QXS Hybrid Storage

> DATASHEET

Real-time, automated, intelligent systems providing flash speeds at a fraction of the cost

As businesses aim to achieve faster time-to-market and greater customer satisfaction, they look to IT to keep pace by providing a faster, more responsive infrastructure. This challenge is compounded by unrelenting data growth and ongoing pressure on IT budgets. IT leaders recognize that, all too often, storage is the bottleneck in their business. Many of today’s storage systems are either all-flash, which are fast but also very expensive, or lack robust data management, effective data protection, and the ability to expand seamlessly.

REAL-TIME, INTELLIGENT TIERING TO OPTIMIZE PERFORMANCE

Storage needs to be fast and accessible to ensure applications get the data when they need it, flexible to deal with extremely random data, and easily scalable to deal with the continual growth in data.

Traditionally, storage system tradeoffs have been between cost, manageability, reliability, and performance. Acquiring a storage system that had the performance needed was very expensive and often very difficult to manage. With less-expensive storage systems, performance was often not adequate and the reliability questionable.

Having a storage system that was high performing, highly reliable, easy to manage, and securely expandable while staying within budget was seen as a pipe-dream.

That is until now.

OPTIMAL COMBINATION OF PERFORMANCE, SCALE, FLEXIBILITY, AND ECONOMY

The Quantum QXS™ hybrid storage systems’ real-time, automatic, intelligent tiering, Q-Tier, enables 90% of all-flash performance at 30% of the cost. The QXS Q-Tools provide easy-to-use storage management capability, including thin provisioning and caching. With scalable, customizable configurations, QXS storage enables IT to achieve the perfect blend of flash and disk to meet all their requirements with respect to reliability, performance, and cost.

QXS hybrid storage is tuned for primary storage found in virtualized environments, media & entertainment, video surveillance, and large unstructured data environments. The ruggedness of QXS, NEBS Level 3, and MIL-STD-810G compliance, is a perfect solution for telecom and the military as well as other environments that have challenging working conditions or requirements such as autonomous car testing.

FEATURES & BENEFITS

Intelligent, Real-Time Tiering
Optimizes your storage investment by ensuring frequently accessed data is in the highest-performing storage.

Fast
Designed for demanding sequential I/O performance. QXS hybrid storage maximizes performance regardless of disk type or configuration.

NEBS and Mil-Spec Compliant
Designed to be rugged to ensure you have access to your data in less-than-ideal environmental conditions such as heat, dust, and challenging storage environments outside of the data center.

Reliability, Proven 99.999% Availability
Ensure your mission-critical applications always have access to data. QXS hybrid storage systems are designed with industry-leading, high-reliability specifications and no single point of failure.

Optimizing Your Budget
QXS provides 90% of all-flash performance at 30% of the cost.

> LEARN MORE: www.quantum.com/hybridstorage
# BUILDING BLOCKS FOR QXS ARCHITECTURE

## Performance

- QXS-3 entry level
- QXS-4 performance
- QXS-4 high performance

### Controller

- 4u56

### Chassis

- 2u48
- 2u24
- 2u12

### Drives

- 2.5” HDD
- 3.5” HDD
- SSD

Ensure you get the intelligence and connect speed you need.

Maximum storage capacity up to 1.9TB in the smallest array available in the market.

Mix SSD with HDD to achieve the optimal system, or use all SSD or all HDD.

## Capacity

## Flexibility

### QXS-3 Series

**BEST-IN-CLASS RELIABILITY AND HIGH AVAILABILITY**

- Dual R&D Controller (Active/Active)
- 2 Ports per Controller for maximum value
- Flexible Interface Options (FC)
- Easy to Set Up and Use with the RAIDstar 2.0 user interface
- Supported by MIL-STD-810G

### QXS-4 Series

**BEST-IN-CLASS PRICE/PERFORMANCE**

- Increased Bandwidth & ports per controller
- Hybrid Interface w/16G FC & 10G iSCSI
- Future-Proof for next-gen host interconnect
- Data Management Services (DMS) Support
- WIN 2012, SMS 5 Support
- Full Drive Encryption Capable
- Scale to 1.9TB

### QXS-6 Series

**HIGH PERFORMANCE**

- Increased Bandwidth & 4 ports per controller
- Hybrid Interface w/16G FC & 10G iSCSI
- Future-Proof for next-gen host interconnect
- Data Management Services (DMS) Support
- WIN 2012, SMS 5 Support
- Full Drive Encryption Capable
- Scale to 1.9TB

The QXS-458iM is an appliance designed exclusively for StorNext® environments that provides extended online archive for customers who have significantly less than a petabyte of data and/or would prefer to use disk instead of tape for archive. The QXS-458iM includes 400Gb controller with 40Gb Ethernet and 10GbE, Storage Manager Capacity 1 licensing and Storage Manager Scale 1 licensing. The appliance is available in 3 different capacity sizes:

- 224Tb raw capacity consisting of 16 TB 8 RPM NL SAS Storage Manager capacity license for 18TB
- 326Tb raw capacity consisting of 16 TB 8 RPM NL SAS Storage Manager capacity license for 27TB
- 438Tb raw capacity consisting of 16 TB 8 RPM NL SAS Storage Manager capacity license for 36TB

Ensures the most frequently used data is in the highest-performing storage. Constant background scanning for “hot” data with the “hot” data moved immediately.

Designed to Meet Industry Rugged Standards: NEBS Level 3 and MIL-STD-810G

## Tier: Real-Time, Intelligent, Automated

- Designed to Meet Industry Rugged Standards: NEBS Level 3 and MIL-STD-810G

**Contact:**

- Tel: 309.291.0966
- Email: info@AutonomousStuff.com
- Website: www.AutonomousStuff.com
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>2U-12 Drive</th>
<th>2U-24 Drive</th>
<th>2U-48 Drive</th>
<th>4U-56 Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QX5-3 SERIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Ports</td>
<td>4 FC, iSCSI, or 4-8 SAS Ports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Connectivity</td>
<td>16Gb, 8Gb Fibre Channel</td>
<td>10Gb, 1Gb iSCSI</td>
<td>12Gb SAS</td>
<td></td>
</tr>
<tr>
<td>Primary Capacity</td>
<td>96TB</td>
<td></td>
<td>48TB</td>
<td></td>
</tr>
<tr>
<td>Expanded Capacity</td>
<td></td>
<td>384TB</td>
<td></td>
<td>192TB</td>
</tr>
<tr>
<td>Read Performance</td>
<td>3.3GB/s Read</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write Performance</td>
<td>2.4GB/s Write</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported Drive Sizes</td>
<td>3.5&quot;</td>
<td>2.5&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported Drive Types</td>
<td>SSD, SAS 10K RPM, 15K RPM, and Nearline Drives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix SSD &amp; HDD</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QX5-4 SERIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Ports</td>
<td>8 FC, SAS, or iSCSI Ports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Connectivity</td>
<td>16Gb, 8Gb, 4Gb Fibre Channel</td>
<td>10Gb, 1Gb iSCSI</td>
<td>12Gb SAS</td>
<td>CNC Hybrid: 4 x iSCSI + 4 x FC</td>
</tr>
<tr>
<td>Primary Capacity</td>
<td>96TB</td>
<td></td>
<td>48TB</td>
<td>448TB</td>
</tr>
<tr>
<td>Expanded Capacity</td>
<td>768TB</td>
<td>384TB</td>
<td></td>
<td>1.9PB</td>
</tr>
<tr>
<td>Read Performance</td>
<td>6.4GB/s Read</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write Performance</td>
<td>5.3GB/s Write</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported Drive Sizes</td>
<td>3.5&quot;</td>
<td>2.5&quot;</td>
<td>3.5&quot;</td>
<td></td>
</tr>
<tr>
<td>Supported Drive Types</td>
<td>SSD, SAS 10K RPM, 15K RPM, and Nearline Drives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix SSD &amp; HDD</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QX5-6 SERIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller Ports</td>
<td>8 SAS</td>
<td></td>
<td>8 SAS</td>
<td></td>
</tr>
<tr>
<td>Controller Connectivity</td>
<td>12Gb SAS</td>
<td></td>
<td>12Gb SAS</td>
<td></td>
</tr>
<tr>
<td>Primary Capacity</td>
<td>96TB</td>
<td></td>
<td>448TB</td>
<td></td>
</tr>
<tr>
<td>Expanded Capacity</td>
<td>384TB</td>
<td></td>
<td></td>
<td>1.9PB</td>
</tr>
<tr>
<td>Read Performance</td>
<td>12GB/s Read</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write Performance</td>
<td>5.7GB/s Write</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported Drive Sizes</td>
<td>2.5&quot;</td>
<td>3.5&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supported Drive Types</td>
<td>SSD, SAS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix SSD &amp; HDD</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>