

ATTO TECHNOLOGY TECHNICAL SPECIFICATIONS



The ATTO FibreBridge 7500 Storage Controller allows the addition of Enterprise Fibre Channel to SAS SSD and HDD storage with all the benefits of capacity aggregation and ATTO Acceleration Technology.

Technical Features

- Connects (2) 16Gb Fibre Channel SFP+ ports to (4) x4 12Gb mini-SAS connectors
- Adds Enterprise Fibre Channel features to up to 240 SAS SSD or HDD devices
- Creates a very low latency, high performance storage solution
- intelligent Controller Architecture provides optimized performance, flexibility of features and leverages proven software components for storage solutions
- Patented Drive Map Director™ simplifies Fibre Channel LUN installation and reduces maintenance costs for storage
- ATTO Acceleration Technology improves performance of small block transfer sizes with an optimal profile for transactional environments
- ATTO control processing provides intelligence and features not found in direct attached technologies to add functionality for improved productivity
- Built-in PCIe analyzer to analyze I/O paths for performance optimization by viewing commands in flight
- Management capable through RS-232, Ethernet or in-band via Fibre Channel
- Available in standard 1U 19" rackmount
- 1 year standard product warranty

Available to OEMs only

ATTO FibreBridge™ 7500

16Gb Fibre Channel to 12Gb SAS Storage Controller

Performance Engineered

The FibreBridge 7500 is the latest in a line of ATTO products with an advanced architecture that pushes the envelope on performance adding less than 4 microseconds of latency to storage. With a 10x order of magnitude improvement over previous generations of ATTO Controllers, the FibreBridge 7500 is primed for use in data center topologies maximizing the number of transactions from up to 240 direct attached SSD and HDD devices to a high performance Fibre Channel SAN. ATTO FibreBridge products provide industry leading performance with value added features that have addressed customer connectivity needs for over 25 years.

Enterprise-class Management and Monitoring for Direct Attached Storage

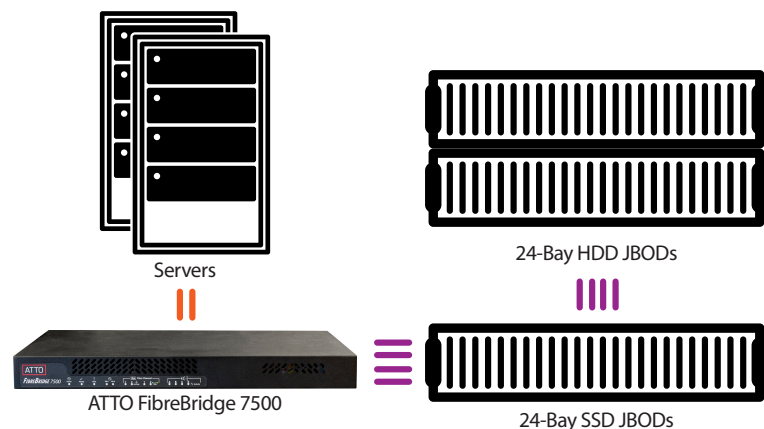
The FibreBridge enables users to manage storage infrastructures with features not found in direct connect technologies. ExpressNAV™ System Manager is a remote management interface for configuration, monitoring and management of ATTO Storage Controllers. Advanced tuning and troubleshooting features include a built-in PCIe analyzer, performance monitoring, diagnostic and troubleshooting capabilities, phone home notification and robust trace and event logging. Several available management interfaces include GUI, CLI, Telnet, SNMP and FTP.

Data Center Ready For Reduced Maintenance Costs

ATTO's Storage Controller products are engineered to lower data center maintenance costs and comply with international regulations while delivering high performance and low latency. FibreBridge products save up to 25% in power over using native Fibre Channel components and feature a front to rear cooling flow to integrate with cooling systems that expel heat from the data center.

Industry Leading Support

ATTO's ongoing support provides peace of mind that integrated customer solutions will make it to market on time. During the product lifecycle, vendor response can be critical to the success of a solution. ATTO has dedicated program management with an escalation process and a guaranteed response time. ATTO also provides regular firmware updates and maintenance programs to keep up with advances in technology.



ATTO

www.attotech.com

ATTO FibreBridge™ 7500

16Gb Fibre Channel to 12Gb SAS Storage Controller

Acceleration Technology

ATTO Acceleration Technology maximizes parallel processing of host-to-storage data flow to achieve the lowest latency for transactional workloads and the highest throughputs for stream processing. This approach radically improves performance with no features or services in the data path to slow down data transfers. This acceleration technology works in conjunction with the proven, reliable control functions of ATTO's intelligent Controller Architecture to create a unique controller that increases performance, reduces latency and lowers data center maintenance costs.

- Eliminates bottlenecks with parallel processing for up to a 10x performance improvement over standard SAN storage
- Maximizes large block transfer sizes from Fibre Channel to SAS/SATA devices for optimal streaming performance (MB/s)

OEM Customization

- Hardware configuration options allow for unique board ID to define initialization and characteristics of the OEM product
- Built on highly reliable architecture with an extremely low fallout rate in terms of manufacturing with a negligible field failure rate
- OEM configuration files store OEM specific parameters in NVRAM which enable features, product naming and look and feel of the user interface for the OEM product
- Product labeling allows OEM logo and naming to appear on the front of the rack mount enclosure and GUI

Storage Controller Features

- Performance-critical commands and all reads/writes are accelerated in hardware
- End-to-end data protection in the Acceleration Technology and control functions to safeguard data throughout the controller and also enables max login management capabilities
- Proven and time-tested Universal Virtual Device Architecture (UVDA) which supports protocol conversion between hosts and targets and is designed to move data quickly and efficiently
- Virtual Device Manager (VDM) is a proprietary software architecture that assures the smooth flow of data. VDM minimizes overhead by creating a virtual link between initiators and targets on a per-command basis
- Platform has common services such as multi-initiator access, reservations and vendor specific SCSI commands that are applied to all attached enclosure and disk devices
- Maintains priority for data transfers while providing management of memory and cooperative multi-tasking capabilities

Connectivity

Fibre Channel Connections:

- (2) 16Gb SFP+ Fibre Channel connectors
- Optical SFP+ modules included
- Auto negotiates to 16Gb/8Gb/4Gb
- Full support for FC-AL, FC-AL2, FC-FLA, FC-FS, FCP-3, FC-PLDA
- Fibre Channel retry logic for FLOGI, PLOGI

SAS Connections:

- (4) 12Gb x4 mini-SAS HD connectors
- Auto negotiates to 12Gb/6Gb/3Gb
- Supports SAS and SATA flash SSD storage
- Supports SAS and SATA disk devices

Management Tools

- Web based ExpressNAV™ System Manager
- Local diagnostics supported via Command Line Interface (CLI) via RS-232 and Ethernet
- Monitor SCSI Enclosure Services (SES) information provided by attached enclosures
- Persistent Event Log gathers at least 40,000 hardware, software and network events
- Retrieve event logs in-band or through the Ethernet port
- Dual firmware image support for protection from firmware update failures
- Performance and temperature monitoring
- Phone home email notification of errors
- Core dump error analysis
- Drive Map Director
- SNMP, SNTIP, Telnet, FTP, ICMP



ATTO FibreBridge™ 7500

Input Connectors	(2) 16Gb Fibre Channel (SFP+)
Output Connectors	(4) 12Gb mini-SAS HD (x4)
Architecture Latency	<4 microseconds
Initiators	Up to 64 supported
SAS/SATA disks supported	Up to 240
Memory Type	ECC
Form Factor	1U Rackmount
Power Supplies	2
Power Supply Type	Hot Swap
Product SKU	FCBR-7500-DPS

Data Routing Fabric Topology

Incorporates advanced ASIC, firmware and interface technologies that enable users to fine tune ATTO controllers for specific applications.

- ATTO Embedded Operating System (AEOS) provides an integrated, multitasking environment that self optimizes to changing I/O patterns for maximum performance while maintaining priority for data transfers.
- Standard READ BUFFER commands allow the collection of inquiry data, event logs, port statistics, phy statistics, SFP and SAS connector information, trace log, core dump, configuration and status information.
- WRITE BUFFER commands are also supported to update controller firmware, clear the event log, clear Fibre Channel and SAS port and phy statistics and to also write a message to the event log.

Product Dimensions

- Height 1.735" - Length 9.90" - Width 17.31"
- Weight 9.7 pounds (unboxed) 12.9 pounds (boxed)

Operating Environment

Controller Operation:

- Temperature 5 to 40° C at 10,000 feet
- Humidity 10 to 90% non-condensing

Controller Storage:

- Temperature -40° to 70° C
- Humidity 5 to 95% non-condensing

Power and Airflow

- Input 85-264 VAC, 1A, 47-63 Hz
- 11 CFM (Ambient Air not to exceed 40° C)
- Front to rear cooling

Agency Approvals and Compliance Safety:

- EN 60950, CSA 60950, CB IEC 60950-1, UL
- 60950, BSMI

Electromagnetic Compatibility (EMC):

- FCC Part 15 Class A, CE, VCCI, AS/NZS, CISPR
- 22, EN55022: 2006, Class A, EN55024, EN61000
- RoHS Compliant 2011/65/EU
- Battery-free design