4700 Capacity Upgrade Guide* (6-68107), or contact your Quantum sales representative.

DXi4700 Shipping Information

The DXi4700 is delivered in the following configurations (see [Table 2](#) for DXi4700 G1 configuration or [Table 3](#) for DXi4700 G2 configuration). The Node, additional Node drives, additional Node memory, H810 RAID controller (DXi4700 G1), H830 RAID controller (DXi4700 G2), and Expansion module (JBOD) each ship in a separate box. All boxes for each DXi4700 configuration are combined on a single shipping pallet.

Table 2 DXi4700 G1 Shipping Information

DXi4700 G1 Component	Shipping Information	Quantity Included Per Configuration				
		5 TB / 11 TB	19 TB / 27 TB	45 TB / 63 TB	81 TB / 99 TB	117 TB / 135 TB
Node	Width: 40 in. (101.6 cm) Length: 24 in. (61.0 cm) Height: 16 in. (40.6 cm) Weight: 70 lbs. (31.8 kg)	1	1	1	1	1
6 Node Hard Drives Kit	Width: 16 in. (40.6 cm) Length: 13 in. (33.0 cm) Height: 10 in. (25.4 cm) Weight: 15 lbs. (6.8 kg)		1	1	1	1
H810 RAID Controller Kit	Width: 10 in. (25.4 cm) Length: 7 in. (17.8 cm) Height: 2 in. (5.1 cm) Weight: 1 lbs. (0.5 kg)			1	1	1
32 GB Memory Kit	Width: 10 in. (25.4 cm) Length: 7 in. (17.8 cm) Height: 2 in. (5.1 cm) Weight: 1 lbs. (0.5 kg)			1	1	2
Expansion Module (JBOD)	Width: 40 in. (101.6 cm) Length: 24 in. (61.0 cm) Height: 16 in. (40.6 cm) Weight: 65 lbs. (29.5 kg)			1	2	3

DXi4700 Site Planning Guide

Table 3 DXi4700 G2 Shipping Information

DXi4700 G2 Component	Shipping Information	Quantity Included Per Configuration				
		5 TB / 11 TB	19 TB / 27 TB	45 TB / 63 TB	81 TB / 99 TB	117 TB / 135 TB
Node	Width: 37 in. (94.0 cm) Length: 24 in. (61.0 cm) Height: 12 in. (30.5 cm) Weight: 75 lbs. (34.0 kg)	1	1	1	1	1
6 Node Hard Drives Kit	Width: 13 in. (33.0 cm) Length: 13 in. (33.0 cm) Height: 11 in. (28.0 cm) Weight: 14 lbs. (6.4 kg)		1	1	1	1
H830 RAID Controller Kit	Width: 10 in. (25.4 cm) Length: 6 in. (15.2 cm) Height: 2 in. (5.1 cm) Weight: 1 lbs. (0.5 kg)			1	1	1
32 GB Memory Kit	Width: 12 in. (30.5 cm) Length: 18 in. (45.8 cm) Height: 3 in. (5.1 cm) Weight: 1 lbs. (0.5 kg)			1	1	2
Expansion Module (JBOD)	Width: 24 in. (61.0 cm) Length: 30 in. (76.2 cm) Height: 16 in. (40.6 cm) Weight: 83 lbs. (37.6 kg)			1	2	3

DXi4700 Specifications

This section lists characteristics and specifications the DXi4700. These characteristics and specifications are categorized as follows:

- [Physical 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 DXi4700 system components:

- [Table 4 - DXi4700 G1 Physical Characteristics](#)
- [Table 5 - DXi4700 G2 Physical Characteristics](#)
- [Table 6 - DXi4700 Storage Capacity](#)
- [Table 7 - DXi4700 Cable Drops](#)
- [Table 8 - DXi4700 Interfaces](#)
- [Table 9 - DXi4700 G1 Power Requirements](#)
- [Table 10 - DXi4700 G2 Power Requirements](#)

Table 4 DXi4700 G1 Physical Characteristics

	DXi4700 Node	DXi4700 Expansion Module (JBOD)
Height	2U, 3.4 inches (8.7 cm)	3.4 inches (8.7 cm)
Width (side to side)	17.5 inches (44.4 cm)	17.6 inches (44.6 cm)
Depth (front to back)	28.6 Inches (72.6 cm)	23.7 inches (60.2 cm)
Weight (stand alone)	61.0 pounds (27.7 kg)	62.6 pounds (28.4 kg)
Rack Space Required	2U	2U
Air clearance	Open 4 in (10.2 cm) behind unit for proper air flow	

Table 5 DXi4700 G2 Physical Characteristics

	DXi4700 Node	DXi4700 Expansion Module (JBOD)
Height	2U, 3.4 inches (8.7 cm)	3.4 inches (8.7 cm)

DXi4700 Site Planning Guide



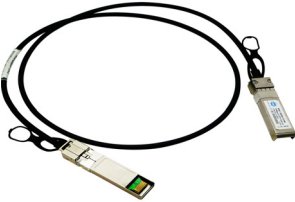

	DXi4700 Node	DXi4700 Expansion Module (JBOD)
Width (side to side)	17.5 inches (44.4 cm)	17.6 inches (44.6 cm)
Depth (front to back)	28.6 Inches (72.6 cm)	23.7 inches (60.2 cm)
Weight (stand alone)	49.4 pounds (22.4 kg)	59.2 pounds (26.8 kg)
Rack Space Required	2U	2U
Air clearance	Open 4 in (10.2 cm) behind unit for proper air flow	

Table 6 DXi4700 Storage Capacity

DXi4700 Storage Capacity	
Usable capacity*	From 5 TB to 135 TB

* Usable storage capacity can be upgraded at any time after purchase by adding a storage capacity upgrade license to enable installed hardware capacity, or by adding additional hardware capacity to the system. For information about upgrade options, see the *DXi4700 Capacity Upgrade Guide* (6-68107), or contact your Quantum sales representative.

Table 7 DXi4700 Cable Drops

DXi4700 Cable Drops	
Ethernet Cable Drops	<p>The following Ethernet connections are available for NAS or OST connectivity, replication, and remote management.</p> <p>(Standard) 3 x 1 GbE Ports</p> <ul style="list-style-type: none"> • One to three 1 GbE Ethernet connections. <p>(Optional) 2 x 10 GbE ports <u>or</u> 2 x 10 GBase-T Ports</p> <ul style="list-style-type: none"> • Two 10 GbE Ethernet connections (optical or Twinax) • Two 10 GBase-T CAT6 Ethernet connections. <p>Note: For Cisco 5000 Series Data Center Class switches, Quantum recommends using the approved 5 meter Twinax cable type that is shipped with the DXi4700 system. Otherwise, Quantum recommends using optical (SFP+) connectivity.</p> <p>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 <i>not</i> 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.</p> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>10GbE Optical Cable (DXi4700 G1)</p>  </div> <div style="text-align: center;"> <p>10GbE Optical Cable (DXi4700 G2)</p>  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>10GbE Copper (Twinax) Cable</p>  </div> <div style="text-align: center;"> <p>10GBaseT CAT6 Cable</p>  </div> </div>
Fibre Channel Drops	(DXi4700 VTL and Multi-Protocol configurations only) 1 to 2 Fibre Channel connections for data transfer.

DXi4700 Cable Drops



Power Outlets	<p>Node - 2 USA type 3-prong power outlets (Nema 5-15) or 2 C13 type 3-prong power outlets (IEC320 C13). For additional information, see Table 9 (DXi4700 G1) or Table 10 (DXi4700 G2).</p> <p>Expansion Module (each) - 2 USA type 3-prong power outlets (Nema 5-15) or 2 C13 type 3-prong power outlets (IEC320 C13). For additional information, see Table 9 (DXi4700 G1) or Table 10 (DXi4700 G2).</p>
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Table 8 DXi4700 Interfaces

DXi4700 Virtual Device Limits and Hardware Interfaces

Interfaces	<p>VTL backup target (DXi4700 VTL and Multi-Protocol configurations only): 64 partitions maximum, 64 virtual tape drives (VTDs) maximum</p> <p>NAS backup target (DXi4700 NAS and Multi-Protocol configurations only): 128 shares maximum (NFS or CIFS)</p> <p>OST backup target (DXi4700 NAS and Multi-Protocol configurations only): 100 storage servers maximum</p> <p>Note: NFS version: NFSv2 and NFSv3</p> <p>Note: Samba version: 3.6.12</p>
Hardware	<p>(Standard) 3 ports 100/1000BASE-T Ethernet: RJ45 connector</p> <p>(Optional) 2 ports 10 GbE Ethernet: Optical 10GBASE-SR via LC connector or Twinax copper 10GBASESFP+Cu via SFP+</p> <p>(Optional) 2 ports 10 GBase-T CAT6 Ethernet: RJ45 connector</p> <p>(VTL and Multi-Protocol) 2-4 ports 8 Gb Fibre Channel: LC connector</p> <p>Note: DXi4700 systems can contain either the optional 10 GbE Ethernet or 10 GBase-T CAT6 Ethernet hardware, but not both.</p>

Table 9 DXi4700 G1 Power Requirements



DXi4700 Power Requirements		
Power Supplies and Cords	Node Expansion Module (JBOD)	Two (2) hot-swappable redundant power supplies
		Two (2) USA type 3-prong power cords with IEC320 C13 to Nema 5-15 connectors: 
		Two (2) C13 to C14 type 3-prong power cords with IEC320 C13 to IEC320 C14 connectors: 
Voltage	Node	100–240 VAC
	Expansion Module (JBOD)	100–240 VAC
Frequency	Node	50–60Hz
	Expansion Module (JBOD)	50–60Hz
Inrush	Node	8.3A @ 100V 4.7A @ 240V
	Expansion Module (JBOD)	16.1A @ 100V 6.8A @ 240V

DXi4700 Site Planning Guide

Maximum Operating	Node	4.4A @ 100V 1.8A @ 240V 440W 1501 BTU/Hr
	Expansion Module (JBOD)	2.5A @ 100V 1.2A @ 240V 264W 901 BTU/Hr

Table 10 DXi4700 G2 Power Requirements

DXi4700 Power Requirements

Power Supplies and Cords	Node	Two (2) hot-swappable redundant power supplies
	Expansion Module (JBOD)	Two (2) USA type 3-prong power cords with IEC320 C13 to Nema 5-15 connectors: 
		Two (2) C13 to C14 type 3-prong power cords with IEC320 C13 to IEC320 C14 connectors: 
Voltage	Node	100–240 VAC
	Expansion Module (JBOD)	100–240 VAC
Frequency	Node	50–60Hz
	Expansion Module (JBOD)	50–60Hz

Inrush	Node	6.4A @ 100V 4.1A @ 240V
	Expansion Module (JBOD)	10.1A @ 100V 6.9A @ 240V
Maximum Operating	Node	4.3A @ 100V 1.8A @ 240V 427W 1458 BTU/Hr
	Expansion Module (JBOD)	2.5A @ 100V 1.1A @ 240V 244W 9831 BTU/Hr

Caution: To safeguard backups in the event of a power outage, Quantum recommends that you connect the DXi4700 to a UPS (uninterruptable power supply). Two circuits should be used (one per power supply)

Environmental Specifications

[Table 11](#) provides various DXi4700 G1 environmental specifications.

[Table 12](#) provides various DXi4700 G2 environmental specifications.

Table 11 DXi4700 G1
Environmental Specifications

DXi4700 Climatic Environment		
Temperature	Operating	10° to 35°C (50° to 95°F) with a maximum temperature gradient of 10°C per hour Note: 35°C (95°F) is the maximum temperature for the DXi4700 at sea level. For every 1,000 feet (305 meters) of altitude, the maximum temperature is reduced by 0.9°C.
	Shipping and storage	–20° to 60°C (4° to 140°F) with a maximum temperature gradient of 20°C per hour
Relative humidity	Operating	20% to 80% (non-condensing) with a maximum humidity gradient of 10% per hour
	Shipping and storage	5% to 95% (non-condensing) with a maximum humidity gradient of 10% per hour

DXi4700 Site Planning Guide

Altitude	Operating	-16m to 3048 m (-50 to 10,000 ft)
	Shipping and storage	-16m to 10,600 m (-100 to 35,000 ft)

DXi4700 Vibration and Shock

Sine Vibration	Operating	Random 0.26 G's, 5-350 Hz, Operational axis 10 minutes, psd: 0.0002 G2/Hz
	Non-operating	Random 0.5 G's, 5-350 Hz, Operational axis 10 minutes, psd: 0.0007 G2/Hz
Shock Vibration	Operating	2 G's for 11 ms, half-sine input, 3 shock pulses in both + and - directions operational axis
	Non-operating	3.5 G's for 11 ms, half-sine input, 3 shock pulses in both + and - directions operational axis

DXi4700 Acoustic

Acoustic output	Operating	Sound Pressure Level 72 dbA maximum at any operation position
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DXi4700 Agency Approvals

EMC/Safety	<ul style="list-style-type: none"> 47 CFR part 15 Class A CNS 13438 Class A CISPR 22 Class A CISPR 24 Class A EN 55022 Class A EN 55024 EN 61000-3-2 EN 61000-3-3 ICES-003 Class A VCCI V-3/2000 Class A AS/NZS 3548 Class A KCC RRL Class A
Immunity Tests	<ul style="list-style-type: none"> IEC 61000-4-2 (Ed. 2.0 2008-12) - Electrostatic Discharge (ESD) IEC 61000-4-3 (Ed. 3.1 2008-04) - Radiated RF Immunity
Standards:	IEC 61000-4-4 (Ed. 2.0 2004-07) - Electrical Fast Transient/Burst
EN55024: 1998	IEC 61000-4-5 (Ed. 2.0 2005-11) - Surge Immunity
+A1: 2001	IEC 61000-4-6 (Ed. 2.2 2006-05) - Conducted RF Immunity
+A2:2003	IEC 61000-4-8 (Ed. 1.1 2001-03) - Magnetic Field
KN24	IEC 61000-4-11 (Ed. 2.0 2004-03) - AC Dips and Interrupts

Table 12 DXi4700 G2
Environmental Specifications

DXi4700 Climatic Environment		
Temperature	Operating	10° to 35°C (50° to 95°F) with a maximum temperature gradient of 20°C per hour Note: 35°C (95°F) is the maximum temperature for the DXi4700 at sea level. For every 1,000 feet (305 meters) of altitude, the maximum temperature is reduced by 0.9°C.
	Shipping and storage	–40° to 65°C (–40° to 149°F) with a maximum temperature gradient of 20°C per hour
Relative humidity	Operating	10% to 80% (non-condensing) with a maximum humidity gradient of 10% per hour
	Shipping and storage	5% to 95% (non-condensing) with a maximum humidity gradient of 10% per hour
Altitude	Operating	–16m to 3048 m (–50 to 10,000 ft)
	Shipping and storage	–16m to 12,000 m (–50 to 39,370 ft)
DXi4700 Vibration and Shock		
Sine Vibration	Operating	Random 0.26 G's, 5–350 Hz, Operational axis 10 minutes, psd: 0.0002 G ² /Hz
	Non-operating	Random 1.88 G's, 10-500 Hz, Operational axis 15 minutes, psd: 0.0007 G ² /Hz
Shock Vibration	Operating	40 G's for 2.3 ms, 6 shock pulses in both + and – x,y, and z axis
	Non-operating	71 G's for 2 ms, 6 shock pulses in both + and – x, y, and z axis.
DXi4700 Acoustic		
Acoustic output	Operating	Sound Pressure Level 72 dbA maximum at any operation position

DXi4700 Agency Approvals

EMC/Safety	47 CFR part 15 Class A CNS 13438 Class A CISPR 22 Class A CISPR 24 Class A EN 55022 Class A EN 55024 EN 61000-3-2 EN 61000-3-3 ICES-003 Class A VCCI V-3/2000 Class A AS/NZS 3548 Class A KCC RRL Class A
Immunity Tests Standards: EN55024: 1998 +A1: 2001 +A2:2003 KN24	IEC 61000-4-2 (Ed. 2.0 2008-12) - Electrostatic Discharge (ESD) IEC 61000-4-3 (Ed. 3.1 2008-04) - Radiated RF Immunity IEC 61000-4-4 (Ed. 2.0 2004-07) - Electrical Fast Transient/Burst IEC 61000-4-5 (Ed. 2.0 2005-11) - Surge Immunity IEC 61000-4-6 (Ed. 2.2 2006-05) - Conducted RF Immunity IEC 61000-4-8 (Ed. 1.1 2001-03) - Magnetic Field IEC 61000-4-11 (Ed. 2.0 2004-03) - AC Dips and Interrupts

Caution: The DXi4700 system is 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 DXi4700 components.



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