Quantum

Quantum DXi6900 Site Planning Guide

Contents

The DXi6900 disk backup and replication appliance uses 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 DXi6900 system makes automated WAN replication practical by dramatically reducing the bandwidth required to move backup data securely between sites.

DXi6900 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 interface options including NAS, OST, virtual library, or mixed presentations, as well as Ethernet and Fibre Channel connectivity. The DXi6900 appliance is part of a comprehensive set of backup solutions, serviced and supported by Quantum, the leading global specialist in backup, recovery, and archive.

Installation

Rack Compatibility

Nearly all standard four-post EIA 19" server racks are compatible with the DXi6900 rack mount kits.

See for system rack space requirements.

Installation and Integration Services

Installation and integration of the DXi6900 system by Quantum is required. Please contact your Quantum sales representative to discuss installation services.

DXi6900 Setup and Configuration

After hardware has been installed and initially configured, you are ready to use your DXi6900. The remote management console allows you to reconfigure your DXi6900 at any time.

Required Network Information

To utilize the remote management console of the DXi6900, 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 DXi6900 settings, including network settings. Refer to the *DXi6900 User's Guide* for additional information on initially configuring your DXi6900.

Network Configuration

During network configuration, each individual interface on the DXi6900 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 DXi6900 is connected to.

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

For effective bonded network use, a properly configured network switch is required. (A network switch is not supplied with the DXi6900.) The DXi6900 bonding settings must match the switch settings. If the switch settings and the DXi6900 settings do not match, your system may become inaccessible through the switch.

Planning Network Configuration

Prior to installation of the DXi6900, make sure to work with your network administrator to determine the network settings that will be needed to properly integrate the DXi6900 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 and 10 GbE) 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 should be opened to receive notifications of updates for the DXi Software.

TCP Ports Opened for Software Upgrade Traffic

- 80 (HTTP) to and from: updates.quantum.com

TCP Ports Opened for Management Traffic

- 22 (SSH)
- 80 (HTTP)
- 161 (SNMP)
- 162 (SNMP, trap)
- 443 (HTTPS)
- 1311 (Dell OpenManage)
- 8406 (HTTP, jettyd)
- 8407 (HTTP, thriftd)

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)
- 860 (VTL)
- 880 (NFS, mountd)
- 2049 (NFS, nfsd)
- 3095 (OST)
- 3096 (OST)
- 3097 (OST)
- 3098 (OST)
- 3099 (OST)
- 3100 (OST)
- 3101 (OST)
- 3102 (OST)
- 3260 (VTL)
- 4095 (RMAN)

- 4096 (RMAN)
- 4097 (RMAN)
- 4098 (RMAN)
- 4099 (RMAN)
- 4100 (RMAN)
- 4101 (RMAN)
- 4102 (RMAN)
- 10001 (OST)
- 10002 (OST)
- 32000 (NFS, lockd)

Service

DXi6900 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 for FRU replacement is provided on a Next Business Day (excluding weekends, evenings and holidays) response following determination, by Quantum, that FRU replacement 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.

Customer Replaceable Units (CRUs)	• Hard disk drive blank plate
	• Hard disk drive (900 GB, 2.5") in carrier (DXi6900 G1)
	• Hard disk drive (1.2 TB, 2.5") in carrier (DXi6900 G2)
	• Hard disk drive (960 GB SSD, 2.5") in carrier (DXi6900-S)
	• Hard disk drive (4 TB, 3.5") in carrier (DXi6900 G1, DXi6900 G2)
	• Hard disk drive (8 TB, 3.5") in carrier (DXi6900-S)
	• Power supply module
	• Array Module controller
	• Expansion Module ESM
	• Power cord
	• 2 port 10 GbE NIC (DXi6900 G2, DXi6900-S)
	• 2 port 10 GBase-T NIC (DXi6900 G2, DXi6900-S)
	• 2 port 16 Gb Fibre Channel HBA (DXi6900 G2, DXi6900-S)
	• External Fibre Channel cable
	• External Ethernet cable (1 GbE, 10 GbE)
	• 10 GbE SFP+ module
	• Rack mount rails

Field Replaceable Units (FRUs)	• Chassis (Node)
	• Chassis (Array module)
	• Chassis (Expansion module)
	• 4 port 1 GbE NIC (DXi6900 G1)
	• 2 port 10 GbE NIC (DXi6900 G1)
	• 2 port 8 Gb Fibre Channel HBA (DXi6900 G1)
	• 4 port 8 Gb Fibre Channel HBA (DXi6900 G1)
	• 4 port 6 Gb SAS HBA (DXi6900 G1)
	• 2 port 12 Gb SAS HBA (DXi6900 G2, DXi6900-S)
	• Integrated RAID controller
	• DDR3 memory module
	• Drive backplane and cables (Node)
	• CPU and heatsink (Node)
	• System board (Node)
	• Chassis fan
	• Array module battery backup module (BBU)
	• External SAS cable

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

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 DXi6900.

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.

> **ⓘ Note:** Customer may include, at an additional charge, the commitment of Quantum to deliver onsite installation of Customer Replaceable Units (CRUs).

- **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.

> **ⓘ Note:** Customer may include, at an additional charge, the commitment of Quantum to deliver onsite installation of Customer Replaceable Units (CRUs).

- **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.

> **ⓘ Note:** Gold Support includes, at no additional charge, the commitment of Quantum to deliver onsite installation of Customer Replaceable Units (CRUs).

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

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.

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.

Determining the DXi6900 Model

You will need to determine if the DXi system is a DXi6900 G1, DXi6900 G2, or DXi6900-S. Model information is located on the pull-out information tag on the front of the Node (see Figure 1 below).

- The DXi6900-S information tag includes "S" in the part number (see Figure 2 below).
- The DXi6900 G2 information tag includes "G2" in the part number (see Figure 3 on the next page).
- The DXi6900 G1 information tag does not include "G1" in the part number (see Figure 4 on the next page).

Figure 1: DXi6900 Information Tag
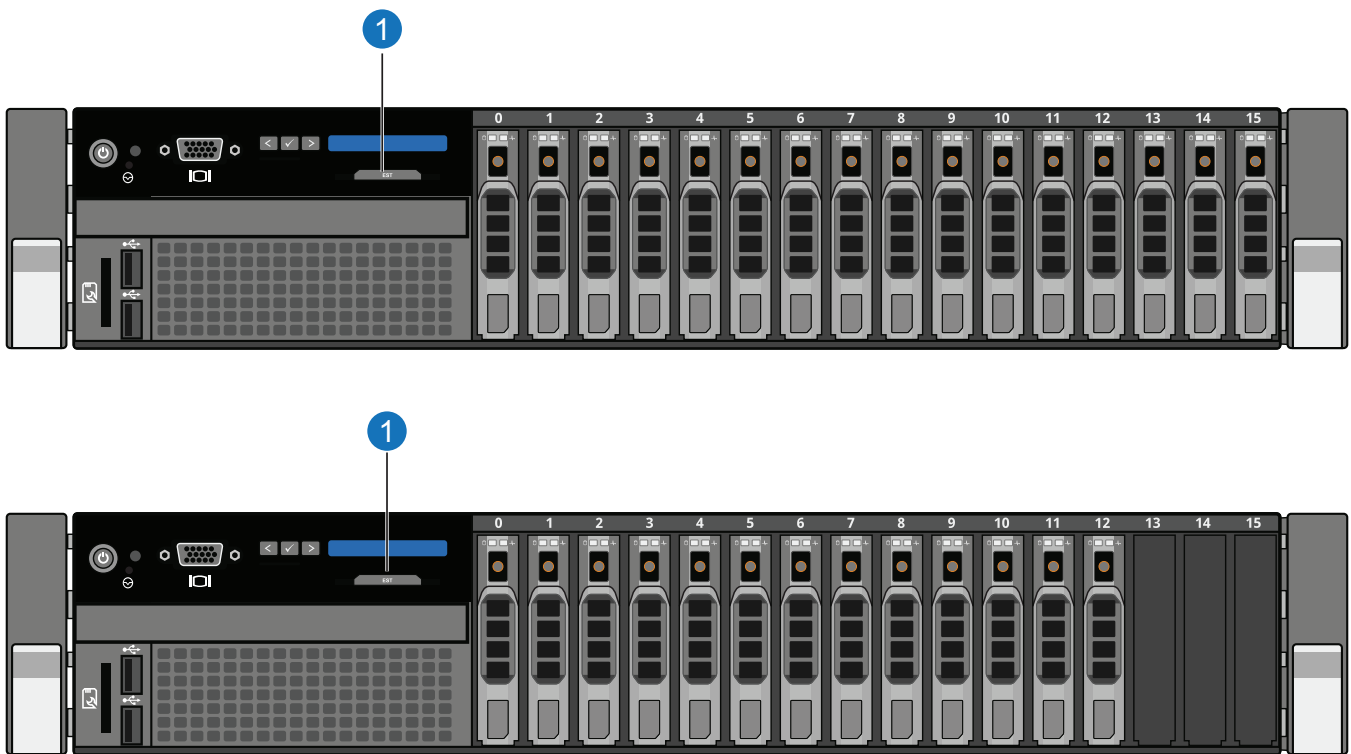
1. Information Tag

Figure 2: DXi6900-S Information Tag

Service Call
System Serial Number
AV1245BVV01462
P/N: 8-01303-23   S
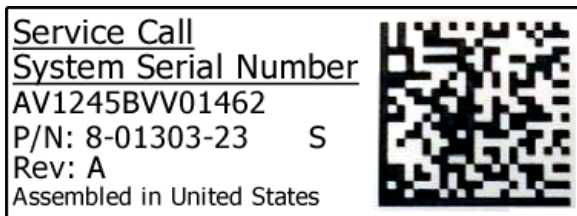Rev: A
Assembled in United States

Figure 3: DXi6900 G2 Information Tag

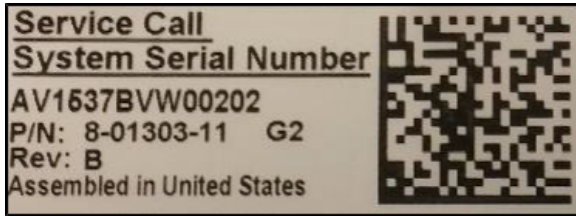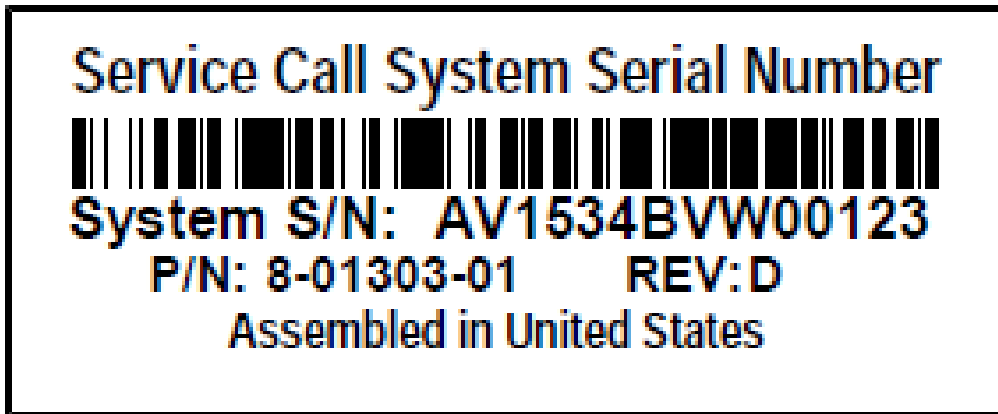**Figure 4:** DXi6900 G1 Information Tag

DXi6900 Configurations

The Quantum DXi6900 can be ordered in the following configurations (see Table 1 below , Table 2 on the next page, and Table 3 on page 13).

Table 1: DXi6900 G1 Configurations

DXi6900 G1 Configuration	Licensed Usable Capacity[2] [3]	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
• 1 Node (2U) • 8 x 6 Gb SAS ports (4 usable) • 4 x 8 Gb Fibre Channel ports or 2 x 16 Gb Fibre Channel ports (ingest and read) • 2 x 8 Gb Fibre Channel ports or 2 x 16 Gb Fibre Channel Ports (path to tape, or ingest and read) • 2 x 10 GbE (SFP+) Ethernet ports • 3 x 1 GbE Ethernet ports • (Optional) Additional network adapter providing 2 x 10 GbE (SFP+) Ethernet ports, 2 x 10 GBase-T Ethernet ports, or 4 x 1 GbE Ethernet ports	17 TB / 34 TB[1]	48 TB	128 GB*	1	0	4U
	51 TB / 68 TB	96 TB	128 GB*	1	1	6U
	85 TB / 102 TB	144 TB	128 GB*	1	2	8U
	119 TB / 136 TB	192 TB	256 GB	1	3	10U
	153 TB / 170 TB	240 TB	256 GB	1	4	12U
	187 TB / 204 TB	288 TB	256 GB	1	5	14U
	221 TB / 238 TB	336 TB	256 GB	1	6	16U
	255 TB / 272 TB	384 TB	256 GB	1	7	18U
	289 TB/ 306 TB	432 TB	256 GB	2	7	20U
	323 TB / 340 TB	480 TB	256 GB	2	8	22U
	357 TB / 374 TB	528 TB	256 GB	2	9	24U
	391 TB / 408 TB	576 TB	256 GB	2	10	26U
	425 TB / 442 TB	624 TB	256 GB	2	11	28U
	459 TB / 476 TB	672 TB	256 GB	2	12	30U

DXi6900 G1 Configuration	Licensed Usable Capacity² ³	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
	493 TB / 510 TB	720 TB	256 GB	2	13	32U

* Systems running a Veeam or DAE configuration require 256 GB system memory.

¹ 1 TB = 1,000,000,000,000 bytes

² Usable storage capacity for installed Array or Expansion modules can be upgraded at any time after purchase in increments of 17TB, up to a total of 34TB per module. Storage capacity upgrades are enabled simply by adding a license key. To purchase a storage capacity upgrade license, contact your Quantum sales representative. After you obtain the storage capacity license, refer to the section "Adding a License Key" in the *DXi6900 User's Guide* (6-68159) for instructions on completing the capacity upgrade.

³ Usable space is presented as a decimal (1000) value (TB or Terrabyte) in the DXi GUI. Backup applications may report the binary (1024) value (TiB or Tebibye) but incorrectly label it as "TB". For example, 272 TB will be seen in the DXi GUI; however a backup application may report 247.38 TB. 247.38 "tebibyte (TiB) = 271.99718647923 "terabyte (TB)"

Table 2: DXi6900 G2 Configurations

DXi6900 G2 Configuration	Licensed Usable Capacity² ³	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
• 1 Node (2U)	17 TB / 34 TB¹	48 TB	128 GB*	1	0	4U
• 4 x 12 Gb SAS ports	51 TB / 68 TB	96 TB	128 GB*	1	1	6U
	85 TB / 102 TB	144 TB	128 GB*	1	2	8U
• 3 x 1 GbE Ethernet ports	119 TB / 136 TB	192 TB	256 GB	1	3	10U
	153 TB / 170 TB	240 TB	256 GB	1	4	12U
• (Optional) Up to 6 x 16 Gb Fibre Channel ports (path to tape, or ingest and read)	187 TB / 204 TB	288 TB	256 GB	1	5	14U
	221 TB / 238 TB	336 TB	256 GB	1	6	16U
	255 TB / 272 TB	384 TB	256 GB	1	7	18U
• (Optional) Up to 6 x 10 GbE (SFP+) Ethernet ports	289 TB / 306 TB	432 TB	256 GB	2	7	20U
	323 TB / 340 TB	480 TB	256 GB	2	8	22U
• (Optional) Up to 6 x 10 GBase-T Ethernet ports	357 TB / 374 TB	528 TB	256 GB	2	9	24U
	391 TB / 408 TB	576 TB	256 GB	2	10	26U
	425 TB / 442 TB	624 TB	256 GB	2	11	28U
	459 TB / 476 TB	672 TB	256 GB	2	12	30U

DXi6900 G2 Configuration	Licensed Usable Capacity[2] [3]	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
	493 TB / 510 TB	720 TB	256 GB	2	13	32U

* Systems running a Veeam or DAE configuration require 256 GB system memory.

[1] 1 TB = 1,000,000,000,000 bytes

[2] Usable storage capacity for installed Array or Expansion modules can be upgraded at any time after purchase in increments of 17 TB, up to a total of 34 TB per module. Storage capacity upgrades are enabled simply by adding a license key. To purchase a storage capacity upgrade license, contact your Quantum sales representative. After you obtain the storage capacity license, refer to the section "Adding a License Key" in the *DXi6900 User's Guide* (6-68159) for instructions on completing the capacity upgrade.

[3] Usable space is presented as a decimal (1000) value (TB or Terrabyte) in the DXi GUI. Backup applications may report the binary (1024) value (TiB or Tebibye) but incorrectly label it as "TB". For example, 272 TB will be seen in the DXi GUI; however a backup application may report 247.38 TB. 247.38 "tebibyte (TiB) = 271.99718647923 "terabyte (TB)"

Table 3: DXi6900-S Configurations

DXi6900-S Configuration	Licensed Usable Capacity[2] [3]	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
• 1 Node (2U)	34 TB / 68 TB[1]	96 TB	256 GB	1	0	4U
• 4 x 12 Gb SAS ports						
• 3 x 1 GbE Ethernet ports	102 TB / 136 TB	192 TB	256 GB	1	1	6U
• (Optional) Up to 6 x 16 Gb Fibre Channel ports (path to tape, or ingest and read)	170 TB / 204 TB	288 TB	256 GB	2	1	8U
	238 TB / 272 TB	384 TB	256 GB	2	2	10U
• (Optional) Up to 6 x 10 GbE (SFP+) Ethernet ports	306 TB / 340 TB	480 TB	256 GB	2	3	12U
• (Optional) Up to 6 x 10 GBase-T Ethernet ports	374 TB / 408 TB	576 TB	256 GB	2	4	14U
	442 TB / 476 TB	672 TB	256 GB	2	5	16U

DXi6900-S Configuration	Licensed Usable Capacity² ³	Nominal Capacity	System Memory	Array Modules (RBODs)	Expansion Modules (EBODs)	Total Rack Space Required
	510 TB / 544 TB	768 TB	256 GB	2	6	18U

¹ 1 TB = 1,000,000,000,000 bytes

² Usable storage capacity for installed Array or Expansion modules can be upgraded at any time after purchase in increments of 34 TB, up to a total of 68 TB per module. Storage capacity upgrades are enabled simply by adding a license key. To purchase a storage capacity upgrade license, contact your Quantum sales representative. After you obtain the storage capacity license, refer to the section "Adding a License Key" in the *DXi6900 User's Guide* for instructions on completing the capacity upgrade.

³ Usable space is presented as a decimal (1000) value (TB or Terrabyte) in the DXi GUI. Backup applications may report the binary (1024) value (TiB or Tebibye) but incorrectly label it as "TB". For example, 272 TB will be seen in the DXi GUI; however a backup application may report 247.38 TB. **247.38 "tebibyte (TiB) = 271.99718647923 "terabyte (TB)"**

DXi6900 Shipping Information

The DXi6900 is delivered in the following configurations (see Table 1 below, Table 2 on the next page, and Table 3 on page 13). The Node, additional Node memory, optional network card, Array Module (RBOD), and Expansion Module (EBOD) each ship in a separate box. All boxes for each DXi6900 configuration are combined on one to three shipping pallets.

Table 1: DXi6900 DXi6900 G1 Shipping Information

DXi6900 G1 Component	Shipping Information	Quantity Included Per Configuration	
		17–102 TB Licensed Usable Capacity	119–510 TB Licensed Usable Capacity
Node	**Width:** 24 in. (61.0 cm)	1	1
	Length: 36 in. (91.4 cm)		
	Height: 12 in. (30.5 cm)		
	Weight: 82 lbs. (37.2 kg)		
128 GB Memory Kit	**Width:** 9 in. (22.9 cm)	-	1
	Length: 5.5 in. (14.0 cm)		
	Height: 1.25 in. (3.2 cm)		
	Weight: 1 lbs. (0.5 kg)		
10 GbE Cable Kit	**Width:** 11.25 in. (28.6 cm)	1	1
	Length: 17.75 in. (45.1 cm)		
	Height: 2.75 in. (7.0 cm)		
	Weight: 1 lbs. (0.5 kg)		
(Optional) Network Card Kit	**Width:** 10 in. (25.4 cm)	(1)	(1)
	Length: 7 in. (17.8 cm)		
	Height: 2 in. (5.1 cm)		
	Weight: 1 lbs. (0.5 kg)		

DXi6900 G1 Component	Shipping Information	Quantity Included Per Configuration	
		17–102 TB Licensed Usable Capacity	119–510 TB Licensed Usable Capacity
Array Module (RBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:** 77 lbs. (34.9 kg)	1	1 or 2 (see Table 1)
Expansion Module (EBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:** 74 lbs. (33.6 kg)	0 to 2 (see Table 1)	3 to 13 (see Table 1)

Table 2: DXi6900 G2 Shipping Information

DXi6900 G2 Component	Shipping Information	Quantity Included Per Configuration	
		17–102 TB Licensed Usable Capacity	119–510 TB Licensed Usable Capacity
Node	**Width:** 24 in. (61.0 cm) **Length:** 37.5 in. (94.6 cm) **Height:** 11.75 in. (39.8 cm) **Weight:** 90 lbs (40.82 kg)	1	1
128 GB Memory Kit	**Width:** 9 in. (22.9 cm) **Length:** 5.5 in. (14.0 cm) **Height:** 1.25 in. (3.2 cm) **Weight:** 1 lbs. (0.5 kg)	-	1
(Optional) Network Card Kit	**Width:** 11.25 in. (28.6 cm) **Length:** 18 in. (45.7 cm) **Height:** 2.75 in. (7.0 cm) **Weight:** 1.7 lbs. (0.8 kg) - 2.5 lbs (1.1 kg)	(1)	(1)

DXi6900 G2 Component	Shipping Information	Quantity Included Per Configuration	
		17–102 TB Licensed Usable Capacity	119–510 TB Licensed Usable Capacity
Array Module (RBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:** 77 lbs. (34.9 kg)	1	1 or 2 (see Table 2)
Expansion Module (EBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:** 74 lbs. (33.6 kg)	0 to 2 (see Table 2)	3 to 13 (see Table 2)

Table 3: DXi6900-S Shipping Information

DXi6900-S Component	Shipping Information	Quantity Included Per Configuration	
		34–136 TB Licensed Usable Capacity	170–544 TB Licensed Usable Capacity
Node	**Width:** 24 in. (61.0 cm) **Length:** 37.5 in. (94.6 cm) **Height:** 11.75 in. (39.8 cm) **Weight:** 72 lbs (32.6 kg)	1	1
(Optional) Network Card Kit	**Width:** 11.25 in. (28.6 cm) **Length:** 18 in. (45.7 cm) **Height:** 2.75 in. (7.0 cm) **Weight:**1.7 lbs. (0.8 kg) - 2.5 lbs (1.1 kg)	(1)	(1)
Array Module (RBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:**73 lbs (33.1 kg)	1	2 (see Table 3)
Expansion Module (EBOD)	**Width:** 23.75. (60.3 cm) **Length:** 31.25 in. (79.4 cm) **Height:** 10.25 in. (26.0 cm) **Weight:** 72 lbs (32.6 kg)	0 to 1 (see Table 3)	1 to 6 (see Table 3)

DXi6900 Specifications

This section lists characteristics and specifications the DXi6900. These characteristics and specifications are categorized as follows:

- Physical Characteristics below
- Environmental Specifications on page 26

Physical Characteristics

The following tables provide dimensions and other physical characteristics of the DXi6900 system components:

- Physical Characteristics below
- Storage Capacity below

Physical Characteristics

	DXi6900 G1 Node	Array Module (RBOD)	Expansion Module (EBOD)
Height	2U, 3.4 inches (8.7 cm)	2U, 3.4 inches (8.7 cm)	2U, 3.4 inches (8.7 cm)
Width (side to side)	17.5 inches (44.4 cm)	17.8 inches (45.1 cm)	17.6 inches (44.6 cm)
Depth (front to back)	28.6 inches (72.6 cm)	21.8 inches (55.2 cm)	21.8 inches (60.2 cm)
Weight (stand alone)	53.0 pounds (24.0 kg)	59.0 pounds (26.8 kg)	57.0 pounds (25.9 kg)
Rack Space Required	2U	2U	2U
Air clearance	Open 4 in (10.2 cm) behind unit for proper air flow		

Storage Capacity

DXi6900 Storage Capacity	
DXi6900 G1 / DXi6900 G2	
Usable capacity	From 17 TB to 510 TB
Capacity increments	Each Array Module (RBOD) and Expansion Module (EBOD) provides 34 TB of usable capacity, licensable in 17 TB increments.

DXi6900 Storage Capacity	
DXi6900-S	
Usable capacity	From 34 TB to 544 TB
Capacity increments	Each Array Module (RBOD) and Expansion Module (EBOD) provides 68 TB of usable capacity, licensable in 34 TB increments.

Cable Drops

DXi6900 Cable Drops	
Ethernet Cable Drops	**DXi6900 G1 (3 x 1GbE ports and 2 x 10GbE ports)** - 1 to 3 1GbE Ethernet connections and 1 to 2 10GbE Ethernet connections (optical or Twinax, see below) for NAS or OST connectivity, replication, and remote management.
	DXi6900 G1 (7 x 1GbE ports and 2 x 10GbE ports) - 1 to 7 1GbE Ethernet connections and 1 to 2 10GbE Ethernet connections (optical or Twinax, see below) for NAS or OST connectivity, replication, and remote management.
	DXi6900 G1 (3 x 1GbE ports and 4 x 10GbE ports) - 1 to 3 1GbE Ethernet connections and 1 to 4 10GbE Ethernet connections (optical or Twinax, see below) for NAS or OST connectivity, replication, and remote management.
	DXi6900 G2 / DXi6900-S (3 x 1GbE ports) - 1 to 3 1GbE Ethernet connections for for NAS or OST connectivity, replication, and remote management.
	DXi6900 G2 / DXi6900-S (6 x 10GbE ports) - 1 to 6 10GbE Ethernet connections (optical,Twinax, CAT6, see below) for NAS or OST connectivity, replication, and remote management.
	Note: For Cisco 5000 Series Data Center Class switches, Quantum recommends using the approved 5 meter Twinax cable type that is shipped with the DXi6900 system. Otherwise, Quantum recommends using optical (SFP+) connectivity.
	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.

DXi6900 Cable Drops		
Ethernet Cables	**10 GbE Optical Cable** **(DXi6900 G1)**	**10 GbE Optical Cable** **(DXi6900 G2 / DXi6900-S)**
	10 GbE Copper (Twinax) Cable	**10 GBase-T CAT6 Cable**

Fibre Channel Drops	1 to 6 Fibre Channel connections for path-to-tape/VTL data transfer.
Power Outlets	**Node** - 2 USA type 3-prong power outlets (**Nema 5-15**) or 2 C13 type 3-prong power outlets (**IEC320 C13**). **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 on page 18.

Virtual Device Limits and Hardware Interfaces

DXi6900 Virtual Device Limits and Hardware Interfaces	
Interfaces	**VTL backup target:** 64 partitions maximum, 512 virtual tape drives (VTDs) maximum.
	NAS backup target: 128 shares maximum (NFS or CIFS)
	OST backup target: 100 storage servers maximum
	ⓘ Note: NFS version: NFSv3
	ⓘ Note: Samba version: 4.5.3
Hardware	**DXi6900 G1**
	• 3 ports 100/1000BASE-T Ethernet (RJ45 connector)
	• 2 ports 10GbE Ethernet (optical 10GBASE-SR via LC connector or Twinax copper 10GBASESFP+Cu via SFP+)
	• 6 ports 8 Gb Fibre Channel (LC connector)
	ⓘ Note: An optional network adapter may be added providing 4 additional 100/1000BASE-T Ethernet ports or 2 additional 10GbE Ethernet ports.
	DXi6900 G2 / DXi6900-S
	• 3 ports 100/1000BASE-T Ethernet (RJ45 connector)
	• 1 to 6 ports 10GbE Ethernet (optical 10GBASE-SR via LC connector, Twinax copper 10GBASESFP+Cu via SFP+, or 10GBASE-T via CAT6A)
	• 1 to 6 ports 16 Gb Fibre Channel (LC connector)

Power Requirements

DXi6900 G1 Power Requirements		
Power Supplies and Cords	Node	Two (2) hot-swappable redundant power supplies
	Expansion Module (RBOD)	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 (RBOD)	100–240 VAC
Frequency	Node	50–60Hz
	Array Module (RBOD)	50–60Hz
	Expansion Module (EBOD)	50–60Hz

Maximum Operating	Node	586 Watts, 5.9A @100 VAC 2100 BTU/hr
		586 Watts, 2.3A @240 VAC 2100 BTU/hr
	Array Module (RBOD)	334 Watts, 3.3A @100 VAC 1140 BTU/hr 334 Watts, 1.4A @240 VAC 1140 BTU/hr
	Expansion Module (EBOD)	228 Watts, 2.3A @100 VAC 780 BTU/hr
		228 Watts, 1.0A @240 VAC 780 BTU/hr
Maximum Inrush	Maximum Configuration	81A @ 100 VAC 34A @ 240 VAC

DXi6900 G2 Power Requirements

| Power Supplies and Cords | Node | Two (2) hot-swappable redundant power supplies |
| | Expansion Module (RBOD) | 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 (RBOD) | 100–240 VAC |

Frequency	Node	50–60Hz
	Array Module (RBOD)	50–60Hz
	Expansion Module (EBOD)	50–60Hz
Maximum Operating	Node	613 Watts, 6.1A @100 VAC 2000 BTU/hr
		613 Watts, 2.6A @240 VAC 2000 BTU/hr
	Array Module (RBOD)	334 Watts, 3.3A @100 VAC 1140 BTU/hr
		334 Watts, 1.4A @240 VAC 1140 BTU/hr
	Expansion Module (EBOD)	228 Watts, 2.3A @100 VAC 780 BTU/hr
		228 Watts, 1.0A @240 VAC 780 BTU/hr
Maximum Inrush	Maximum Configuration	95A @ 100 VAC 40A @ 240 VAC

DXi6900-S Power Requirements

Power Supplies and Cords	Node	Two (2) hot-swappable redundant power supplies
	Expansion Module (RBOD)	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 (RBOD)	100–240 VAC
Frequency	Node	50–60Hz
	Array Module (RBOD)	50–60Hz
	Expansion Module (EBOD)	50–60Hz

Maximum Operating	Node	468 Watts, 4.7A @100 VAC 1597 BTU/hr
		468 Watts, 1.9A @240 VAC 1597 BTU/hr
	Array Module (RBOD)	276 Watts, 2.8A @100 VAC 942 BTU/hr
		276 Watts, 1.2A @240 VAC 942 BTU/hr
	Expansion Module (EBOD)	168 Watts, 1.8A @100 VAC 573 BTU/hr
		168 Watts, 0.8A @240 VAC 573 BTU/hr
Maximum Inrush	Maximum Configuration	59A @ 100 VAC 25A @ 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 DXi6900 to an uninterruptable power supply (UPS) with a minimum UPS capacity rating that meets the power requirements stated above.

Environmental Specifications

provides various DXi6900 environmental specifications.

Table 1: Environment Specifications

DXi6900 Climatic Environment		
Temperature	*Operating*	10° to 35°C (50° to 95°F) with a maximum temperature gradient of 10°C per hour
		ℹ️ **Note:** 35°C (95°F) is the maximum temperature for the DXi6900 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
Altitude	Operating	–16m to 3048 m (–50 to 10,000 ft)
	Shipping and storage	–16m to 10,600 m (–100 to 35,000 ft)
DXi6900 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

DXi6900 Acoustic

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

DXi6900 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 60590-1
	EN 61000-3-2
	EN 61000-3-3
	IEC 60590-1
	ICES-003 Class A
	VCCI V-3/2011-04 Class A (DXi6900 G1)
	VCCI V-3/2014-04 Class A (DXi6900 G2 / DXi6900-S)
	AS/NZS 3548 Class A
	KN22 Class A
	KN24
	UL 60590-1
Immunity Tests	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

⚠️ **Caution:** The DXi6900 systems 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 DXi6900 components.

Contacting Quantum

Contacts

For information about contacting Quantum, including Quantum office locations, go to:

http://www.quantum.com/aboutus/contactus/index.aspx

For further assistance, or for training opportunities, contact the Quantum Customer Support Center:

Region	Support Contact
North America	1-800-284-5101 (toll free)
	+1-720-249-5700
EMEA	+800-7826-8888 (toll free)
	+49 6131 324 185
Asia Pacific	+800-7826-8887 (toll free)
	+603-7953-3010
For worldwide support:	
http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support	

Comments

To provide comments or feedback about this document, or about other Quantum technical publications, send e-mail to:

doc-comments@quantum.com

Quantum.
BE CERTAIN

www.quantum.com