**Overview**

Developments in network storage and clustering applications have driven the need for improved throughput, increased CPU efficiencies and reduced power consumption in the data center. With increasing size and density of databases and enterprise business applications, data center managers are also faced with additional infrastructure complexity. Traditionally data center managers have responded to this challenge by adding more servers and more port I/O adapters to increase the number of 16Gb links. While this has worked in the short term, it has introduced server sprawl, infrastructure complexity and pushed power consumption beyond budget.

As 10Gb Ethernet becomes mainstream, many vendors have deployed 10GbE solutions to solve these challenges. This benchmark presents the proof points demonstrating improved performance as measured by throughput/CPU percent utilized as well as lower power consumption offered by ATTO Technology Inc. FastFrame™, a family of 10GbE, single-, dual- and quad-port PCIe 2.0 x8 network interface cards (NICs).

**Configuration**

**Server Machine**
- Dell® T310 with ATTO FastFrame NS11

**Client Machines**
- Dell T310 with ATTO FastFrame NS11
- Qlogic, Emulex and Myricom 10GbE NICs

**Operating Platform**
- Windows Server 2008 R2

**Connection**
- Direct connection between server and client (no switch)
- Single LC-LC optical cable

**Test Tool**
- Microsoft® NTtcp version 3.0

**Summary and Conclusions**

Providing industry-leading throughput, along with industry’s lowest power consumption, FastFrame offers the most robust 10GbE network connectivity option available today, making it an ideal choice for 10GbE network infrastructure. Built on Intel’s industry leading Ethernet technology, single-, dual- and quad-port FastFrame NICs provide the highest the throughput for demanding high-bandwidth applications. Excellent performance under a wide range of conditions and applications is the mark of a quality data connectivity product.