

Competitive Benchmark - 10GbE NIC

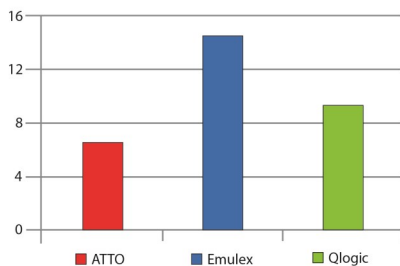
FASTFRAME™ NS11 10GbE NETWORK INTERFACE CARD VS. QLOGIC, EMULEX & MYRICOM 10GbE NICs

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 1Gb 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 10Gb 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.'s FastFrame™, a family of 10GbE, single-, dual- and quad-port PCIe 2.0 x8 network interface cards (NICs).

ATTO FastFrame NIC Power Consumption, Watts



In Figure-1, ATTO FastFrame not just offers superior throughput, but also offers Industry's lowest power consumption, only 5.9 Watts for a dual-port 10Gb NIC

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

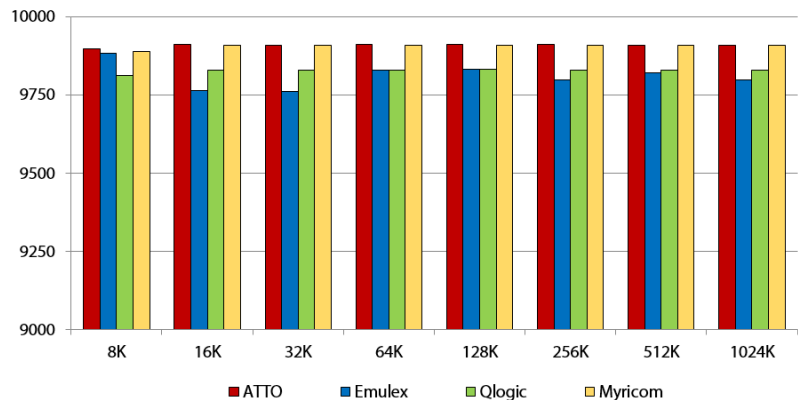
Connection

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

Test Tool

- Microsoft®'s NTttcp version 3.0

ATTO FastFrame NIC TCP/IP Throughput (Mb/s)



In Figure-2, the TCP/IP throughput of all the cards is comparable, with FastFrame leading

ATTO FastFrame NIC Normalized throughput per CPU%

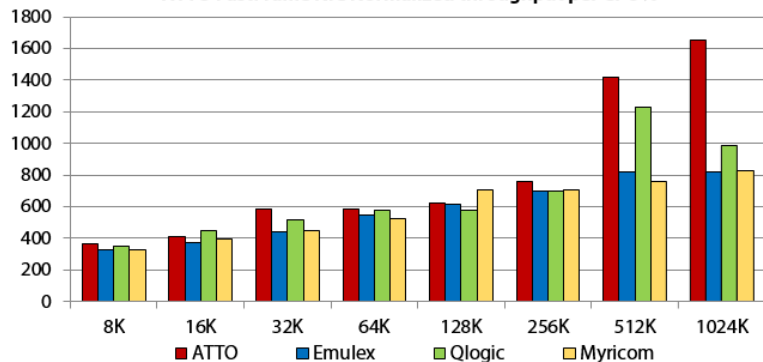


Figure-3 provides normalized throughput performance, Mb/s transferred per unit percentage of CPU resources being consumed for the data transfer

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.