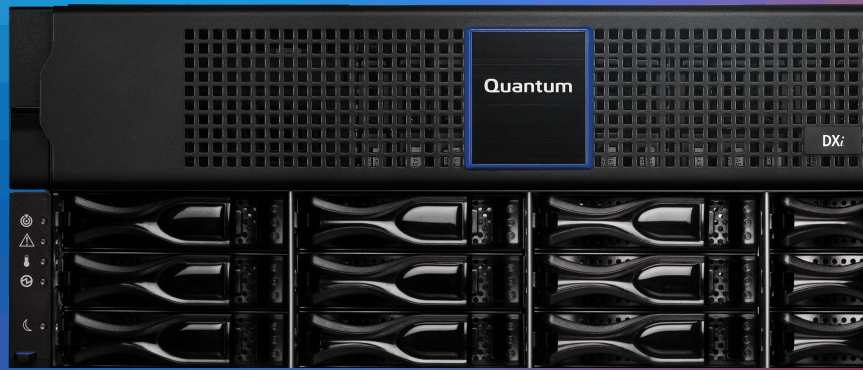# Quantum®

DXi9000 SERIES

FEATURES & BENEFITS

Improve backup and restore times
Powered by the world's most powerful file system—StorNext®—DXi software enables faster deduplication and access to your data.

Protect data across sites and in the cloud
WAN efficient replication makes it faster and less expensive to move data in and out of the cloud and between sites for offsite backups.

Scale on your terms
Broadest scalability from 51 TB to over 1,020 TB with Quantum's own Capacity-on-Demand (CoD) methodology.

Minimize storage utilization
Patented variable-length deduplication maximizes data reduction, providing lowest OPEX and maximizing efficiencies locally, in the cloud, and across WANs.

Increase IT staff productivity
Comprehensive and intuitive management tools enable precise business decisions and speed resolution time.

Provide an extra layer of security
Protect against data breaches across the enterprise using industry-standard AES 256-bit encryption with Self-Encrypting Drives. This is also applied to data-in-flight.

With industry-best density, ultra-fast performance, and the ability to protect PBs of data, the DXi9000 is the most efficient option for enterprise backup storage.
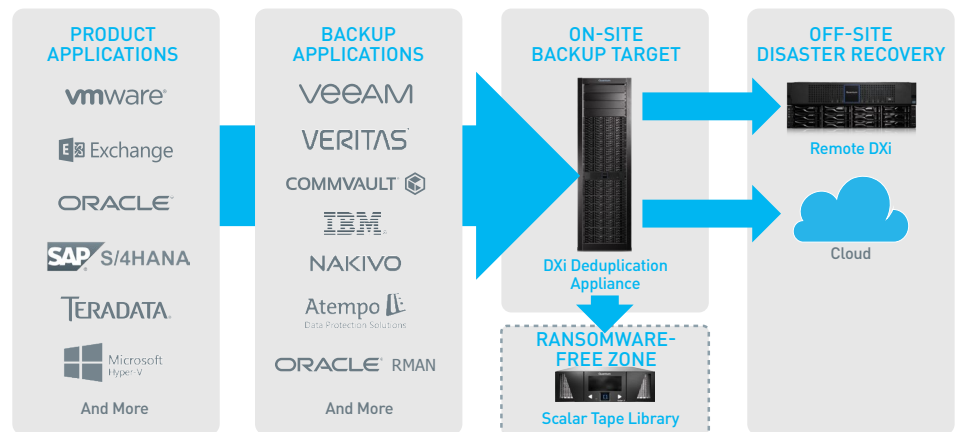
Figure 1 - DXi-Series Solution Flow

DXi KEY CAPABILITIES

Multi-protocol and strong backup application integration.

FUTURE PROOF SOLUTION
For future mergers, acquisitions, or software changes, DXi features handle your future integration needs.

Powered by StorNext, the industry's fastest file system.

Flash storage for metadata performance.

READ/WRITE SPEED
Ingest speed is critical to meet the backup window, but backup is mainly about restore and being able to detect situations such as Instant VM recovery. DXi combines flash storage for faster ingests with a unique and powerful file system that detects and adapts itself to random I/O request for faster restores.

Single Block Pool for real global deduplication.
(high-density drives with DDP technology)

BEST-IN-CLASS DATA REDUCTION
Patented variable-length deduplication applied to a single block-pool. No duplicates across partitions, shares or protocols. It's all about getting the maximum reduction ratio.

Trigger-based replication.

Direct link to tape.

REDUCED RISK
Why wait for the backup job to finish to start replicating? DXi replicates immediately to reduce your risk window. Need an extra protection against ransomware? DXi has a direct link to tape to get your backups offline and out of reach.

LEARN MORE:
www.quantum.com/dxi

INTERFACES

NAS Backup Target

Presentations:	CIFS and/or NFS
Shares:	128 max

OpenStorage (OST) API

Presentations:	Symantec Storage Servers and Logical Storage Units
Shares:	128 max

VTL Fibre Channel

Partitions (max):	64
Drives (max):	512
Cartridges per Partition (max):	61,000
Emulations (libraries):	Scalar® 24, Scalar i40/i80, Scalar 100, Scalar i500, Scalar i2000, Scalar i6000
Emulations (drives):	DLT7000, SDLT 320, SDLT 600, DLT-S4, LTO-1, LTO-2, LTO-3, LTO-4, LTO-5

INLINE PERFORMANCE

Ingest Performance:	VTL: Up to 64 TB/hr
	NFS: Up to 35 TB/hr
	CIFS: Up to 39 TB/hr
	OST: Up to 49 TB/hr
	With DXi Accent: Up to 99 TB/hr

DATA AND SYSTEM REDUNDANCY

Enhanced RAID, redundant power, redundant cooling, redundant controllers and data path to storage, hot-swap drives, power supply and fans, and T10-PI technology.

HOST TO APPLIANCE H/W INTERFACE

Provides 2 x 1 GbE and 2 x 10 GbE ports with room to add up to four of the following HBA:
Quad-port 10 GbE (Optical), Quad-port 10 GbE (Twinax), Quad-port 10GBASE-T (RJ45), and Quad-port 16 Gb FC.

SOFTWARE LICENSES INCLUDED

The base price of the DXi9000 includes licenses for NAS, VTL, OST, deduplication, replication, path-to-tape (PTT), and DXi Accent software for hybrid deduplication.

CAPACITY AND SCALABILITY

Usable Capacity:	51 TB to 1,020 TB
Scaling Increment:	51 TB
Logical Capacity:	1,020 TB to 20.4 PB*
Hard Disk Drives:	12 TB Self-Encrypting Drives
Server Node Drives:	16 x 960 GB SSD

PHYSICAL SPECIFICATIONS

Dimensions:

System Node:	2U, [17.5 in (W) x 3.4 in (H) x 28.6 in (D)] - [44.5 cm (W) x 8.6 cm (H) x 72.6 cm (D)]
Standard Expansion Module:	2U, [17.6 in (W) x 3.4 in (H) x 21.8 in (D)] - [44.6 cm (W) x 8.6 cm (H) x 55.4 cm (D)]
Standard Array Module:	2U, [17.8 in (W) x 3.4 in (H) x 21.8 in (D)] - [45.1 cm (W) x 8.6 cm (H) x 55.4 cm (D)]
High-Density Array Module:	4U [17.66 in (W) x 6.87 in (H) x 38.35 in (D)] - [44.85 cm (W) x 17.44 cm (H) x 97.15 cm (D)]
High-Density Expansion Module:	4U [17.66 in (W) x 6.87 in (H) x 38.35 in (D)] - [44.85 cm (W) x 17.44 cm (H) x 97.15 cm (D)]

Weight:

System Node:	72 lbs (32.6 kg)
Standard Array Module:	63.9 lbs (29.0 kg)
Standard Expansion Module:	63.9 lbs (29.0 kg)
High-Density Array Module:	249 lbs (113 kg)
High-Density Expansion Module:	249 lbs (113 kg)
Standard Expansion:	Up to nineteen 51-TB expansion points within ten physical expansion modules 2U each
High-Density Expansion:	Up to sixteen 51-TB expansion points within two physical expansion modules 4U each

POWER SPECIFICATIONS

Power Input:	NEMA 5-15P to C13 power cord
Input Voltage:	100 to 240 VAC, 50-60 Hz

Rated Current:

System Node:	6.5 A @ 100 VAC, 2.8 A @ 240 VAC
Standard Array Module:	3.9 A @ 100 VAC, 1.7 A @ 240 VAC
Standard Expansion Module:	2.7 A @ 100 VAC, 1.1 A @ 240 VAC
High-Density Array Module:	6.1 A @ 100 VAC, 5.1 A @ 240 VAC
High-Density Expansion Module:	4.9 A @ 100 VAC, 4.1 A @ 240 VAC

Typical Power Consumption:

System Node:	635 W
Standard Array Module:	362 W
Standard Expansion Module:	207 W
High-Density Array Module:	1,170 W
High-Density Expansion Module:	921 W
Inrush:	16.35 A @ 200 VAC, 13.63 A @ 240 VAC – 1,020 TB
BTUs:	8,900 BTU @ 1,020 TB

Assumes a deduplication ratio of 30:1. Actual deduplication ratios will vary depending upon data types, retention, and compressibility of your data.

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE

Operating:	50 °F to 95 °F (10 °C to 35 °C)
Shipping & Storage:	-40 °F to 149 °F (-40 °C to 65 °C)

RELATIVE HUMIDITY

Operating:	10 to 80% non-condensing
Shipping & Storage:	5 to 95% non-condensing

ALTITUDE

Operating:	-50 to 10,000 ft (-15.2 to 3,048 m)
Shipping & Storage:	-50 to 39,370 ft (-15.2 to 12,000 m)

SYMANTEC OPENSTORAGE (OST) API SUPPORT

Support for OST is a standard feature for all DXi9000 backup appliances, allowing users to write data to OST logical storage units (LSUs) and enabling application-aware replication in NetBackup and Backup Exec environments. Support includes Optimized Duplication, Auto Image Replication (AIR), and Granular Restore Technology (GRT). OST path-to-tape introduced in NetBackup 6.5.4. OST Optimized Synthetic Full Backups is also supported to reduce network I/O and shorten time to perform full restore from incremental backups.

DYNAMIC APPLICATION ENVIRONMENT SUPPORT

The DXi Dynamic Application Environment (DAE) enables the installation of a KVM hypervisor to support virtual machines running many different operating systems on DXi appliances. DXi supports Veritas NetBackup and Nakivo Backup & Replication running in DAE for customers who wish to save money and data center space by eliminating the need to deploy a separate server to run their backup application. Customers may run NAS and OST backups directly from their DXi appliance running NetBackup within the DAE.

VEEAM DATA MOVER SERVICE SUPPORT

The integration of DXi and Veeam enables the Veeam Data Mover Service (VDMS) to be used to move data between the Veeam proxy server and the DXi appliance. The VDMS communicates with the Veeam proxy server to efficiently manage the data flow between Veeam and DXi, greatly reducing the time it takes to create synthetic full backups and run VM instant recovery.
DXi appliances are a Veeam Ready Integrated storage solution. This program offers Veeam Alliance Partner Program members the opportunity to create solution offerings that complement or enhance Veeam features or functions. Through more extensive product integration, joint development and testing, these enhanced solutions help customers achieve optimal performance or create unique abilities together with Veeam Backup & Replication™ APIs or technologies. The DXi when defined as a repository for Veeam supports the use of the Veeam Data Mover Service (VDMS), which optimizes performance between the DXi and the Veeam proxy server.

DXi ACCENT

DXi Accent software, a standard feature on all DXi9000 backup appliances, allows the backup server to collaborate in the deduplication process, off-loading part of the data reduction activity so that only unique blocks are sent over the network to the DXi appliance. This distributed approach provides faster backups over bandwidth-constrained LANs or WANs. DXi Accent can be enabled or disabled on a per-media server basis. Initial support for DXi Accent is provided through the NetBackup OpenStorage (OST) API and Oracle RMAN.

DATA-AT-REST ENCRYPTION

Data-at-rest encryption uses self-encrypting drive (SED) technology to secure all data stored on the DXi9000 and helps render breached data useless to anyone not authorized to access it. 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. Then, 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.

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, providing 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.

REPLICATION

Replication is supported for any DXi to any Quantum DXi appliance, and is encrypted (AES 256-bit) and asynchronous. Customers can choose a desired replication strategy: one to one, one to two, or many to one. Every partition in a DXi unit can be a source and target, similar to peer-to-peer replication. Replication starts as backup ingest occur to reduce replication time.