# ATTO

**The Power Behind the Storage**

*Edition No.1*

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**ATTO Technology, Inc.**

**www.atto.com**

**ATTO**

**The Power Behind the Storage**

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## ATTO now shipping 32Gb Gen 6 Fibre Channel HBAs

**137% more throughput than competitive HBAs**

For all your low-latency, high-throughput data transfer needs, ATTO Technology, Inc., proudly offers a full line of Celerity™ 32Gb Gen 6 Fibre Channel host bus adapters (HBAs), continuing ATTO's promise of having the broadest portfolio of connectivity solutions for the IT and Media and Entertainment industries.

ATTO's Fibre Channel technology:
- Features proprietary Advanced Data Streaming (ADS™) technology for the lowest latency and MultiPath Director™ for failover and load balancing protection

- Boasts 137% more throughput than competitive HBAs

- Has been developed over more than 20 years, making it a proven and trusted choice in the industry

Celerity 32Gb Gen 6 HBAs are available in single- and dual-port configurations. If 32Gb Fibre Channel isn't what you need, ATTO also offers 16Gb Gen 6 HBAs in single-, dual- and quad-port options. Our engineers have unmatched interconnectivity expertise, which makes them well equipped to handle your design and business goals. ATTO's Gen 6 Fibre Channel HBAs continue to help you realize the full potential of your storage solution so you don't have to worry about delays in data transfers.

For more information, go to ATTO's Celerity page.

Across the full range of file transfer sizes tested, ATTO outperformed the competition in a Windows server environment by a sizable margin.
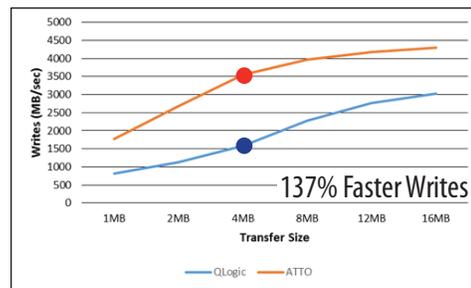


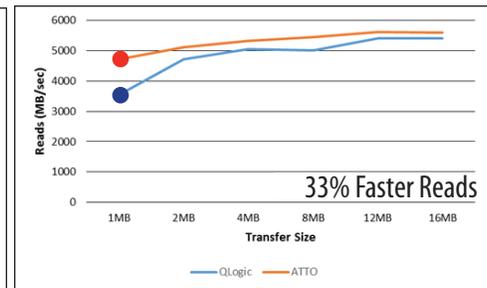Figure 1 - ATTO 32Gb/s HBA offer up to **137% better writes** than QLogic 32Gb/s HBA (100% Writes)

Figure 2 - ATTO 32 Gb/s HBA offer up to **33% better reads** than QLogic 32Gb/s HBA (100% Reads)

https://www3.atto.com/custom/d/273914/Benchmark-Celerity-vs-QLogic.pdf

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## ATTO introduces XstreamCORE™ storage controllers

**Supports up to 960 flash devices while adding less than four microseconds of latency**

Stretch clusters are an important tool for institutions that need to have two sets of the same data in different locations, or need easy access to a shared pool of storage. The best way to build a stretch cluster is with ATTO Technology's new XstreamCORE™ storage controller, a plug-and-play solution designed specifically for data-intensive environments.

XstreamCORE storage controllers use two new technologies for seamless integration into storage infrastructures. xCORE Data Acceleration enables very high, reliable throughput and IOPS while adding less than four microseconds of latency. The eCORE Control Engine adds value to flash storage while providing tight integration with server-based software.

**XstreamCORE offers:**

- Embedded programs to easily integrate XstreamCORE into your products or solutions

- 6.4GB/s throughput for accelerated reads and writes

- Open, modular design to integrate or build data infrastructure with JBODs or JBOFs

Build a stronger data infrastructure with XstreamCORE. Learn more at https://www.atto.com/landing/XstreamCORE.

| Product: | Transfer Rate: | 4k IOPS: | Input Connectors: | Output Connectors: |
|---|---|---|---|---|
| XstreamCORE FC 7550 | 6000MB/s | 1,200,000 | 4 16Gb FC | 4 (x4) 12Gb SAS |
| XstreamCORE FC 7500 | 3200MB/s | 735,000 | 2 16Gb FC | 4 (x4) 12Gb SAS |

https://www.atto.com/products/storage-controllers/xstreamcore

www.atto.com

# NEW CERTIFICATIONS

## ATTO Technology certifies Celerity™ Gen 6 products with Quantum® and NetApp®

ATTO Technology, Inc. is happy to announce certified compatibility for Celerity™ Gen 6 products and the MultiPath Director™ driver. ATTO is now certified with Quantum's QXS series and with NetApp's E-Series storage area network (SAN) solutions. Interoperability solutions with ATTO and Quantum or NetApp can be used for high-end servers, where ATTO's exclusive multipathing technology ensures big data environments operate smoothly. This latest line of certifications signal strong continuing partnerships with Quantum and NetApp, as well as ATTO's commitment to enhancing solutions for all users.

See more here.

| ATTO Products | Partner | Partner Product |
|---|---|---|
| Celerity 32Gb/s Gen 6 HBA | Quantum | QXS Series |
| Celerity 32Gb/s Gen 6 HBA | NetApp | E-Series SAN Solution |
| Multipath Director | Quantum | QXS Series |
| Multipath Director | NetApp | E-Series SAN Solution |

# PRESS RELEASES

## ATTO Technology announces support for Windows Server 2016

**Powering the shift to virtualized data centers with the latest Microsoft enterprise offering**

https://www.atto.com/corporate/news/289/ATTO-Technology-announces-support-for-Windows-Server-2016

## ATTO Technology's New 32Gb Gen 6 Fibre Channel HBAs Power Facilis® TerraBlock Storage

**Higher performance, low latency solution combines Fibre Channel speed with hybrid storage flexibility**

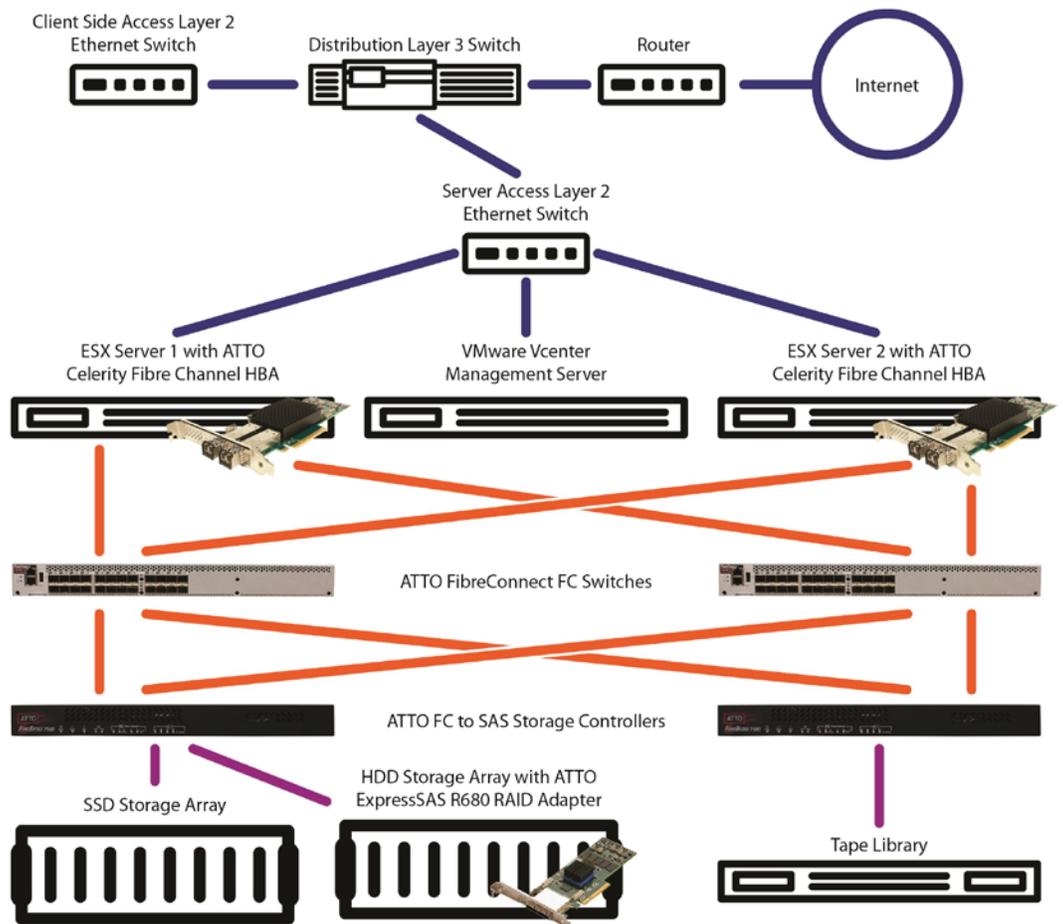https://www.atto.com/corporate/news/287/ATTO-Technology-s-New-32Gb-Gen-6-Fibre-Channel-HBAs-Power-Facilis-TerraBlock-Storage

www.atto.com

# DID YOU KNOW ?

ATTO Fibre Channel HBAs play an important role in data center virtualization. Celerity™ HBAs allow users to define multiple "virtual ports." These ports can be assigned to each virtual machine and allow administrators to manage storage on behalf of the virtual machine.

Client Side Access Layer 2 Ethernet Switch

Distribution Layer 3 Switch

Router

Internet

Server Access Layer 2 Ethernet Switch

ESX Server 1 with ATTO Celerity Fibre Channel HBA

VMware Vcenter Management Server

ESX Server 2 with ATTO Celerity Fibre Channel HBA

ATTO FibreConnect FC Switches

ATTO FC to SAS Storage Controllers

SSD Storage Array

HDD Storage Array with ATTO ExpressSAS R680 RAID Adapter

Tape Library

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## Tradeshow Dates and Booth Numbers

| Show | Dates | Location | Description |
|------|-------|----------|-------------|
| AVID Connect | April 22-23 | Wynn Las Vegas, NV | AVID Connect is a gathering of media professionals, brought together by AVID technology to celebrate and promote content creation successes and upcoming technology. |
| NAB Show | April 24-27 | Convention Center Las Vegas, NV | NAB is where global visionaries convene, where corporate alliances are formed, where development teams work vigorously to fill consumer demand for more digital content and where immersive experiences comes to life. |
| SuperMeet Las Vegas | April 25 | Pavilion Ballroom, Rio Hotel Las Vegas, NV | SuperMeet is the convening of some of the most important names in post-production and collaborative editing workflows. The Las Vegas SuperMeet provides the post-production and broadcast community an opportunity to not only learn about latest technology trends, but to network and share industry news and opportunities. |
| GPU Tech Conference | May 8-11 | San Jose, CA | The NVIDIA GPU Tech Conference is a gathering of minds to discuss the most vital work in the computing industry today, including deep learning and AI, big data analytics, virtual reality, self-driving cars and much more. |

**NABSHOW®**
*Where Content Comes to Life*

## Going to NAB 2017? Visit ATTO at booth #SL9611

No matter what your workflow, ATTO provides the storage connectivity for 4K, 8K and beyond. We're embracing NAB 2017's mantra by showcasing our solutions in the 4K, 8K, HDR and VR work environments.

Both in the ATTO booth as well as in our on-site event center, ATTO will showcase live demos in:
- Fibre Channel SAN using Gen 6 Celerity, Thunderbolt 3 to 32Gb Fibre Channel and Thunderbolt 2 to 16Gb Celerity
- Thunderbolt 3 for AVID Nexis
- Build your own storage area network using XstreamCORE 7550

With a constant eye on future- proofing, ATTO will bring to NAB the technologies used today for collaborative workflows and those needed to move to 8K and beyond.

We look forward to having you stop by our booth #SL9611 and see what's new for you.

## ATTO SAS RAID Cards enable 8K Streaming

**Video Clarity brings ATTO into 8K analyzing solutions**

**Situation**

As companies prepare to bring 8K media options to consumers, they must first tackle the challenge of massive file sizes required to shoot, edit, store and display 8K productions. Editors looking to experiment or fully produce in 8K have limited options and are forced to wait for the market to catch up. This costs them precious time in an industry that will rapidly be demanding a large amount of 8K content. Video Clarity, a software and hardware company in the broadcast media industry, is one such provider looking to take on the data challenges the market is anticipating. Video Clarity is in the business of making playout servers and analyzers, which enable customers to stream and analyze raw 8K footage.

In the Media & Entertainment industry, any loss of data can be fatal for a project – the loss of even a few frames could mean expensive reshoots or cancellations. Video Clarity analyzers, which are used by broadcasters to take an uncompressed stream of video and measure quality parameters, rely on top-of-the-line RAID protection to ensure that every frame of video makes it to its destination. Video Clarity came to ATTO technology Inc. because 8K file sizes were presenting problems even their 4K analyzers couldn't handle. In the previous 4K version, they were using three RAID cards set to RAID 0 for higher performance. By contrast, the current system did not have enough throughput for an 8K stream and they didn't have enough room for an additional RAID card. The critical 4K data solution that made Video Clarity unique, that they hoped would lead others into 8K, was at stake because of the protection demands of such large amounts of data.

**Solution**

The ATTO solution came in the form of the ExpressSAS® RAID host bus adapter (HBA). When Video Clarity approached ATTO with this problem, ATTO engineers recognized that the problem was RAID capability for maximum data access—something competitors just couldn't supply. ATTO suggested using the 12Gb ExpressSAS HBAs to leverage 12Gb speeds and next generation PCI that would give them the bandwidth they needed to protect and stream 8K file sizes. For Video Clarity, this was the perfect solution. In the words of Tim Anderson, the operations manager at Video Clarity, "We contacted ATTO letting them know our I/O requirement.  I was able to collaborate with one of the ATTO engineers and together we determined the H120F card would be best suited."

*(Continued)*

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### Related Products

ExpressSAS 12Gb/s HBAs combine 12Gbs SAS speeds and x8 PCI Express 3.0 with powerful hardware and software elements to manage latency in real-time environments. Additionally, the H1208 and H120F HBAs, the cards used by Video Clarity, include Power Center Pro, an integrated software RAID solution that brings the performance and protection of RAID to attached storage devices. In addition, exclusive Advanced Data Streaming (ADS™) technology maximizes CPU processes to deliver smooth and reliable data transfers and the highest consistent performance. ATTO sets the standard for board design and signal integrity to mimimize those costly transmission errors and data corruption. These differentiating capabilities is what made ATTO Video Clarity's choice for high-performance SAS/SATA storage connectivity.

### Results

The result is the ClearView Xstreme Analyzer 8K—a format independent video quality analyzer with 8K at 60Hz 10 bit play or record function.  Additionally, an interactive 8K side-by-side playback of two sequences up to 30Hz was developed.  The data speed requirement for this type of application is well over five gigabytes per second of continuous reads or writes to a high-speed disk array, making it a perfect example of ATTO's commitment to large data challenges.  ATTO RAID cards also complemented the performance goals set by Video Clarity. There was no sacrifice for processing bandwidth to a software-defined RAID solution, instead allowing ATTO to handle the load. Video Clarity is quick to mark the magnitude of the accomplishment, saying, "With the help of ATTO we were one of the first to market with an uncompressed 8K player and analyzer." Not only are Video Clarity's customers able to employ the benefits of an 8K analyzer, they can do so with the peace of mind that access to their data will be up to 70% faster and won't be completely interrupted by an outage, allowing them 100% up time and 100% access to their data

### Future Impact

From this experience Video Clarity has recognized the benefit of ATTO's highly personalized approach to data solutions. In the words of Tom Johnson, the ATTO account manager who assisted in the solution, "Not only did ATTO's 12Gb SAS HBA work for the 8K player, but Video Clarity has selected ATTO HBAs across the board for their players to take advantage of the next-gen PCI express slots they have added to their line."
The impacts of ATTO's solution with the ClearView Xstreme will go wherever 8K goes. Japan has committed itself to broadcasting the 2020 Olympics in 8K and experts say that 8K solutions will be integral as virtual reality continues to evolve. The ability to stream and edit video—enabled only by ATTO—will be critical as these technologies evolve.

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## Benefits of Being an Access™ Partner

1. Technology and Marketing Support

2. Interoperability Testing

3. Access to Evaluation units

4. Listing on ATTO's Interoperability Matrix

5. Single point of contact for all ATTO needs

**Click to Become an Access Partner TODAY!**

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**ABOUT ATTO**
For nearly 30 years, ATTO Technology, Inc., has been a global leader across the IT and media & entertainment markets, specializing in storage and network connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO works with partners to deliver end-to-end solutions to better store, manage and deliver data. Working as an extension of customer's design teams, ATTO manufactures host and RAID adapters, network adapters, storage controllers, Thunderbolt-enabled devices, switches and software. ATTO solutions provide a high level of connectivity to all storage interfaces, including Fibre Channel, SAS, SATA, iSCSI, 40/10GbE and Thunderbolt.  ATTO is the Power Behind the Storage.

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