Quantum

Lattus Object Storage

> DATASHEET

Infinite. Online. Durable. Cost Effective.

Whether the data is satellite images, CAD drawings, film industry dailies, office documents, DNA sequence data, or corporate reports, its long-term value lies in persistent availability to be analyzed, monetized, or otherwise reused in the future—not just when it's collected. With advances in technology and analysis tools, the sheer volume of data can be overwhelming. Existing storage technologies are being stressed beyond their current capabilities to maintain this data long-term while enabling the efficient and immediate access required to extract its maximum value. Lattus™ meets these challenges by leveraging Object Storage technology to extend online storage and provide immediate data access with unmatched levels of scalability, durability, and cost effectiveness.

SCALES TO HUNDREDS OF PETABYTES WITHOUT DISRUPTION OR DATA MIGRATION

Quantum's flexible durability policies enable configuration changes to add more storage or even to expand from single-site to multi-site configurations without disruptive data migration. Data will automatically be re-spread, as a background process, to accommodate the new configuration. Upgrading to new storage technologies is as simple as adding new storage nodes—Lattus redistributes the data seamlessly with no user impact. Disruptive technology refresh and data migration cycles are now a thing of the past.

DURABLE, SELF-HEALING PROTECTION

Lattus error correction algorithms provide extreme durability to ensure data is protected in the event of device failure and even site disaster. Lattus is self-healing: it continuously checks stored data for bit errors and corrects them on the fly. When failed drives are replaced or additional capacity is added, these algorithms redistribute data objects to make full use of the new storage capacity without disrupting access to data.

REDUCES CAPITAL AND OPERATING COSTS

The extreme durability of its algorithms protect every instance of data against component failure, and when Lattus is spread across multiple sites it also protects against site disaster. Therefore, replication is no longer needed, and demand for backup and DR storage is substantially reduced along with capital and operating expenses. Lattus' high level of redundancy eliminates the need for most unscheduled maintenance, so unlike RAID-based storage, drive failures do not require immediate operator attention for replacement.

HIGH PERFORMANCE, LOW LATENCY ACCESS

Quantum's appliance-based strategy enables Lattus to deliver predictable performance. High-speed access to data is available through Quantum file system technologies, including NAS access, StorNext® Storage Manager Integration, and native HTTP REST. Our 20-node base system can deliver 3GB per second throughput (subject to network bandwidth) and can scale up from there. This level of performance makes Lattus ideal for environments that need fast access to their content store.

FLEXIBLE AND EASY TO DEPLOY

Lattus has multiple base configurations to choose from—each with specific interfaces and capacity. From there, any interface option can be further added, and capacity and performance can be scaled independently. Dispersion algorithms can be tuned to spread the data across multiple sites to improve accessibility and availability.

FEATURES & BENEFITS

Extreme scalability
Scales from a hundred terabytes to hundreds of petabytes.

High-speed access
Low latency of disk storage yields predictably fast retrieval times.

Durable with self-healing
Offers extreme durability to ensure data is protected and virtually eliminate unscheduled maintenance.

Multi-geo support
Data may be spread across multiple, geographically dispersed sites more efficiently than competing solutions.

Self-migrating
Innovative algorithms simplify upgrades to new storage technologies. Disruptive technology refresh and data migration cycles are now a thing of the past.

Heterogeneous access
Data can be flexibly archived into Lattus via CIFS, NFS, StorNext Storage Manager or HTTP REST, including with Amazon S3 support.

Lower operational resources
Schedule drive replacements periodically versus immediately when they fail. Lower-power drives require less power and cooling.

> LEARN MORE:
www.quantum.com/lattus

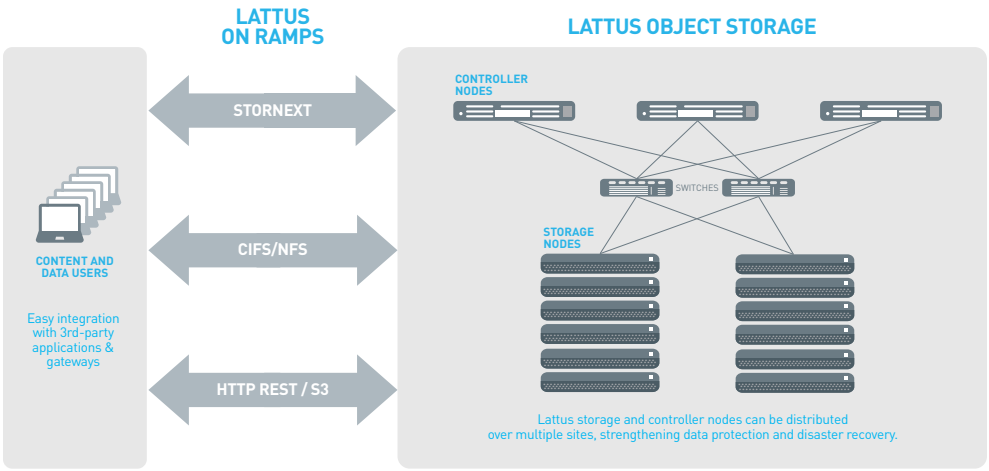

Figure 1 - Lattus on ramp options include StorNext, NAS, and HTTP REST (S3). These on ramps enable direct access to Lattus storage for a wide array of software and partner gateway and application solutions.

LATTUS SCALE-OUT ARCHITECTURE

C5 and C10 Controller Nodes

- Encodes data into objects and disperses them to the storage nodes
- Provides data access via HTTP REST
- 1U chassis

S20 Storage Nodes

- Extensible data/content storage
- Low power & cooling requirements
- 12 drives per node, with 48TB raw capacity per node
- Self-healing: checks for data integrity and repairs bit errors
- High density: 48TB in 1U chassis

A10 NAS Access Node

- CIFS and NFS file system access
- 400 million files per A10 Access Node
- In-memory and on-disk data caching for improved performance
- 2U chassis

LATTUS STARTING CONFIGURATIONS

LATTUS-M: WITH STORNEXT INTEGRATION

Ideal for large-scale environments that include multiple tiers of storage, from primary storage to active archiving to tape. Lattus-M extends StorNext File System environments by migrating files targeted for archive from primary storage to Lattus, while allowing users to retain access directly from the StorNext File System.

LATTUS-X: WITH NAS ACCESS

Designed for workgroups that require access to large repositories of content or large data sets. Lattus-X brings NAS access to this durable, scalable storage at a price appropriate for long-term storage. Files can be easily accessed via CIFS, NFS, or through the native HTTP REST. To make file access fast, Lattus A10 Access Nodes are built with a 12TB disk cache and an in-memory cache for predictably fast ingest and retrieval times.

LATTUS-D: CLOUD STORAGE FOR DATA PROTECTION

Its native HTTP REST interface is a perfect complement for software applications that want to leverage the power of cloud storage for low-latency, nearline access and long-term retention of unstructured data. By offloading unstructured data from primary storage to Lattus, backup applications no longer need to include that data in the backup process. This improves the efficiency of primary storage and reduces time and network load associated with backup operations.

	Base Systems				
	Lattus-D, 6-Node	Lattus-X, 6-Node	Lattus-M, 6-Node	Lattus-X, 20-Node	Lattus-M, 20-Node
C5 Controllers	3	3	3		
C10 Controllers				3	3
S20 Storage Node	6	6	6	20	20
A10 Access Controller		1		1	
Internal Switches	2	2	2	2	2
StorNext Storage Manager License Keys			Yes		Yes

MINIMUM CAPACITY

6-node base: 288TB Raw (189TB usable with 16/4 durability policy)
20-node base: 960TB Raw (673TB usable with 20/4 durability policy)

EXTERNAL INTERFACE

2 x 10GbE SFP+ ports per Lattus Controller Node

SECURITY

HTTPS, encryption-at-rest. A10 NAS gateway supports Active Directory.

MANAGEMENT AND REPORTING

Web-based management and reporting, automated e-mail alerts, SNMP

REDUNDANCY

Controllers, switches, power supplies and cooling on every node, Fountain Erasure Code object storage

ADDITIONAL COMPONENTS TO SCALE CAPACITY, PERFORMANCE & ACCESS

Lattus C10 Controller Nodes (1U) | Lattus C5 Controller Nodes (1U) | Lattus S20 Storage Nodes (1U) | Lattus-M Feature Keys for S20 Storage Node | Lattus A10 Access Nodes (1U) | Lattus S55 Rack Switches (1U) | Lattus S60 Rack Switches (1U) | Lattus System Switches (1U) | Lattus Interconnect Switches (1U) | Lattus 10GbE SFP for Lattus Switches | Lattus 200GB SSDs for the Lattus C10 Controller Node | Optional Lattus 45U Rack

BASE SYSTEM RATED CURRENT

6-node base: 11.0 amps @ 220V
20-node base: 22.2 amps @ 220V

BASE SYSTEM MAX POWER

6-node base: 2568 Watts
20-node base: 5144 Watts

BASE SYSTEM NOMINAL POWER

6-node base: 2139 Watts
20-node base: 4281 Watts

INPUT VOLTAGE

200 to 240VAC, 50 to 60Hz

To learn more about Quantum Lattus, please visit
www.quantum.com/lattus

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