

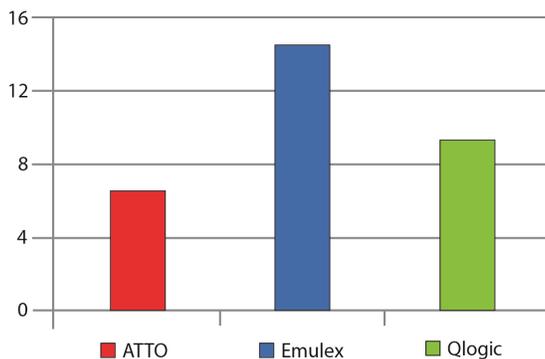
## Competitive Benchmark - 10GbE NIC

### ATTO FastFrame™ NS11 10GbE NIC vs. Qlogic, Emulex and Myricom

#### 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.

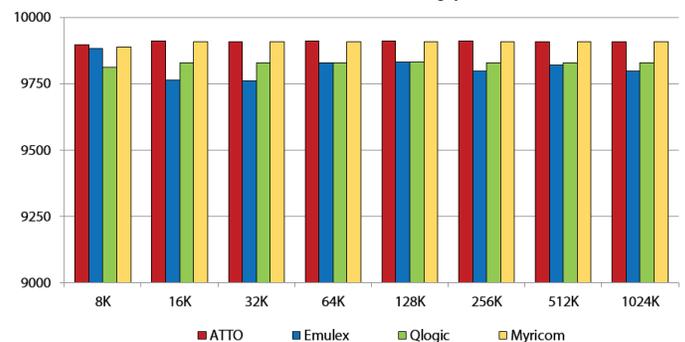
ATTO FastFrame NIC Power Consumption, Watts



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

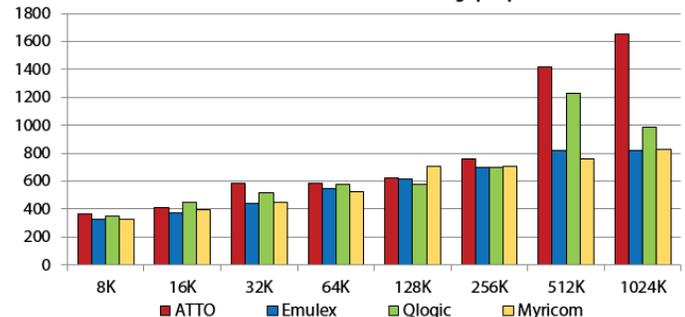
As 10Gb Ethernet becomes mainstream, many vendors have deployed 10GbE solutions to solve these challenges. This benchmark presents the proof points demonstrating improved performance as measured by throughput/CPU percent utilized as well as lower power consumption offered by ATTO FastFrame™, a family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

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



TCP/IP throughput of all the cards is comparable, with FastFrame leading

ATTO FastFrame NIC Normalized throughput per CPU%



Normalized throughput performance, Mb/s transferred per unit percentage of CPU resources being consumed for the data transfer

#### About ATTO

For over 30 years, ATTO Technology, has been a global leader across the IT and media & entertainment markets, specializing in network and storage connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO works with partners to deliver end-to-end solutions to better store, manage and deliver data.

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## 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® NTttcp 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 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.