# SGI™ GSN Adapter

### Features

- Payload bandwidth: up to 800MB/sec full duplex—faster than Fibre Channel, ATM OC12, Gigabit Ethernet, and HIPPI
- Latency: adapter latencies less than 10 microseconds; MPI latencies less than 30 microseconds
- Interoperability: GSN and ST provide for IP over GSN, ST over GSN and ARP over GSN
- First adapter with a parallel protocol stack—not just multithreaded
- Excellent price/performance ratio

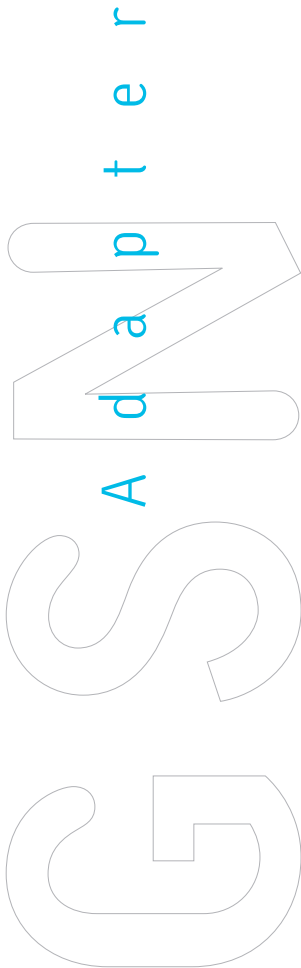### GSN Moves Big Data in an Efficient, Timely Manner

Gigabyte System Network, or GSN, is the highest bandwidth and lowest latency interconnect standard, providing full duplex 6400Mb per second (800MB per second) of error-free, flow-controlled data transmission. The technology is ideal wherever organizations require timely and efficient movement of large amounts of information, including scientific and technical computing, HDTV, data mining, transaction processing, video and film archiving, and storage management. The proposed ANSI standard provides for interoperability with Ethernet, Fibre Channel, ATM, HIPPI-800, and other standards. The SGI GSN adapter offers partial and full bandwidth implementations of this standard in single and dual XIO slot versions.

### SGI GSN Adapter Features

The SGI GSN adapter for the SGI™ 2000 series, the SGI™ Origin™ 3000 series, Silicon Graphics® Onyx2®, and the SGI™ Onyx® 3000 series is a single-port network interface board that conforms to the ANSI HIPPI-6400-PH specification, revision 2.1. The adapter implements 20-bit parallel copper-based Gigabyte System Network, providing bandwidth of 800MB per second in each direction. This is in excess of eight times the speed of HIPPI-800 and Fibre Channel, six times the speed of Gigabit Ethernet, and three times the speed of OC48c ATM. In raw numbers, a payload of 2.5TB can be moved per hour per direction.

### Ideal Networking Solution

SGI GSN is the ideal networking solution for technical applications such as clustering and system area networks; for enterprise applications of big data client-server functions (e.g., HDTV, post-production scanners, and MR medical imaging); and storage management backbones that require huge bandwidth, low latency, and extremely efficient CPU utilization. It is also the only network capable of providing the bandwidth necessary for the film and video industry's migration to digital studios and HDTV. Customers with large data warehouses can use the technology for ultrahigh-performance file servers and backup servers capable of moving terabytes of data per hour. While every major computer vendor is developing GSN products, SGI has been the technology leader and was the only major vendor to introduce GSN before the end of the 20th century.

## Functional Features

- IP-over-GSN driver that interfaces the GSN hardware to the Internet Protocol (IP) and its associated transport-layer protocols: TCP, UDP, ICMP, etc.
- ST-over-GSN driver that interfaces the GSN hardware to the Scheduled Transfer (ST) Protocol
- ARP for GSN that automatically resolves physical-layer HIPPI-6400 ULA addresses to/from network-layer addresses (for IP and ST)
- Supports static table lookup for handling systems that do not support ARP
- IRIX® socket-based application programming interface (API) to the IP network stack (driver) for use by customers who want to develop or port applications to send/receive data through the IP-over-GSN subsystem
- IRIX socket-based API to the ST network stack (driver) for use by customers who want to develop or port applications to send/receive data through the ST-over-GSN subsystem
- Full broadcast support

## Ordering Information

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| · XT-GSN-C-1XIO | Single-port GSNIC copper adapter to interface to one XIO slot; in SGI Origin 2000 platforms, this adapter will be limited to approximately 500MB/sec |
| · XT-GSN-C-2XIO | Single-port GSNIC copper adapter to interface to two XIO slots |
| · XT-GSN-C-CABLE-5M | GSN 5 m copper cable |
| · XT-GSN-C-CABLE-10M | GSN 10 m copper cable |
| · XT-GSN-C-CABLE-25M | GSN 25 m copper cable |
| · XT-GSN-C-CABLE-40M | GSN 40 m copper cable |