

## Alacritech 10 Gigabit Ethernet Scalable Network Accelerator™

The continued growth of 10 Gigabit Ethernet in the data center and the increased bandwidth and performance demanded by today's applications requires a network adapter that not only provides line rate performance, but also improves CPU efficiency and reduces application latency.

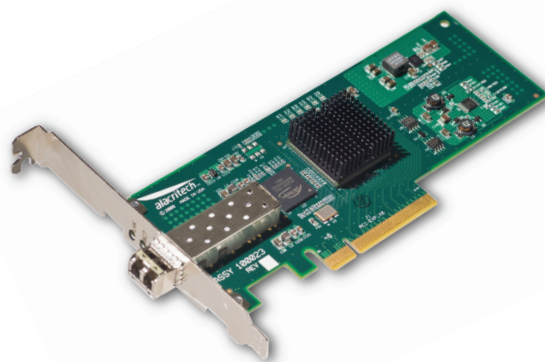
The 10GbE Scalable Network Accelerator (SNA) provides Dynamic TCP Offload for improved CPU efficiency and application performance under Microsoft Windows®. In addition, they provide 10GbE connectivity for other operating systems.

Alacritech's 10GbE SNA is compatible with all networking and iSCSI storage applications. Installation and configuration is as easy as a standard network interface card while performance optimization can be completed in minutes without having to make numerous adjustments to the system or the application.

### Dynamic TCP Offload For Windows

The 10GbE Scalable Network Accelerator, Alacritech's fifth-generation SNA, leverages Alacritech's ten years of expertise in TCP offload. Alacritech's custom processor is completely deterministic, providing the most efficient transfer of TCP/IP data for all file and block sizes at the highest frame rates without introducing unwanted latency. It uses less power and generates less heat than a general purpose processor, such as those found in many "Full TCP Offload" implementations. The thin driver design allows the 10GbE SNA to perform the tasks that others leave to the driver and the host CPU.

The 10GbE SNA is fully compatible with Microsoft TCP Chimney, first introduced with the Scalable Networking Pack for Windows Server 2003.



### Product Highlights

- 10Gb Ethernet Scalable Network Accelerator
- Full Microsoft TCP Chimney support
- Accelerates all TCP-based traffic:
  - File Serving
  - iSCSI SAN
  - Backup
  - Database
  - Decision Support Systems
- Failover between cards for network protection and redundancy

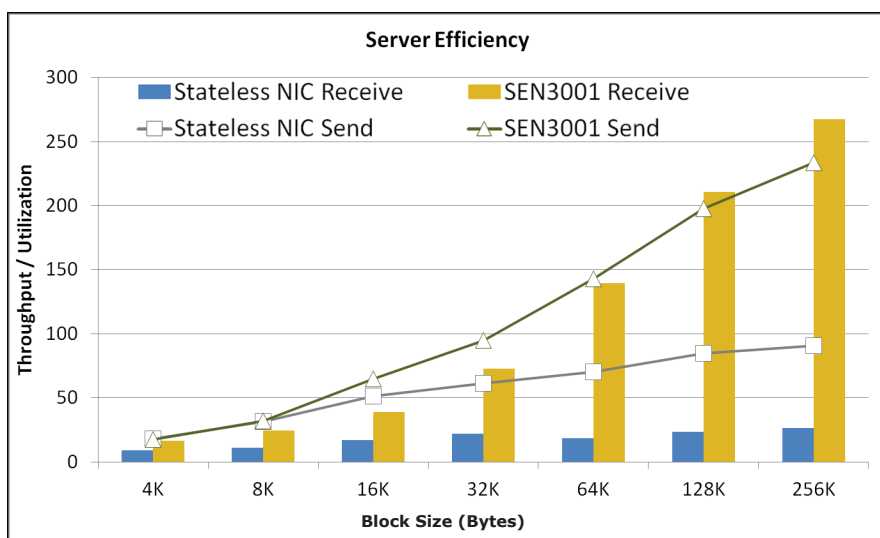
### Accelerator Benefits

- Reduces total cost of ownership
  - Saves space and power
  - Cuts server operating and licensing costs
  - Extends life of server
- Improves server efficiency
  - Reduces CPU utilization
  - Increases throughput
  - Adds more clients
  - Decreases client response times
  - Improves application performance
- Installs and configures quickly and easily
- Achieves full wire speed, full duplex 10Gbps
- Supports MPIO for high availability

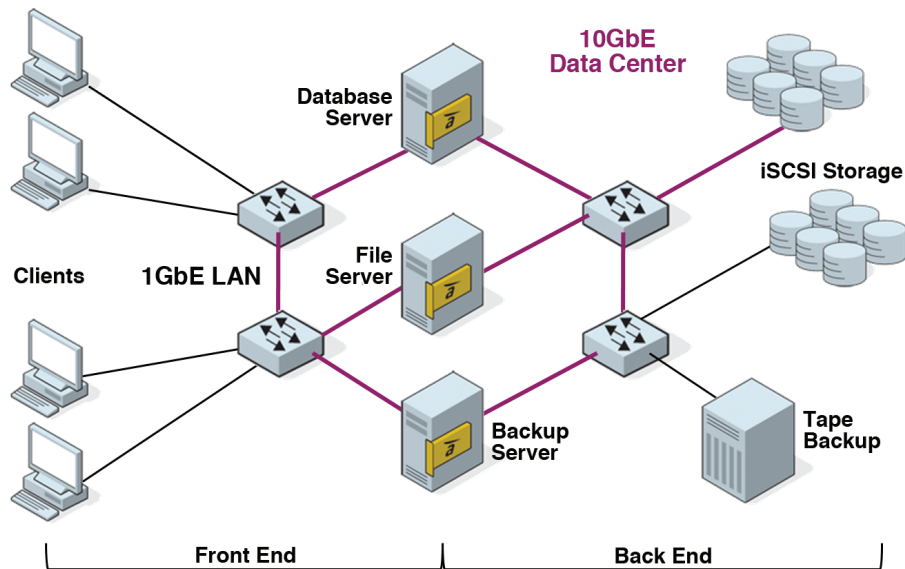
### Platforms

- Windows® XP Professional x64
- Windows Vista®
- Windows Server® 2003 & 2008
  - Including Server Core 2008
  - Hyper-V Compatible
- Linux\*

\* Available in 2009



## Applications



### Front End

Data center management has a constant focus on optimizing utilization while delivering performance and meeting service levels. Alacritech allows IT managers to get the most out of servers by helping ensure that networking doesn't become the bottleneck when delivering mission critical data to clients. Poor throughput and latency compromise the ability to meet customer commitments. Optimizing utilization means delivering targeted performance at the lowest cost to the enterprise.

Alacritech enables IT managers to use the right server configurations from the start, not only realizing savings in capital but space, power, and cooling. For example, a single-socket, 4-core server with an Alacritech 10GbE SNA can provide the same performance as a dual-socket, 4-core (8 total) server with a standard 10GbE NIC. Due to reduced CPU utilization, Alacritech can reduce the power consumption of a Windows server by up to 25% over a standard NIC.

### Back End

Alacritech's Dynamic TCP Offload combined with Microsoft's native iSCSI Initiator maximizes server utilization when connected to an iSCSI SAN. Achieving targeted throughputs, while maximizing efficiency, ensures that the server does not become the bottleneck when filling a 10GbE pipe to back-end storage. Massive amounts of data can be moved with minimal CPU, which results in optimal utilization and lower cost of ownership. High availability is achieved through MPIO and Alacritech's failover implementation. PXE boot provides the most scalable and easily managed boot-from-SAN solution.

### About Alacritech

Alacritech is the leading provider of innovative technology that increases the speed, power, and performance of servers, enabling a truly scalable network. Organizations that use Alacritech's proven technology are better able to reduce the burden of network processing on their server, scale to support more clients and applications, achieve higher performance and realize increased network utilization.

For more information visit the Alacritech web site at [www.alacritech.com](http://www.alacritech.com) or contact the company at [info@alacritech.com](mailto:info@alacritech.com).

### General Specifications

- Port Speed: 10 GbE, Full Duplex
- Bus Type: PCI Express v1.1 x8
- Size: Low Profile; 2.75" x 6.625"; 3.5 oz.
- Power: 10W (typical)
- Combo LED: Link/Activity
- Operating Temperature: 0° to 55°
  - Minimum Airflow: 150LFM
- Operating Humidity: 5% to 85%, non-condensing
- Integrated Memory: 2 MB
- Package Contents: Card and CD with drivers and manual.

### Optical Specifications (SEN3001EF)

- Pluggable Module: SFP+
- Connector: LC
- Standard: 10GBASE-SR
- Fiber: Multi-mode
- Wavelength: 850 nm

### Standards Compliance:

- IEEE Std. 802.3
- FCC, CE, VCCI, ROHS

### NIC Features

- Jumbo Frames
- Flow Control (Pause Frames)
- Failover between cards
  - 10Gb→10Gb or 10Gb→1Gb
- VLAN\*: Up to 32 user-defined VLAN IDs
- MSI-X for Windows Server® 2008
- PXE and iSCSI boot\*

### Dynamic TCP Offload

- TCP Chimney for Microsoft Windows
- IPv4 & IPv6

### Stateless TCP Offload

- IPv4 & IPv6 Checksum Offload
- TCP Checksum Offload
- Large Send Offload
  - LS0v1; LS0v2 for IPv4 & IPv6
- Receive Side Scaling (RSS)

### Ordering Information

- SEN3001EF-SR: 1-Port PCIe Fiber (10GBASE-SR) 10GbE SNA
  - XGSFP+SR: 10GBASE-SR SFP+ Module
  - SEN3001EF: SNA without SFP+ Module
- SEN3001ET\*: 1-port PCIe Copper (10GBASE-T) 10GbE SNA