ATTO TECHNOLOGY
TECHNOLOGY BRIEF

xCORE Data Acceleration

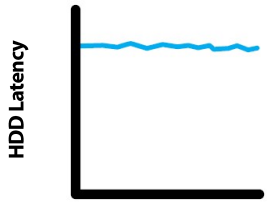
How much performance is enough?

Today's demanding data center environments are adding an extra layer of complexity. It used to be that all you needed to worry about was available capacity of storage. Now with flash solid-state drive (SSD) devices becoming more mainstream due to rising capacity and lower prices, system architects have to make sure that the systems they are putting together are capable of taking advantage of flash SSD performance capabilities.

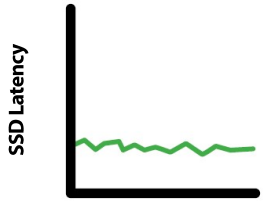
What is the benefit of using Flash?

The common benefits of flash are well known: faster access times than spinning disks and no mechanical moving parts that can lead to both premature hardware failure and limited storage performance. This solid- state design allows for faster transfer of data, better streaming without buffering and faster completion of more transaction.

One of the benefits not explained well is the workload that a host server can now handle using all SSD storage vs. using hard-disk drives (HDDs). Typically CPU overhead in systems that attach to spinning disk is relatively high meaning that SysAdmins need to keep CPU utilization under 40 %, wasting a lot of CPU cycles due to the nature and latency of spinning disk media. With flash SSDs, SysAdmins can now move CPU utilization up beyond 70 % to take advantage of a



CPU utilization has to be governed when using slower technologies such as HDDs or hardware with high latencies



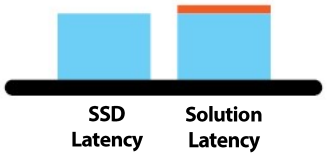
Higher CPU utilization can be realized when using faster technologies such as flash SSDs along with XstreamCORE storage controllers with less than four microsecond latency

low-latency pipe feeding host servers and processing more data without waiting for spinning media latency.

What does this mean to you? Well now you can utilize less server hardware with fewer budget dollars needed for software and operating system licensing, all while slowing down CAPEX expenditures for new server hardware to tackle user demands since current hardware can now handle the workload using flash SSDs.

ATTO xCORE Data Acceleration Technology

ATTO Technology, Inc., has developed acceleration technology that drives performance of flash devices by separating data and control paths to keep latency at a consistent, deterministic sub four microsecond rate. xCORE Data Acceleration 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.



XstreamCORE adds less than four microseconds of latency

Where can I find xCORE?

xCORE technology is currently available exclusively on ATTO XstreamCORE™ solid -state storage controllers which connect off-the-shelf JBOD, JBOF and RAID storage to shared storage networks. XstreamCORE allows system architects to build solutions that meet today's demanding performance requirements while allowing up to 240 SSD flash devices to connect to multiple servers, which leads to a benefit of reducing or