

ATTO TECHNOLOGY TECHNICAL SPECIFICATIONS



ATTO XstreamCORE® ET storage controller adds Ethernet connectivity to SAS JBOD, JBOF, RAID and tape storage to provide remote connectivity, sharing and common services with minimal added latency.

TECHNICAL FEATURES

- Connects two 40 GbE ports to four X4 12Gb mini-SAS connectors
- Integrates with up to 960 devices* per controller
- Individually map drives to a host or multiple drives to multiple hosts
- Uses iSER (iSCSI extensions for RDMA) for deterministic latency over Ethernet
- ATTO's hardware accelerated iSCSI maximizes interoperability
- SpeedWrite™ technology improves SAS tape write performance up to 20%
- Adds less than two microseconds of latency
- ATTO eCORE offload processor virtualizes a common set of services and features
- ATTO Drive Map Director™ simplifies mapping and reduces maintenance costs for storage
- ATTO Data Mover technology improves storage performance while reducing compute, memory and network utilization
- Management capable through RS-232, USB, Ethernet or in-band

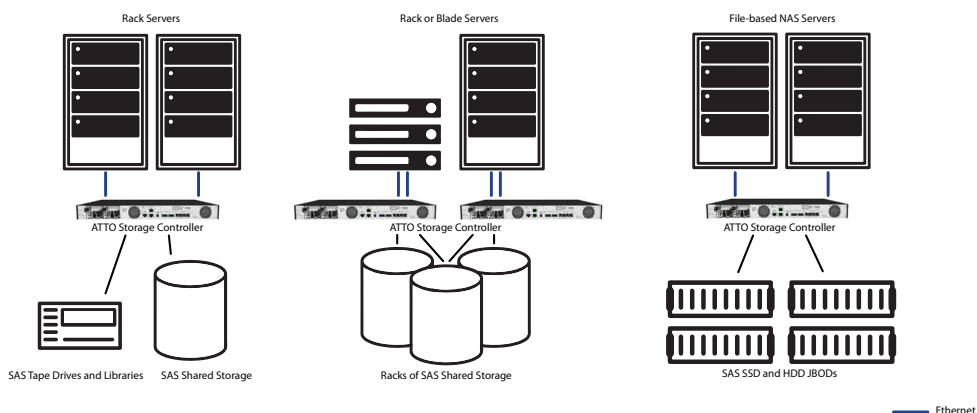
*For qualified customers

ATTO XstreamCORE® ET 8200

40Gb ETHERNET TO 12Gb SAS STORAGE CONTROLLER

EXTEND THE REACH OF STORAGE FROM SERVERS

ATTO XstreamCORE® storage controllers act as external adapters adding a common set of services and features to SSD- and HDD-based JBOD, JBOF or RAID storage and SAS tape devices. XstreamCORE then remotely shares this storage over long or short distances using high speed Ethernet technology. Use cases for these controllers include the remoting of storage from servers or other storage mediums over an Ethernet network, sharing a pool of high-speed flash to multiple Ethernet connected systems, and connecting SAS tape over Ethernet networks. Storage can be disaggregated from servers to independently scale compute and storage.



ENGINEERED TO PROVIDE DETERMINISTIC LATENCY

Higher storage latency slows real-world performance, while server-based storage architectures depend on general purpose processors to transfer data, manage storage and add services and features to storage. When services and features are added, the CPU has to process each command in software which increases overall latency. ATTO XstreamCORE features a more efficient architecture that separates data traffic from services, removing any non-data request from the data path to maintain a consistent level of latency and performance.

ATTO xCORE HARDWARE DATA ACCELERATION

ATTO developed xCORE acceleration processor to handle the majority of I/O operations in a hardware processing pipeline without software intervention. xCORE manages all I/O, command routing and decoding, buffer allocation, reservations, access controls and provides real time data analytics. Any exception is off-ramped to eCORE control engine to manage commands which do not require acceleration. xCORE technology enables XstreamCORE to achieve up to 1.1M 4K IOPS or 6GB/s throughput with iSER per controller while adding a consistent sub two microseconds of latency.

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ATTO xCORE ACCELERATION PROCESSOR

ATTO xCORE data acceleration technology features multiple parallel I/O acceleration engines with end-to-end I/O processing, hardware buffer allocation management and real-time performance and latency analytics.

- 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
- Eliminates bottlenecks with parallel processing for up to a 10X performance improvement over standard protocol conversion
- Maximizes large block transfer sizes from Ethernet to SAS/SATA devices for optimal streaming performance (GB/s)

ATTO eCORE OFFLOAD PROCESSOR FOR MANAGEMENT AND STORAGE SERVICES

ATTO eCORE control engine technology provides command processing for management services, storage services and integration with third party IP. eCORE has full access to all on-chip resources to add common, open storage services, storage routing, diagnostics, one pane of glass interfacing and host mapping functions while managing all performance metric reporting and data mover functions. With direct access to hardware drivers and enclosure management I/O signals and busses, eCORE is an efficient tool that virtualizes services and features.

- Provides common services such as multi-initiator access, data mover, reservations and vendor specific commands
- Maintains priority for data transfers while providing management of memory and cooperative multi-tasking capabilities

OEM CUSTOMIZATION

- Hardware configuration options allow for unique board ID to define initialization and characteristics of the OEM product
- eCORE capabilities can be extended with ATTO OEM integration programs to take advantage of available ATTO XstreamCORE® ARM processing cores and a Linux based operating system to add OEM IP for unique features

CONNECTIVITY

ETHERNET CONNECTIONS:

- Two 40Gb optical Ethernet connectors
- Supports iSCSI Extensions for RDMA (iSER)
- Supports ATTO hardware accelerated iSCSI
- DHCP, IPv4
- Auto negotiates to 40Gb/10Gb

ETHERNET SPECIFICATIONS:

- IEEE 802.3ba, 802.3ae, 802.3az, 802.3ap, 802.3ad, 802.1Q, 802.1p, 802.1Qau, 802.1Qaz, 802.1Qbb, 802.1Qbq

SAS CONNECTIONS:

- Four 12Gb x4 mini-SAS HD connectors
- Auto negotiates to 12Gb/6Gb/3Gb
- Supports SAS and SATA devices

SAS SPECIFICATIONS:

- SAS-1.1, SAS-2, SAS-3

MANAGEMENT TOOLS

- ATTO XstreamVIEW™ system manager GUI
 - SNIA Swordfish™
 - DTMF Redfish
- 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
- Dual firmware image
- Performance and temperature monitoring
- Real time performance metrics
- Identify devices by LED indicators
- Core dump error analysis

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 port and phy statistics and to also write messages 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 (EXPECTED):

- Temperature 5 to 40° 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 100-240 VAC, 1.0A 50-60 Hz
- 11 CFM (Ambient Air not to exceed 40° C)
- Front to rear cooling

AGENCY APPROVALS AND COMPLIANCE

SAFETY:

- 60950, BSMI, cTUVus

ELECTROMAGNETIC COMPATIBILITY (EMC):

- FCC Part 15 Class A, CE
- RoHS Compliant 2011 /65/EU
- Battery-free design

AVAILABLE FORM FACTORS

- 1U Rackmount



ATTO XstreamCORE® ET	Ethernet Family
Input Connectors	(2) 40Gb Ethernet
Output Connectors	(4) 12Gb mini-SAS HD (x4)
Architecture Latency	< 2 microseconds
SAS/SATA disks supported	Up to 960 per controller*
Tape Drive Support	Yes
Optical Drive Support	Yes
Memory Type	ECC
Form Factor	1U rackmount
Power Supplies	2
Power Supply Type	Hot Swap
Product SKU	XCET-8200-002
Tape Only SKU	XCET-8200-TA2

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