

Prism

Prism Storage Architecture

**HIGH AVAILABILITY, SCALABILITY AND CENTRALIZED
MANAGEMENT IN ONE LIBRARY SYSTEM**

FEATURES AND BENEFITS

- Scalable Prism options make for "plug and play" serviceability, eliminating expensive upgrades and library obsolescence
- Innovative technology that can quickly accommodate high growth of data and yet ensure safe back up and recovery
- Enhance manageability with library partitioning, SNMP integration, E-mail notification, and Web-based management
- Accommodates a wide range of needs from large data centers to workgroups to remote sites
- Based on the PCI bus, an industry-standard open architecture found in millions of PCs, workstations and servers
- Monitors critical system components and instantly reports anomalies
- Automatically alerts IT managers and Quantum|ATL Customer Support Help Desk (optional) of library errors or other events via e-mail before they adversely affect business operations
- Aids in the categorization of library events for easy monitoring. Includes notification of hard failures, configuration changes, operator access issues, soft errors and administrative updates
- Includes browser-based interface for ease of use and remote access
- Throughput scalability that accommodates advanced tape drive technologies such as Super DLTape™ and LTO Ultrium™

High Availability

Scalability

Centralized
Management



PRISM STORAGE ARCHITECTURE™

Prism Storage Architecture (Prism) provides the platform to easily and cost-effectively adapt data protection resources as technology rapidly changes. Unique to Quantum|ATL P-Series and M-Series libraries¹, Prism easily improves scalability, availability and manageability of enterprise data storage for corporate IT departments, while protecting critical data and reducing the total cost of library ownership. Whether the connectivity need is SCSI-based server attachment, Fibre Channel-based Storage Area Network (SAN) or Gigabit Ethernet-based Network Attached Storage (NAS), Prism delivers a flexible solution for large data centers, workgroups and remote storage locations. Prism options are easily added and are supported by leading industry storage vendors.

WIDE RANGE OF OPTIONS

Prism provides IT departments the ability to achieve storage management objectives and dramatically decrease network downtime and/or bottlenecks by offering a modular architecture featuring hardware and software that easily integrates into most Quantum|ATL libraries. Whether you need higher capacity and performance, or the ability to cost-effectively consolidate and manage your company's critical data, Prism allows customization of your library to fit your network storage needs. For example, a library can easily scale from SCSI to Fibre Channel (for Storage Area Networks) by simply plugging in a Fibre Channel interface card. Or if you require a cost-effective way to consolidate and manage your company's critical data in a centralized location, Prism provides a feature that partitions the library to support multiple heterogeneous platforms and hosts. Or if you require a tool to monitor your library's critical system components and be automatically alerted of any anomaly, Prism will provide the solution.²



FIBRE CHANNEL INTERFACE

INTEGRATED INTO LIBRARY ARCHITECTURE FOR TRUE MANAGEMENT

Plug any P-Series or M-Series library directly into a Storage Area Network (SAN) with Quantum|ATL's Fibre Channel interface options. Part of the family of Prism Storage Options, the Fibre Channel interface is a fully integrated SCSI-to-Fibre Channel router that transforms a SCSI-based library into a Fibre Channel library ready for integration into a SAN. The benefits of a SAN include the ability to consolidate storage into a shared, heterogeneous, highly available environment that moves storage functions from the servers to free up valuable bandwidth and eliminate bottlenecks. Quantum|ATL's Fibre Channel interface supports a full range of Fibre Channel topologies. Whether it's arbitrated loop, public loop or switched fabric, Prism Fibre Channel options will fully integrate your Quantum|ATL library into a SAN environment.

Quantum | ATL

FULLY INTEGRATED FIBRE CHANNEL

Unlike other library providers, Quantum|ATL's Fibre Channel interface is tightly coupled within the internal library architecture allowing the user to take full advantage of high availability features while sharing a consolidated user interface and network management system with the rest of the library.

HIGH PERFORMANCE OVER EXTENDED DISTANCES

The Prism Fibre Channel interface enables the tape drives in your library to operate at maximum performance even to remote locations assuring the high throughput needed for rapid data recovery and

backups. With overall performance of up to 240 megabytes per second per interface card, the Fibre Channel option offers the best performance boost possible. Depending on your Fibre Channel topology, the Fibre Channel option boosts performance while supporting distances of up to 500 meters to the nearest switch or host.



ENHANCED FEATURES

To further increase system availability and reduce overall storage costs, Quantum|ATL's Prism Storage Architecture enables additional functionality to be configured on Quantum|ATL Fibre Channel-based libraries. The features include **Xcopy³** (Extended Copy Agent) for serverless backup to enable data to move directly from devices on the SAN to the library. The process significantly enhances backup performance while relieving most processing requirements from application servers. The **Port Failover³** option provides robust, RAID-like high availability for your library's Fibre Channel interface via duplicate Fibre Channel ports served by the same hosts. A redundant Fibre Channel port becomes active during failure of the primary port or a switch failure. In the event of a path failure, this option ensures that backup and restores continue unabated.

SAN CERTIFIED FOR ENHANCED INTEROPERABILITY

Quantum|ATL's SAN Certification Lab extensively tests, certifies and documents popular SAN hardware and software combinations with Quantum|ATL products to aid customers in successful library SAN implementations. Consulting your Quantum|ATL representative before you begin planning a SAN implementation will save significant time and money.

PRISM ALERT NOTIFICATION

LIBRARY MONITORING AND REMOTE MANAGEMENT MADE EASY

Centrally monitor and manage your Enterprise P-Series or M-Series library with Quantum|ATL's **Active Library Event Reporting Tool (ALERT)**. Part of the family of Prism Storage Options, ALERT Notification provides real-time monitoring of critical library components. ALERT Notification is a versatile solution that provides an easy way for IT managers to configure Quantum|ATL libraries to provide instant notification of library

anomalies. ALERT Notification becomes a fundamental part of reducing management labor and costs by decreasing downtime and providing an opportunity to instantly respond to issues before they adversely affect business operations.

THE INTELLIGENCE BEHIND PRISM

The Prism Management Card (PMC) is an intelligent server card that plugs directly into selected Quantum|ATL libraries and is the enabling element for many Prism options. The PMC consists of a single-board server powered by high-performance, industry-standard Intel® technology. Designed to plug easily into the library, the PMC is a powerful enabler for existing and future functionality. Included with the PMC, Quantum|ATL's Management Console is an-easy-to-use, yet powerful Web-based interface that enables authorized IT staff to configure and manage all Prism storage options from behind a firewall or remotely from anywhere on the Internet.

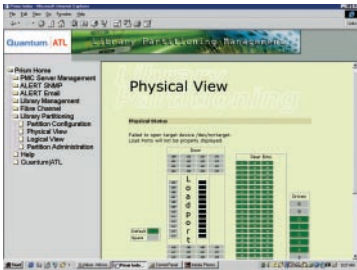


E-MAIL NOTIFICATION

For fast, direct communication of a library event, ALERT Notification includes a direct e-mail reporting feature. This highly flexible tool can report a wide range of events to a predetermined individual or a group of individuals. For IT managers who need remote notification of library events, messages can be easily routed to pagers or cell phones. If desired, the e-mail notification feature can be configured to notify Quantum|ATL's Customer Support Help Desk to initiate on-site service calls for specific hard failure events. The notification events include hardware failures, operator access, configuration changes, and soft errors.

INTERFACES WITH MAJOR NETWORK FRAMEWORKS

ALERT Notification further simplifies library management by interfacing with major network management applications such as Computer Associates Unicenter TNG® and HP OpenView®. This allows administrators to utilize Simple Network Management Protocol (SNMP) to manage the library with all of the other information processing elements of their enterprise.



An example of how library drives and bins are partitioned using the Prism Management Console.

LIBRARY PARTITIONING
CENTRALIZE THE SUPPORT OF MULTIPLE HETEROGENEOUS PLATFORMS AND APPLICATIONS

With the rapid growth of IT infrastructures and the merging of IT departments, today's real world environments include a heterogeneous mix of hosts, applications and legacy systems. Managing such an environment can prove to be a challenge for any IT manager. Quantum|ATL's Library Partitioning Option provides an excellent opportunity for IT managers to consolidate and centralize the management of this heterogeneous environment by allowing the partitioning of a single library into multiple virtual libraries.⁴

PRISM FEATURE OVERVIEW

LIBRARY	FIBRE CHANNEL	LIBRARY PARTITIONING	ALERT NOTIFICATION
M1500	Yes, FC310 ³	No	Yes ³
P1000	Yes, FC210 and FC310 ³	No	Yes ³
P2000	Yes, FC230	Yes, FC & SCSI	Yes
P3000	Yes, FC230	Yes, FC & SCSI	Yes
P6000	Yes, FC230	Yes, FC & SCSI	Yes

Prism Storage Architecture

FULLY INTEGRATED WITH LIBRARY ELECTRONICS

Designed to integrate with the PMC and Prism Fibre Channel interface, the Library Partitioning Option allows the IT administrator to allocate the library drives and bins to a dedicated set of hosts/applications. This option is both cross-platform and cross-application compatible allowing the ability to leverage a library investment to its fullest potential. Via the Prism Management Console, an easy-to-use, yet powerful Web-based interface, IT administrators can add or delete partitions as needed.



Quantum|ATL's Library Partitioning Option allows for lower total cost of ownership by consolidating a heterogeneous environment and enabling the ability to leverage a library investment to its fullest by spreading the cost across multiple platforms. In addition, it provides the ability to centralize and simplify administration efforts allowing for reduced staffing requirements.

BROAD INDUSTRY SUPPORT

Hardware and software vendors throughout the storage industry have recognized the importance of Prism's open architecture. Through the Prism Alliance, storage industry leaders have partnered with Quantum|ATL to ensure the joint development and support of an extensive range of certified solutions including Fibre Channel hubs and switches, host bus adapters, bridges and routers along with a wide range of software application support. Quantum|ATL's Certification Lab tests and certifies all Prism storage options to ensure compliance with industry standards and compatibility with industry leading products.



WORLDWIDE SERVICE AND SUPPORT

All Prism storage options include a competitive worldwide warranty and service options designed to fit the needs of a rapidly growing company. We provide fully trained and certified Quantum|ATL service technicians across the globe. Special services include pre-installation consulting for SANs and/or Prism storage options, on-site customized service plans and SiteCare™, a proactive service and training offering.

ABOUT QUANTUM|ATL

Quantum|ATL is a worldwide market leader in the design, manufacture and service of automated tape libraries used to manage, store and transfer data in enterprise networked computing environments. Quantum|ATL's objectives are to fulfill our customer's needs for storage growth and support, while providing the security that comes from reliable products. Our DLTape and LTO Ultrium library systems are sold worldwide through direct sales, original equipment manufacturers (OEM) and an extensive network of authorized resellers and distributors. Headquartered in Irvine, California, Quantum|ATL operates one of the world's largest manufacturing facilities for automation technology and complies with ISO 9001 quality system standards. Sales and service are provided throughout major cities in North America, Latin America, Europe and Asia. For additional information, please visit our website at www.QuantumATL.com

PRISM FIBRE CHANNEL SPECIFICATIONS

	M1500/P1000	P1000	P2000/P3000/P6000
Fibre Channel Interface	FC310 ³	FC210	FC230
Fibre Channel Ports	1	1	3
SCSI Ports	2	2	4
Number of Tape Drives per Router Board	4	4	8
Router Boards per Library (min/max)	1/1	1/1	1/4
Fibre Connection Type	Multimode, SC	Multimode, SC	Multimode, SC
GBIC Interconnect	No	No	No
SCSI Bus Type	LVD	HVD, LVD-SE	HVD, LVD
Form Factor	1-slot PCI	2-slot PCI	1-slot CPCI
Arbitrated Loop Topology	Yes	Yes	Yes
Public Loop Topology	Yes	Yes	Yes
Switched Fabric Topology	Yes	No	Yes
Maintenance Serial Port	Yes, 1 Max. Baud: 115,200	Yes, 1 Max. Baud: 9,600	Yes, 1 Max. Baud: 115,200
Management	Primary: Serial Secondary: Ethernet	Primary: Ethernet Secondary: Serial	Primary: Serial Secondary: Ethernet
Performance per Router Board:			
HVD SCSI	N/A	40MB/sec	160 MB/sec
LVD SCSI	80 MB/sec	40MB/sec (SE Only)	240 MB/sec
Pass-Through Support	Yes	No	Yes
Port Failover ³	No	No	Yes
Xcopy for Serverless Backup ³	Yes	No	Yes

PRISM MANAGEMENT CARD SPECIFICATIONS

Bus Interface	Compact PCI Bus: PCI Specification Rev. 2.1 compliant, 32-bit, 33 MHz
Ethernet	Controller: Two Intel 82559 PCI Bus Master: Yes, with PCI burst
Supervisory	Reset Switch: Guarded Indicator LED: Power OK (green), disk activity (green), watchdog alarm (red), Ethernet link (green), Ethernet activity (amber)
Dimensions	6U, 8HP wide (233mm x 160mm x 40.64mm), conforms to PICMG Compact PCI 2.1 and PCI SIG 2.1 specifications
Electromagnetic Interference Agency Compliance	Intended for use in systems meeting the following regulations: U.S.: FCC Part 15, Subpart B, Class A (non-residential) Canada: ICES-003, Class A (non-residential) This product was tested in a representative system to the following standards: CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN50082-1

1 M-Series libraries include the M1500. P-Series libraries include the P1000, P2000, P3000, and P6000.

2 Some features may not be available for all library models or may be available at a later date. Please contact your Quantum|ATL representative for details.

3 Contact your Quantum|ATL representative for availability.

4 For a Fibre Channel-based library, the maximum number of virtual partitions is dependent upon the number of tape drives within the library. A SCSI-based library can have up to three virtual partitions.

The logo features a purple square in the top-left corner. A white semi-circle is positioned between the square and the text. A black arc is drawn over the semi-circle, and a horizontal line extends from its right end across the top of the page.

Prism

Prism Storage Architecture



For more information about Prism or Quantum|ATL's suite of products, please visit our website at www.QuantumATL.com

Unylogix Technologies Inc.

Tel: (514) 253-5200
email: info@unylogix.com

web site: www.unylogix.com

Quantum | ATL

Quantum|ATL maintains offices throughout the
USA, Europe and Asia

© 2001 Quantum|ATL. Prism Storage Architecture and SiteCare are trademarks of Quantum|ATL in the United States and other countries. DLTape and Super DLTape are trademarks of Quantum Corporation. LTO and Ultrium are U.S. trademarks of HP, IBM and Seagate. All other trademarks are the property of their respective companies. Specifications are subject to change without notice.

DS00022 Apr 2001