BENCHMARK

ATTO

ATTO Celerity™ 322E with MultiPath Director vs QLogic QLE 3742 with Device Mapper

Configuration

Test Tool
- IOmeter server I/O performance storage measurement tool

Server Machine
- Dell® PowerEdge R630 running RHEL 7.2
- 64GB Memory
- Dual 8-core Xeon E5-2630v3

Storage
- NetApp EF 560 All Flash Array with 24 Toshiba 12Gb SAS SSDs
- Two RAID 0 LUNs balanced across both Titan controllers

Connection
- 32Gb Gen 6 Fibre Channel Host Adapters
- ATTO Celerity FC-322E Driver: 1.51MP
- QLogic QLE2742 Driver: 8.07.00.39.07.0-6

Switch
- Brocade G620 - 32Gb Fibre Channel Switch

Overview

Performance testing in a Linux server environment was conducted to obtain competitive benchmarks of the ATTO Celerity™ 32Gb/s HBA with MultiPath Director (MPD) and QLogic 32Gb/s HBA with Device Mapper. IOmeter measurement tool was used to capture the data presented in this comparison testing. Both host bus adapters were tested in 32Gb/s Fibre Channel mode in the PCIe 3.0 slot of a Dell PowerEdge R630 with dual 8-core Xeon E5-2630v3 processors running RHEL 7.2. The benchmarks were performed at transfer sizes ranging from 1MB to 16MB.

Results

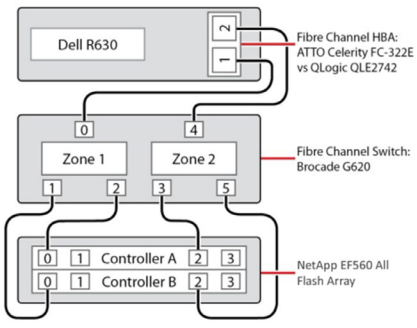
ATTO outperformed the competition in a Linux server environment with sequential writes up to 22% faster and sequential reads up to 13% faster.

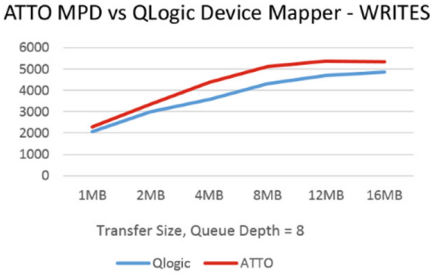
Summary

When connecting Fibre Channel host adapters to storage systems with dual redundant controllers, a multipath driver must be used to manage data going to the same LUN across multiple Fibre Channel paths. "Device Mapper", a framework provided by the Linux kernel, can oversee this. However, ATTO has developed a more powerful and efficient driver called "MultiPath Director" for use with ATTO Fibre Channel HBAs. MultiPath Director is the world's only solution that allows direct connectivity to enterprise storage not only for servers, but also workstations, supporting heterogeneous environments.

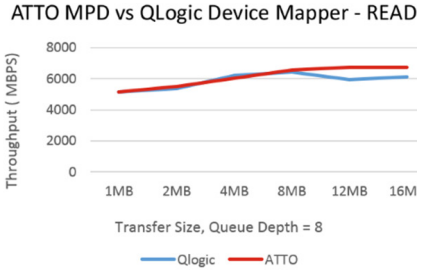
These results show that the ATTO MultiPath Director driver for Linux servers has a distinct advantage over QLogic using Device Mapper for the transfer of large data sets commonly found in media & entertainment, healthcare, oil & gas and other data-intensive applications.

Combining MultiPath Director with a superior multicore architecture that yields 2.5X as many IOPS on a single port and proprietary Advanced Data Streaming (ADS™) Technology to manage latency, ATTO Celerity HBAs deliver the best throughput and performance to support the most demanding applications and flash storage arrays.





ATTO MPD is up to 22% faster on large transfer writes in Linux



ATTO MPD is up to 13% faster on large transfer reads in Linux