Quantum

DXi-SERIES BACKUP APPLIANCES

High-Performance, Scalable Backup Appliances for Data Protection, Cyber and Disaster Recovery

FEATURES & BENEFITS

Reduce Backup Costs with Efficient Data Reduction
All DXi appliances leverage Quantum's variable-length deduplication algorithm to maximize data reduction, minimize disk storage, and minimize WAN traffic when replicating.

Fast Ransomware Recovery with Secure Snapshots
Secure your backups by isolating snapshots in a tier that is non-network addressable. Snapshots cannot be deleted or encrypted, making data immutable.

Maximize Production System Availability
DXi appliances provide high-performance ingest and restore of up to 99 TB/hr throughput using DXi Accent™.

Scale Capacity with Ease
DXi appliances make it easy to scale capacity more linearly as your data grows, often simply via a license key, and in more granular increments than other solutions.

Reduce Data Center Power and Cooling
DXi appliances deliver the most efficient design in the market, with best-in-class storage densities that enable customers to protect their data with fewer disks, which means less rack space, less power, and less cooling.

LEARN MORE:
www.quantum.com/dxi

DXi-Series backup appliances provide fast disk backup and restore with deduplication efficiency, ransomware protection, and automated replication for disaster recovery.

EFFICIENT DATA PROTECTION IS MORE CRITICAL THAN EVER
The requirements for protecting data across the enterprise continue to get more complex. Our customers are managing massive data growth across databases, virtual environments, and unstructured data sets, and need to meet or exceed service level agreements (SLAs) to the business, both recovery time objective (RTO) and recovery point objective (RPO), with budgets that aren't growing nearly as fast as storage requirements.

And data protection itself has become more demanding with requirements to protect against operational issues, protect data across sites, provide solutions for disaster recovery and against ransomware and other forms of cyber attacks.

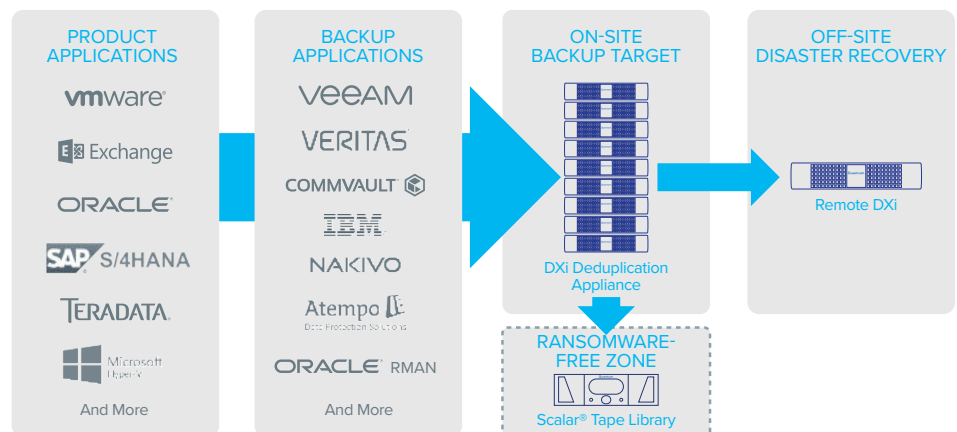### DXi-SERIES DELIVERS WITH AN EFFICIENT, PURPOSE-BUILT DESIGN
The DXi®-Series backup appliances provide a uniquely powerful solution for meeting your backup needs, SLA requirements, and cyber recovery efforts. This means fast access to your data, faster deduplication, and scalable solutions for remote offices up to the largest enterprise data centers.

DXi offers the industry's most efficient variable-length deduplication, which minimizes disk requirements and dramatically shrinks your replication bandwidth needs, and your overall footprint. Plus, DXi's high-speed disk backup and data recovery capabilities, now with secure snapshot capabilities, enable you to reduce your recovery time and your backup window—plus, you save on resources.

DXi appliances support multiple protocols including NAS, OST, VTL, and Veeam Data Mover Service, and are integrated and certified with a broad range of leading backup applications.
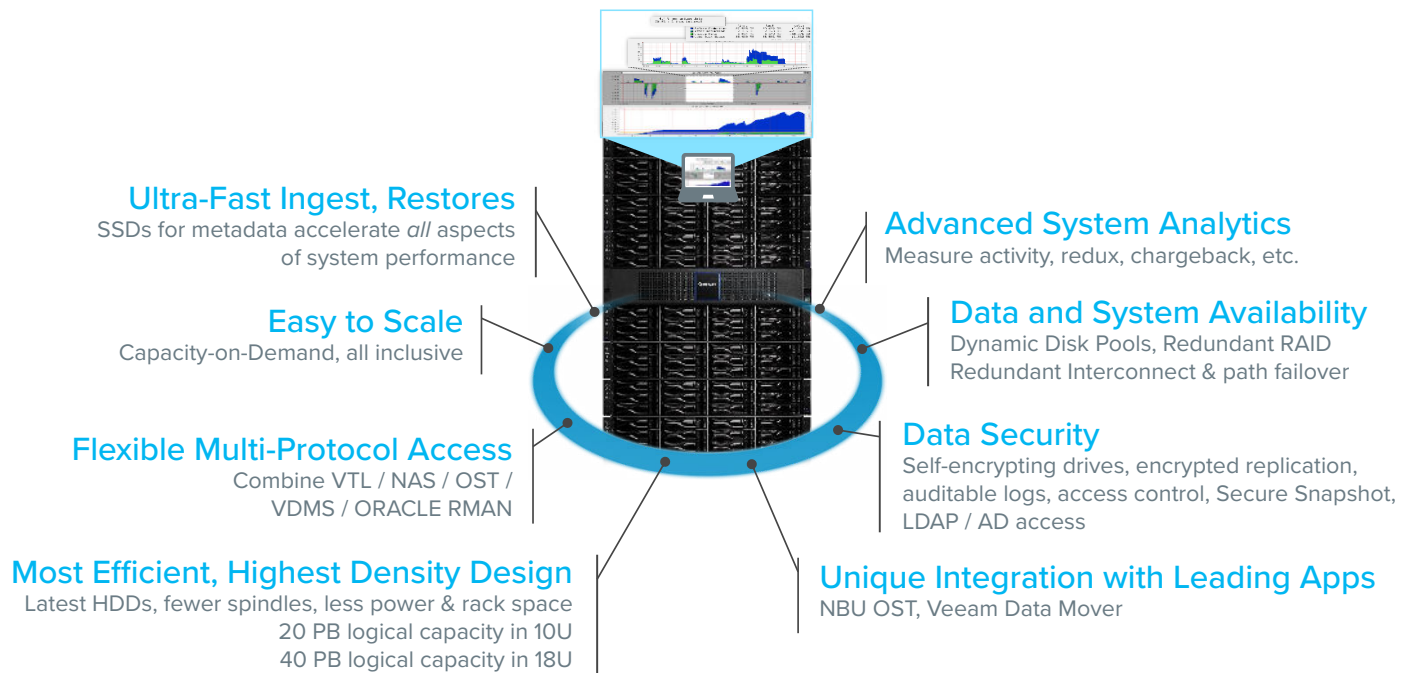

PRODUCT APPLICATIONS	BACKUP APPLICATIONS	ON-SITE BACKUP TARGET	OFF-SITE DISASTER RECOVERY
vmware	VEEAM		
E⊠ Exchange	VERITAS		Remote DXi
ORACLE	COMMVAULT	DXi Deduplication Appliance	
SAP S/4HANA	IBM		
TERADATA	NAKIVO	RANSOMWARE-FREE ZONE	
Microsoft Hyper-V	Atempo	Scalar® Tape Library	
And More	ORACLE RMAN		
	And More		

SIMPLIFIED, SECURE DATA PROTECTION AND SCALABILITY

Self-encrypting drives and DXi Secure Snapshot for ransomware recovery will help you defend and recover your backups quickly and efficiently. Immutability, blazing-fast performance, and best-in-class data reduction offer one of the strongest solutions for your backup and ransomware recovery use cases. DXi appliances fit both small office environments and large enterprise data centers. DXi appliances are available in three different models, enabling users to scale easily using capacity-on-demand licensing.

Ultra-Fast Ingest, Restores
SSDs for metadata accelerate *all* aspects of system performance

Easy to Scale
Capacity-on-Demand, all inclusive

Flexible Multi-Protocol Access
Combine VTL / NAS / OST / VDMS / ORACLE RMAN

Most Efficient, Highest Density Design
Latest HDDs, fewer spindles, less power & rack space
20 PB logical capacity in 10U
40 PB logical capacity in 18U

Advanced System Analytics
Measure activity, redux, chargeback, etc.

Data and System Availability
Dynamic Disk Pools, Redundant RAID
Redundant Interconnect & path failover

Data Security
Self-encrypting drives, encrypted replication, auditable logs, access control, Secure Snapshot, LDAP / AD access

Unique Integration with Leading Apps
NBU OST, Veeam Data Mover

INSTANT ACCESS AND REPLICATION

DXi provides continuous namespace replication for Disaster Recovery (DR) purposes, and offers better replication and more granularity (cartridge/file trigger based + snapshots) at no additional cost. Meet Recovery Point and Recovery Time Objectives (RPO and RTO). DXi continuous data replication is supported for 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 fifty 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 occurs to reduce replication time.

DXi V5000 VIRTUAL BACKUP APPLIANCE

DXi V5000 is more than just a deduplicating storage device; it is a fully powered, virtual version of a DXi backup appliance. You can set up multiple DXi V5000s and replicate between them or a mix of any DXi physical or virtual appliances, with intelligent, secure replication that only transfers changed data, saving on bandwidth.

DXi V5000 Community Edition

Quantum's DXi V5000 Community Edition is a free-to-download virtual backup appliance. It is ideally suited for data protection at remote sites, edge environments, and for small businesses looking to efficiently back up and protect their critical data. It can scale to 5 TB of usable capacity, which is up to 100 TB of deduplicated backup data with 20:1 deduplication.

Download the Community Edition in minutes, use it immediately, and later upgrade to the DXi V5000 by purchasing a DXi software subscription license.

FEATURES AND BENEFITS

Feature	Benefit
Variable-Length Deduplication	Quantum DXi software uses a variable-length deduplication algorithm to maximize data reduction and minimize network traffic during replication. Variable-length deduplication is anywhere from 3x to 6x more efficient than fixed-block deduplication.
Secure Snapshot	DXi Secure Snapshot provides the secure isolation of backups in a tier that is non-network addressable. These snapshots cannot be deleted or encrypted, making backups (snapshots) immutable, which means backups can be managed to meet SLA-required RTOs and RPOs. Data is recoverable immediately because snapshots will be available in their immutable state in the DXi backup appliance and become visible to the backup application as soon as the recovery begins. Point-in-time snapshots are quickly identified, and customers can immediately restore images to a newly created share.
Multi-Site Replication	Replication is supported across all DXi appliances, and is encrypted (AES 256-bit) and asynchronous. Customers can choose a desired replication strategy: one to one, one to two, or fifty 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 occurs to reduce replication time.
Multi-Protocol Support	Every DXi appliance supports multi-protocols, including NAS, OST, VTL*, and Veeam Data Mover Service (VDMS).
Veritas OpenStorage (OST) API	Support for OST is a standard feature for all DXi 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), Accelerator, 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 restores from incremental backups.
Veeam Data Mover Service	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 with Fast Clone by up to 15x 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.
Dynamic Application Environment*	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.
Dynamic Disk Pooling*	Delivers redundant and resilient architecture with less rebuild times than traditional RAID.
AccentFS	DXi Accent software, a standard feature on all DXi backup appliances, allows the backup server to collaborate in the deduplication process, offloading 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 Backup Exec OpenStorage (OST) API, AccentFS for Oracle RMAN, and Linux OS over LAN/WAN.
Encryption of Data-at-Rest* and Data-in-Flight	Data-at-rest encryption uses self-encrypting drive (SED) technology to secure all backup data stored on the DXi and helps render breached data useless to anyone not authorized to access it. 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.

*Features not supported on Virtual DXi V5000

Attributes	DXi V5000*	DXi4800	DXi9000	DXi9000 High Density (Ultra)	DXi9100
Usable Capacity (TB)	5 TB to 256 TB	8 TB to 315 TB	51 TB to 1,020 TB		204 TB to 2 PB
CPU - RAM	Variable	16 CPU Cores	6128 6C/12T 192/384 GB RAM	6248 20C/40T 768 GB RAM	6248 20C/40T 1.5 TB RAM
Performance (TB/h)	Customer Hardware	Up to 35 TB/h 95 TB/h (DXi Accent)	Up to 64 TB/h 98 TB/h (DXi Accent)		Up to 63 TB/h 99 TB/h (DXi Accent)
Expansion and CoD	Licensed in 1 TB increments	8, 16, 27 TB Base 16 X 18 TB increments in 4 X JBOD (CoD)	51 TB (CoD)		102 TB (CoD)
Rack Space Min/Max	Customer Hardware	2U to 10U	4U to 22U	6U to 10U	6U to 18U
Disk Drives	Customer Hardware	4 TB (SED-FIPS/HDD) 8 TB (SED-FIPS/HDD) Up to 2 X 480 GB SSD (Node)	12 TB (Non-SED/SED) 16 X 960 GB SSD (Node)		12 TB (SED) 13 x 1,920 GB SSD (Node)
Presentation	All but VTL	NAS / OST / VTL / AccentFS / VDMS / Multi-Protocol			
Monitoring/ Reporting	GUI / CLI / WebServices / Cloud-Based Analytics				
Connectivity	Customer Hardware	Includes 1 x 1 GbE and 2 x 10 GbE ports Can add up to four of the following HBA: Quad-port 10 GbE (Optical), Quad-port 10 GbE (Twinax), Quad-port 10GBASE-T (RJ45), Quad-port 16 Gb FC, Dual 25 GbE (SFP28optical or DAC Copper)			All connectivity in DXi9000 plus Dual 100 GbE
Protocol Limits	Variable (no VTL)	VTL: 64 partition, max VTDs per partition: 64 61,000 VTC per partition 128 NAS Shares OST: 100 Storage Units	VTL: 64 partition, 512 VTD 61,000 VTC per partition 128 NAS Shares OST: 100 Storage Units		
Optional Features	Dynamic Application Environment (DAE)** for NBU, Nakivo, Veeam VDMS (Fast Clone Support)				
Data Availability	Customer Hardware	Redundant Interconnect [Internal] Path Failover	Dynamic Disk Pooling (DDP), Redundant RAID Controllers, Redundant Interconnect, (Internal) Path Failover, T10DIF		
Security	Customer Hardware	Non-SED or SED/FIPS Drive, Encrypted in-flight replication, DXi Secure Snapshot, RBAC (Fall 2021)	SED Drive, Encrypted in-flight replication, Secure SnapShot, RBAC		
RAID	Customer Hardware	Node HDD -> RAID6 + Hot Spare Array HDD -> RAID6 + Hot Spare	Node SSD -> RAID6 Array HDD -> RAID DDP		
System Availability	Customer Hardware	Redundant: RAID 6, redundant power, redundant cooling, hot spare drives, hot-swap drives, power supplies, and fans			
Watts/BTU (Max Capacity)	Customer Hardware	1,620 Watts / 4,837 BTU @ 315 TB **Watts:** Node: 452; EBOD: 292	2,653 Watts / 9,052 BTU @ 1,020 TB **Watts:** Node: 635; RBOD: 362; EBOD: 207	2,726 Watts / 9,301 BTU @ 1,020 TB **Watts:** Node: 635; RBOD: 1,170; EBOD: 921	4,817 Watts / 16,426 BTU @ 2,040 TB **Watts:** Node: 635; RBOD: 1,170; EBOD: 921
Firmware	4.5	3.1.X and above (some features require 4.5 minimum)	4.X and above (some features require 4.5 minimum)		
Replication Compatibility	Variable	3.X, 4.X, and 20 to 1	3.X, 4.X, and 50 to 1		
Deduplication	Inline				

DXi for Virtualized Environments: Minimum requirements for DXi V5000 Community Edition:
Disk: 200 GB – 5.1 TB of disk (storage can be sized from 100 GB to 5 TB)
Hypervisor: KVM, VMware, Hyper-V
RAM: 4 GB; CPU Cores: 2; Ethernet Port: 1
Scaling up requires additional resources. See install documentation at www.quantum.com.

**Features not supported on Virtual DXi V5000

Quantum.

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter — so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter. Quantum is listed on Nasdaq (QMCO) and the Russell 2000® Index. For more information visit www.quantum.com.