

ATTO TECHNOLOGY TECHNICAL SPECIFICATIONS



The ATTO FibreBridge 7600N bridge 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) 32Gb 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
- Auto negotiates to 3, 6 & 12Gb SAS
- Auto negotiates to 8, 16 & 32Gb Fibre Channel
- Creates a very low latency, high performance storage solution
- intelligent Bridging Architecture™ provides optimized performance, flexibility of features and leverages proven software components for storage solutions
- ATTO xCORE acceleration technology improves performance of small block transfer sizes with an optimal profile for transactional environments
- Management capable through RS-232, Ethernet or in-band via Fibre Channel
- Dual hot swap power supplies
- Available in standard 1U 19" rackmount
- 1 year standard product warranty

ATTO FibreBridge® FC 7600N

32Gb GEN 6 FIBRE CHANNEL TO 12Gb SAS BRIDGE

Performance Engineered

The FibreBridge® 7600N is the latest in a line of ATTO products with an advanced architecture that pushes the envelope on performance adding less than four microseconds of latency to storage. With a 10x order of magnitude improvement over previous generations of ATTO Controllers, the FibreBridge 7600N 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 28 years.

xCORE Acceleration Processor

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 Bridging Architecture™ to create a unique controller that increases performance, reduces latency and lowers data center maintenance costs.

Easy-to-use Management Tools

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.

Direct Attached SAS Storage on the SAN

The FibreBridge provides the lowest cost per drive for Fibre Channel connectivity to SAS storage. Adding Fibre Channel connectivity to SAS devices gives this storage all the benefits provided by a SAN that SAS storage cannot natively provide. ATTO provides regular firmware updates and maintenance programs to keep the FibreBridge up to date with advances in technology.



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32Gb GEN 6 FIBRE CHANNEL TO 12Gb SAS BRIDGE

BRIDGE 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) 32Gb SFP+ Fibre Channel connectors
- Optical SFP+ modules included
- Auto negotiates to 32Gb/16Gb/8Gb
- 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 flash SSD storage
- Supports SAS disk devices

MANAGEMENT TOOLS

- Web based ExpressNAV™ System Manager
- Local diagnostics supported via Command Line Interface (CLI) via RS-232 and Ethernet
- 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
- Support for Host-Bridge Time Synchronization through standard SET TIMESTAMP/REPORT TIMESTAMP commands
- Managed Error Recovery of drives and enclosures
- Core dump error analysis
- SNMP, SNTP, Telnet, FTP, ICMP, DHCP

DATA ROUTING FABRIC TOPOLOGY

Incorporates advanced FPGA, 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 OPERATIONS:

- 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, 0.5A, 47-63 Hz
- 11 CFM (Ambient Air not to exceed 40° C)
- Front to rear cooling

AGENCY APPROVAL 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



ATTO FibreBridge®	7600N
Input Connectors	(2) 32Gb Fibre Channel (SFP+)
Output Connectors	(4) 12Gb mini-SAS HD (x4)
Architecture Latency	<4 Microseconds
Max 4K IOPS	1.2M
SAS Devices Supported	240
Memory Type	ECC
Form Factor	1U Rackmount
Power Supplies	2
Power Supply Type	Hot Swap
Product SKU	FCBR-7600-DN1