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StorNext M330 Site Planning Guide

The StorNext M330 metadata controller appliance combines the high-performance, heterogeneous software file sharing and tiered, vendor-agnostic archiving benefits found in Quantum's StorNext data management software with the simplicity of purpose-built hardware.

The StorNext M330 includes factory-installed and licensed software, two metadata controllers (one for failover) and uses a dedicated metadata array for optimal operation. Also included are ten StorNext File System SAN client licenses that can be used on any operating system, two StorNext File System SAN clients for the metadata controllers, and the High Availability License Option, enabling automatic metadata controller failover.

Additional StorNext File System SAN clients can be obtained separately, as can all the supported optional StorNext features, including Storage Manager's tiering and archiving features. The StorNext M330 is compatible with vast numbers of disk and tape vendors.

The StorNext M330 is fully configured and pre-tested in the factory. Every StorNext M330 system comes with an accessory kit containing rack-mount hardware and a documentation CD, which includes the *Quantum StorNext M330 Hardware Guide*.

Onsite professional installation is required, either via Quantum StorNext M330 Onsite Installation and Training (SSP3H-NSYP-001x) or via a trained Quantum Authorized StorNext Support Provider (ASSP) partner. For more information about the ASSP program, see [Quantum ASSP Program](#) on page 10.

Site Requirements

Quantum installation must be purchased with the StorNext M330. The StorNext M330 requires no special site preparation.

Installation sites will need the following:

- A Storage Area Network (SAN) array compatible with QLogic 8Gb Fibre Channel HBA
- A compatible SAN switch
- A standard 19-inch rack
- Power outlet compatibility with North American type NEMA 5-15P plugs or European CEE 7/7 plugs
- 100-240VAC, 50-60HZ, 7 to 3.5A power

Shipping Information

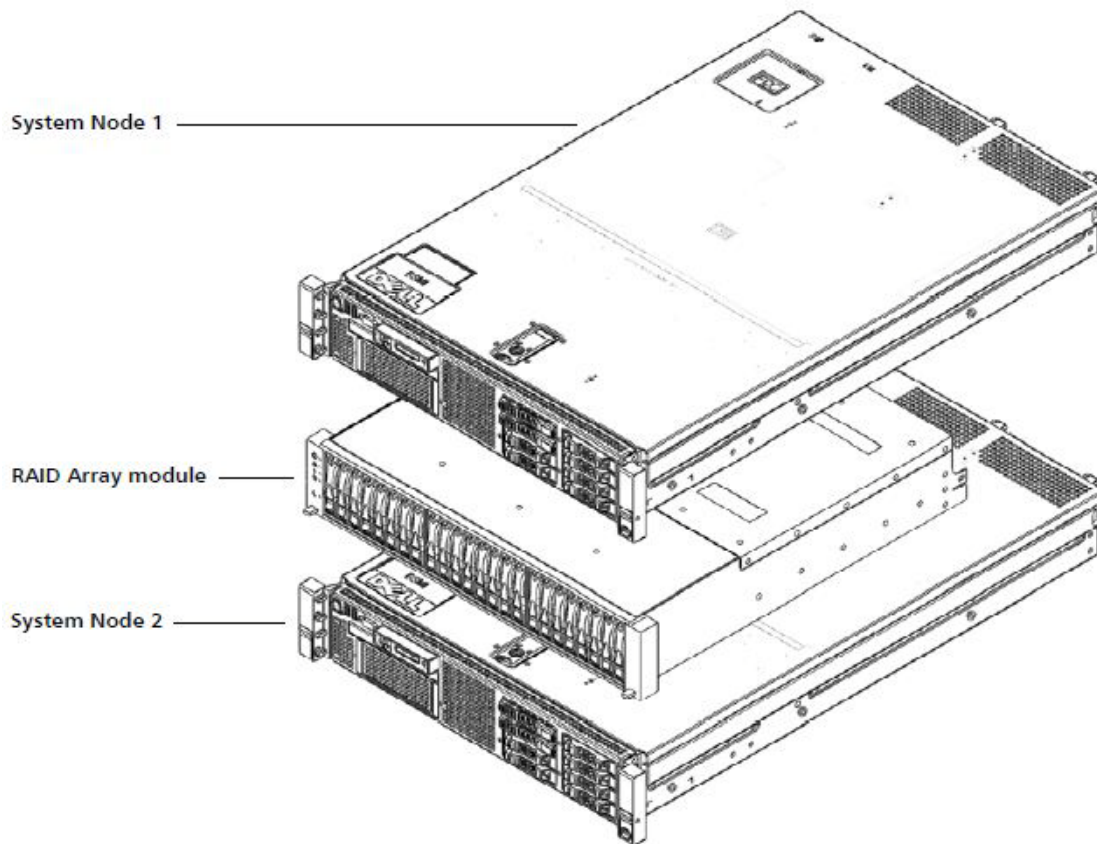
The StorNext M330 shipment consists of the following four boxes on one pallet, totaling 180lb (82kg):

- Two metadata controller boxes measuring 36x25x12in (91x64x31cm) and weighing 58lb (39kg) each
- One metadata array box measuring 31x24x10in (79x61x25cm) and weighing 48lb (22kg)
- One cable kit box measuring 20x10x8in (51x25x20cm) and weighing 16lb (7kg)

StorNext M330 System Components

The StorNext M330 backup system consists of two System Nodes and one RAID Array module (see [Figure 1](#)).

Figure 1 StorNext M330 System Components



To see the front view of the System Nodes and the RAID Array module, see [Figure 2](#) and [Figure 3](#).

Figure 2 StorNext M330 System Node (Front View)

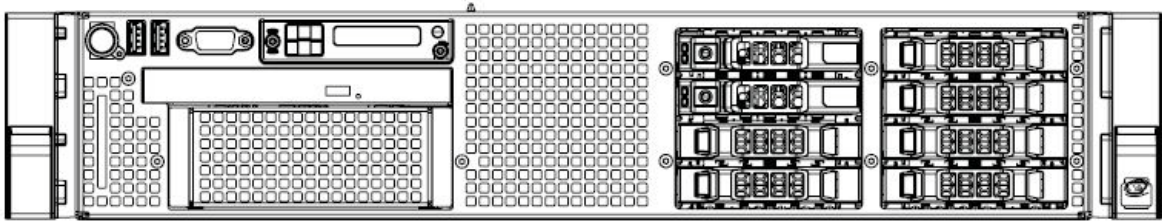
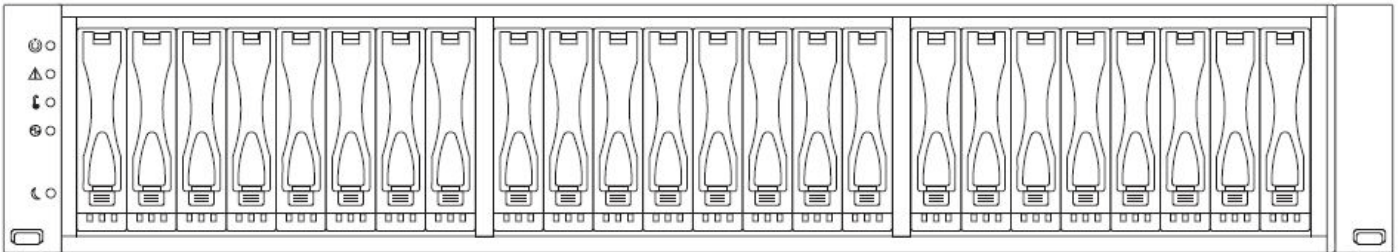


Figure 3 StorNext M330 RAID Array Module (Front View)



StorNext M330 Specifications

EMI Certification

This product is certified under the regulatory model name E145.

Appliance

Hardware	<ul style="list-style-type: none"> • 6U total height • Two metadata controllers (one for failover) • One dedicated metadata array
Software included in base price	<ul style="list-style-type: none"> • Ten File System SAN client licenses • Two SAN client licenses for the metadata controllers • One High Availability License Option
Hardware reliability	<ul style="list-style-type: none"> • Dual metadata controllers with automatic failover • Redundant power supplies • Redundant cooling fans • Automated SAS I/O path failover • Hot spare drive in metadata array • 4GB mirrored RAID battery backed cache

Metadata Controllers, Per Node

CPU	Quad core Intel Xeon
Memory	24GB DDR3 RAM
Internal storage	Two drives: RAID 1 for metadata and boot disks
Fibre Channel I/O	Two 8Gbps Fibre Channel ports
Ethernet I/O	Three 1GbE ports with RJ45 connectors

Appliance Software Environment

Internal OS	CentOS Linux
StorNext version	Initial release: 4.1.0.1 for appliance and 4.1.1.1 for SAN clients

Appliance Software Environment

Presentation layer	SAN
# user file systems	Two by default (four maximum)
Client OS support	Linux, Windows, UNIX, Mac OS
StorNext support	Backward compatible with StorNext 3.1, 3.5 and 4.0

Metadata Array

Array chassis	2U 24 2.5"-slot chassis
Array drives	Seven SAS drives
RAID configuration	Six-drive RAID 1 array, plus one hot spare
Metadata & Journal	Each file system stored on dedicated RAID 1 stripe
SAS I/O	Two SAS controllers, four 6Gbps SAS connections

Appliance Cables

Ethernet	Six 25ft (7.6m) Ethernet cables with RJ45 connectors
SAS	Four 3ft (1.0m) SAS cables for metadata array

Electrical per Metadata Controller

North American power	Four 10ft (3.0m) NEMA 5-15P locking power cords
European power	Four 10ft (3.0m) CEE 7/7 locking power cords
Input voltage	100 to 240VAC
Frequency	50 to 60Hz
Rated current	7 to 3.5A @ 100 to 240VAC
Maximum power consumption	700 Watts

Electrical per Metadata Array

North American power	Two 5.5ft (1.7m) NEMA 5-15P locking power cords
European power	Two 5.5ft (1.7m) CEE 7/7 locking power cords

Electrical per Metadata Array

Input voltage	100 to 240VAC
Frequency	50 to 60Hz
Maximum power consumption	330 Watts

Appliance Physical Characteristics

Width (side to side)	17.7in (44.9cm)
Depth (front to back)	26.8in (68.07cm)
Height	10.5in (26.7cm)
Weight (stand alone)	163.1lbs (73.9kg)

Climatic Environment

Temperature	<ul style="list-style-type: none"> • Operating: 50° to 95°F (10° to 35°C) • Shipping and Storage: -4° to 140°F(-20° to 60°C) • Decrease operating temp 0.9°C per 1,000ft (304.8m) above 2,950ft (899.2m)
Relative Humidity	<ul style="list-style-type: none"> • Operating: 20% to 80%, non-condensing • Shipping and Storage: 5% to 95%, non-condensing
Altitude	<ul style="list-style-type: none"> • Operating: 0 to 10,000ft (0 to 3,048m) • Shipping and Storage: 0 to 35,000ft (0 to 10,688m)
Heat	Operating: 2389BTUs

Shock and Vibration

Maximum Vibration	<ul style="list-style-type: none"> • Operational: 0.26 G's random vibration, 5 to 350Hz • Non-operational: 0.5 G's random vibration, 5 to 350Hz
Maximum Shock	<ul style="list-style-type: none"> • Operational: 2 G's for 11ms, ½ sine • Non-operational: 3.5 G's for 11ms, ½ sine

Selecting an Installation Location

When choosing an installation site for the StorNext M330 system, consider the following requirements:

- [Rack Space Requirements](#)
- [Environmental Conditions](#)

Rack Space Requirements

This section provides information about the rack space requirements and specific details about the StorNext M330 components and configuration options.

Internal Rack Dimensions

The minimum rack space required for the StorNext M330 follows:

- Width — 19 inches (48.3 cm)
- Depth — 28.4 inches (72.06 cm)
- Height — 6 U

Supported Rack Rail Hole Types

- 10-32/M5 Mounting Hardware Supported
- Square Holes
- Circular Through Holes (un-threaded)

Component Weights and Configurations

The StorNext M330 system is comprised of the following components:

- Two System Nodes — 57.54 pounds (26.1 kg) each
- One RAID Array module — 57.32 pounds (26 kg)

Clearance Information

For proper air flow, the following clearances are required for the front and back of the StorNext M330 system:

- Doors removed — 6.5 inches (16.5 cm)
- Doors installed — Front and Back: 23 inches (58.4 cm)

Environmental Conditions

The installation site must have the following environmental conditions:

- Humidity: 20% – 80% non-condensing
- Temperature: 15°C – 35°C (59°F – 95°F)

Note: 35°C (95°F) is the maximum temperature for the StorNext M330 at sea level. For every 1000 feet (305 meters) of altitude, the maximum temperature is reduced by 1°. For example, the maximum temperature for a StorNext M330 at 1000 feet (305 meters) is 34°C (93°F).

- Altitude: –984 to 10,000 feet (–300 to 3048 meters)

These environmental conditions apply when the StorNext M330 system is in operation.

Note: For additional StorNext M330 specifications (including environmental requirements during shipping and storage), see the *Quantum StorNext M330 Hardware Guide* (PN 6-67638).

Installation and Integration Services

Onsite professional installation is required, either via Quantum StorNext M330 Onsite Installation and Training (SSP3H-NSYP-001x) or via a trained Quantum Authorized StorNext Support Provider (ASSP) partner.

Service

StorNext M330 Warranty

The StorNext M330 standard warranty includes one year of Quantum's Bronze Support Plan. This includes 5x9 telephone support and next business day on-site response.

StorNext M330 customers may choose to purchase additional years of Bronze support or a warranty uplift that offers extended hours and more comprehensive on-site support.

All add-on StorNext software features must be purchased with the equivalent service level of the StorNext M330; similarly, all add-on StorNext software licenses must co-terminate with the StorNext M330 service contract, so that the termination dates are the same for all components.

For questions about support or coverage in any of the Quantum service zones, contact Quantum customer support.

Warranty coverage or uplifts may not be available in all areas. Please contact your local Quantum representative for more information concerning areas and type of warranty and service coverage that is available.

Service Levels

The StorNext M330 includes one year of Bronze Support as a product warranty. Uplift support plans are also available – and advisable:

- Next Business Day Gold: 7x24xNBD on-site
- Gold Support: 7x24x4hr on-site
- Extension of Bronze: 5x9xNBD on-site

Service renewal prices are the same as the initial prices and are sold on an annual basis.

All add-on StorNext software features must be purchased with the equivalent service level of the StorNext M330; similarly, all add-on StorNext software licenses must co-terminate with the StorNext M330 service contract, so that the termination dates are the same for all components.

Equivalent service levels between StorNext Software and the StorNext M330 appliance are:

Software Service Levels	StorNext M330 Service Levels
Silver (5x9 telephone)	Bronze (5x9xNBD on-site)
Gold (7x24 telephone)	Next Business Day Gold (7x24x4hr on-site)

Warranty coverage or service uplifts may not be available in all areas. Contact your Quantum representative for information concerning available warranty and service coverage.

Quantum ASSP Program

The Quantum Authorized Software Support Provider (ASSP) program has been extended to cover both StorNext software as well as the StorNext M330 metadata controller appliance. Quantum ASSP partners will be eligible to offer first tier support on the StorNext M330 once they've been trained and certified on the StorNext M330 product.

Quantum ASSP partners who have been trained on the installation and configuration of the StorNext M330 may also choose to offer their own professional onsite installation services for the StorNext M330 product.

For inquiries about the Quantum ASSP program for StorNext, contact your local Quantum representative.



For assistance, contact the Quantum Customer Support Center:
USA: 1-800-284-5101 (toll free) or +1-720-249-5700
EMEA: +800-7826-8888 (toll free) or +49-6131-3241-1164
APAC: +800-7826-8887 (toll free) or +603-7953-3010
Worldwide: <http://www.quantum.com/ServiceandSupport>

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About Quantum

Quantum is a proven global expert in Data Protection and Big Data management, providing specialized storage solutions for physical, virtual and cloud environments. From small businesses to major enterprises, more than 50,000 customers trust Quantum to help maximize the value of their data by protecting and preserving it over its entire lifecycle. With Quantum, customers can Be Certain they're able to adapt in a changing world—keeping more data longer, bridging from today to tomorrow, and reducing costs. See how at www.quantum.com/BeCertain.