

Advanced Data Streaming (ADS™) Technology

DRIVING HIGHER PERFORMANCE WITH EXPRESSSAS® RAID ADAPTERS

Advanced Data Streaming (ADS™) latency management technology is built into all ATTO Technology Inc., storage adapters. ADS provides controlled acceleration for smooth data streaming to maintain the highest consistent performance. It ensures best-in-industry data transfers for high-bandwidth applications, translating to better performance for end-users.

The benefits of ADS include:

- Higher application performance, which provides better productivity
- Better transaction processing, meaning faster time to revenue and critical business decisions
- Ability to handle larger workloads and client counts

Beyond the features available in all ATTO host adapters, ADS provides particular advantages that accelerate ExpressSAS® RAID adapters. Want to ensure that you have low latency, high-performance access to your data all the time? ExpressSAS RAID with ADS offers an unbeatable solution.

KEY FEATURES

OPTIMIZED DRIVER ALGORITHMS

ATTO's driver code has been developed and refined for generations, maximizing stability and optimization for enterprise applications. With nearly 30 years' experience designing high-performance storage connectivity products with data protection features such as RAID, ATTO's capabilities are unmatched in the industry.

INTELLIGENT CACHING

ExpressSAS RAID adapters offer a larger onboard cache (1GB) than competitive products. Combined with optimized eviction policies and more efficient algorithms, ExpressSAS RAID adapters are able to provide more cache hits and allow more unique items to be stored in cache. This means that large amounts of data can move faster and more efficiently, an essential element for streaming applications such as digital content creation, prepress, databases and audio/video streaming.

DEEPER DEFERRED WRITE POOL

Early confirmation of writes to disk are important because they allow the CPUs to queue up more information. Our RAID adapters respond to writes more quickly, increasing write performance and lowering write latency.

SMART READS AND WRITES

ATTO's ExpressSAS adapters recognize multi-stream data flows and adjust algorithms to provide the fastest overall transfer rates, including direct reads and direct writes. Also, ExpressSAS adapters are able to identify and correct for "write holes" created by file systems and databases, lowering latency and improving overall performance. ATTO's RAID adapters are optimized for small block reads/writes for transactional applications (online transaction processings, banking and business analytics).

SHARED-MEMORY OPTIMIZATION

ATTO's drivers are NUMA-aware, so they efficiently share memory space and manage data placement so that processors can operate with the lowest possible latency.

ENHANCED EVENT LOGGING

When things don't go as expected, quickly understanding the problem is vital in getting back to 100% operation. Detailed logging capabilities are critical in providing detailed information on I/O patterns and read/write performance, allowing users to tune response for application-specific environments, as well as simplifying troubleshooting efforts.

I/O TRAFFIC OPTIMIZATION

ATTO provides multiple tools to assist in fine-tuning management settings for the most efficient data transfers.

ADVANCED PERFORMANCE FEATURES

Additionally, ExpressSAS RAID adapters relieve CPU burden via bus mastering, transferring data directly between ATTO products and system memory. Tagged command queuing allows adapters to process multiple I/O commands in any order, providing improved read/write requests to storage media. Automatic disconnect/reconnect eliminates wait time between ATTO products and other devices, enabling dynamic sharing of bus bandwidth.