

# Sun PCI Express Dual Gigabit Ethernet Module

A hot-swappable I/O module for Sun Blade™ modular systems



## Highlights

- Hot pluggable and hot swappable
- Dual Gigabit Ethernet (GbE) connectivity using a single 4x PCIe slot
- Jumbo frame support for enhanced throughput
- Voltage and temperature monitoring
- 10/100/1000 Mb/sec autosensing Ethernet ports
- Hardware assist for TCP/UDP checksums as well as packet parsing and interrupt coalescing
- Support for IEEE standard (802.3 ad) link aggregation (Solaris™ 10 OS Update 3 or later)
- Fully compliant with IEEE 802.3 standards
- Full duplex capable with near line-rate data transfers in both directions



The Sun PCI Express (PCIe) Dual Gigabit Ethernet Module brings Gb speed to blade servers, offering enhanced service levels through hot-swappable servicing and upgrades. Ideal for high bandwidth for server-to-server or server-to-switch connections, Sun PCI Express Dual Gigabit Ethernet Modules host two high-performance Gb interfaces in a single 4x PCIe slot. Their compact design also conserves valuable 4x PCIe slots and enables lower per-port cost.

The Sun PCI Express Dual Gigabit Ethernet Module supports x64 Sun Blade™ modular systems and provides aggregated, or “bulk,” network bandwidth for all 10 blades within the chassis. Its industry-standard PCIe design also enables individual server modules within x64 Sun Blade modular systems chassis to be configured with different I/O modules.

By reducing CPU processing loads with packet parsing, hardware checksum generation, and interrupt coalescing, server efficiency is increased, network congestion is mitigated, and computing performance is leveraged. Compliant with IEEE 802.3 standards, Sun PCI Express Dual Gigabit Ethernet Modules enable you to retain your existing infrastructure, application, and expertise when upgrading portions of the network to GbE technology. This interoperability can preserve

the existing core wiring infrastructure, enabling a cost-effective, seamless migration to higher network throughput.

Jumbo frame support can reduce the overhead associated with handling Ethernet packets. The number of packets is reduced by sending and receiving large packets versus standard Ethernet packets, which results in a virtual increase in throughput and a reduction in CPU utilization. By aggregating the traffic across multiple-Gb links, you can dedicate bandwidth as you need it for particular connections and applications requiring high throughput. The aggregated links also provide robust link protection for each other.

# Sun PCI Express Dual Gigabit Ethernet Module Specifications

## Key features

- 1000Base-T/1000Base-SX Gb performance
- Fully compliant with IEEE 802.3 standards
- Support for IEEE 802.1Q VLAN
- Support for IEEE 802.1P and 802.1D priority tagging
- Support for IEEE standard (802.3 ad) link aggregation (Solaris 10 OS Update 3 or later)
  - Delivers aggregated bandwidth, enabling higher data rates than any single GbE link
  - Enhanced availability with load balancing and failover capabilities
- RAS functionality provides high availability and increases network uptime
  - Support for redundancy and failover configurations
- Support for jumbo frames
  - Reduces overhead of large file transfers by enabling larger packet size instead of standard Ethernet packet size
- Supported on Solaris 10 OS and later versions
- Server efficiency increased with hardware assist for:
  - CP checksum generation and checking
  - Packet parsing and interrupt coalescing
- Full duplex mode

## Benefits

- Increased service levels through hot-swappable modules that can be serviced or upgraded without taking the system offline
- Increased productivity and cost savings through high network throughput
- Low cost of ownership, as well as investment protection, through open standards and interoperability
- Increased network security and cost savings through departmental network segmentation to relieve network congestion

- Increased network reliability and cost savings through support for quality of service for mission-critical traffic service
- Sun quality and performance

## Specifications

### Host system interface

Hot-pluggable PCIe modular card

### Dimensions

Pluggable module for x64 Sun Blade modular systems

### Supported platforms

- Sun Blade 6000 modular system
- Sun Blade 6048 modular system
- Sun Blade 8000 modular system

## Software

### Operating systems

- Solaris 10 OS on x64
- Red Hat Enterprise Linux Advanced Server 4 (64-bit)
- SUSE Linux Enterprise Server 9 (64-bit)
- Microsoft Windows Server 2003 (Enterprise/Standard Editions) (32-bit/64-bit)

## Supported software

- Firmware supports remote boot for all supported operating systems
- Diagnostic SunVTS™ 4.4 and higher

## Environmental

- Operating temperature: 0° C to 55° C
- Storage temperature: -40° C to 85° C
- Relative humidity: 0–95%, noncondensing
- Operating shock: 2.5 G, 11 msec., 1/2 sine
- Nonoperating shock: 18 G, 11 msec., 1/2 sine, 4/face

## Learn More

To learn more about the Sun PCI Express Dual Gigabit Ethernet Module, go to: [sun.com/products/networking/ethernet.jsp](http://sun.com/products/networking/ethernet.jsp).

- Operating vibration: 0.25 G, 5–500 Hz
- Nonoperating vibration: 0.6 G, 5–500 Hz
- Power consumption: MMF: 3.3 W

## Certifications

FCC Class B; VCCI Class A; UL 60950, third edition; CSA 60950, third edition; CB Scheme; IEC 60950-1, 2001, first edition

## Ethernet

Dual 10/100/1000 MMF Ethernet ports

### Standards compliance

- IEEE 802.1Q VLAN (Solaris 8 OS or later)
- IEEE 802.1P and 802.1D Priority Tagging and Quality of Service
- IEEE 802.3 compliant

## Connectivity

### Fiber connection options

- External 62.5μ diameter: operating distance up to 275m
- External 50μ diameter: operating distance up to 550m

## Ordering information

X7283A-z Sun PCI Express Dual Gigabit Ethernet Express Module MMF