

SUN 10 GIGABIT ETHERNET NETWORKING CARDS WITH FIXED TRANSCEIVERS

KEY FEATURES

NEXT-GENERATION 10 GB PERFORMANCE WITH THE INTEL 82598EB 10 GIGABIT ETHERNET CONTROLLER

- Dual- and single-port 10 GbE networking cards for Sun x64 servers incorporating the Intel 82598EB 10 Gigabit Ethernet Controller
- Receive-side scaling, advanced packet filtering, Direct Cache Access, and TCP segmentation/large send offloading improves throughput, balances network loads across CPU cores, and lowers CPU use for multicore processor (depending on the feature availability in the server operation system)
- Optimized for virtual environments, supporting multiple queues and alleviating I/O bottlenecks between virtual machines
- Low-profile cards with integrated XFP SR transceivers (nonpluggable) for standard and low-profile PCIe slots in servers

Oracle's Sun 10 Gigabit Ethernet (GbE) Networking Cards with Fixed Transceivers, which incorporate the Intel 82598EB 10 Gigabit Ethernet Controller, are designed to meet the throughput and latency requirements of bandwidth-hungry applications such as high-performance computing, database clusters, and video on demand. In addition, Sun 10 GbE Networking Cards with Fixed Transceivers offer advanced features for higher throughput, lower CPU use, and virtualization. Ideal for slot-constrained environments, Sun 10 GbE Networking Cards with Fixed Transceivers provide a simplified alternative to multiple 1 GbE server adapters for Oracle's portfolio of x64 servers.



Sun 10 GbE Networking Cards with Fixed Transceivers are ideal for slot-constrained environments.

Performance-Enhancing Features for Multicore and Virtualized Environments

Today's multicore environments are driving the need for greater networking bandwidth in order to meet the throughput requirements for virtualized server environments, high-volume data transactions, and real-time technologies such as VoIP and video on demand. Offering advanced networking features for efficient distribution of Ethernet workloads across CPU cores, Sun 10 GbE Networking Cards with Fixed Transceivers help load balance interrupts and relieve bottlenecks

for various high-performance applications in the data center, including iSCSI implementation for storage area networks.

The following table highlights the features that allow the Sun 10 GbE Networking Cards with Fixed Transceivers to meet the throughput and latency requirements of even the most bandwidth-hungry applications.

Features
<ul style="list-style-type: none"> • Includes single and dual XFP SR transceivers (fixed to the card and nonpluggable) supporting multimode fiber 62.5/50 μm • Incorporates Intel 82598EB 10 Gigabit Ethernet Controller • Compatible with x8 standard and low-profile PCIe slots • Provides load balancing on multiple CPUs • I/O acceleration technology (if supported by the operating system): Receive Side Coalescing (RSC); Direct Cache Access (enables the CPU to prefetch data and avoid cache misses); Quick Data Technology (moves data copy from the CPU to the chipset); MSI-X low-latency interrupts (load-balancing I/O network interrupts) • Virtual Machine Device queues (VMDq)—if supported by the operating system (Linux and Windows) • Interrupt levels: INTA, MSI, MSI-X support • Low latency • Optimized queues: 32 transmit (Tx) and 64 receive (Rx) per port • Support for most network operating systems • Remote management support • RoHS compliant, 2 lead-free³ technology*
<small>*Lead and other materials banned in RoHS Directives are either (1) below all applicable substance thresholds of the EU, or (2) subject to an approved/pending exemption. Lead has not been intentionally added but might still exist as an impurity below 1,000 ppm, or an approved RoHS exemption applies.</small>

Sun 10 Gigabit Ethernet Networking Cards with Fixed Transceivers

Specifications

Physical Characteristics—Low-Profile Server Adapter
Dimensions
<ul style="list-style-type: none"> • Length: 16.74 cm (6.59 in.) • Width: 6.89 cm (2.71 in.) • Height—PCI Express, standard: 12 cm (4.725 in.) • Height—PCI Express, low profile: 7.92cm (3.12 in.)
LEDs
Two (on dual port), one (on single port), LINK (solid), and ACTIVITY (blinking)
Power Requirements
Typical Power Consumption
<ul style="list-style-type: none"> • Single port: 10.4 W (0.87 A @ 12 V) • Dual port: 14 W (1.17 A @ 12 V)
Performance Specifications
<ul style="list-style-type: none"> • Maximum Ethernet transfer rate for single port: 10 Gb/sec • Maximum Ethernet transfer rate for both ports: 16 Gb/sec

Host Interface		
<ul style="list-style-type: none"> • Bus type: PCI Express 1.1 • Bus width: x8 lane PCI Express 1.1 (operable in x8 slots) 		
Network Interface: Optical XFP Transceiver		
<ul style="list-style-type: none"> • 10GBASE-SR (fixed transceivers—not pluggable) • IEEE 802.3ae 2002 compliant 		
Cabling Distance		
Fibre Type	Minimum Modal Bandwidth @ 850 nm (MHz x km)	Operating Range
62.5 μ m MMF	<ul style="list-style-type: none"> • 160 • 200 	<ul style="list-style-type: none"> • 2 m to 26 m • 2 m to 33 m
50.0 μ m MMF	<ul style="list-style-type: none"> • 400 • 500 • 2,000 	<ul style="list-style-type: none"> • 2 m to 66 m • 2 m to 82 m • 2 m to 300 m
Ethernet-Relevant Standards Supported		
<ul style="list-style-type: none"> • IEEE 802ae, 2002 compliant • IEEE 802.1Q VLAN support 	<ul style="list-style-type: none"> • IEEE 802.3ad link aggregation • TCP/UDP/IP h/w checksum offload 	
Hardware Systems/Platforms Supported		
<ul style="list-style-type: none"> • Sun Fire X4200 M2 server • Sun Fire X4600 M2 server • Sun Fire X4150 server 	<ul style="list-style-type: none"> • Sun Fire X4450 server • Sun Fire X4440 server • Sun Fire X4140 server 	
Operating Systems		
Microsoft Windows		
Microsoft Windows 2003 32-bit/64-bit Enterprise Edition		
Red Hat Enterprise Linux 4 or Later		
<ul style="list-style-type: none"> • Red Hat Enterprise Linux 4.6 32-bit/64-bit • Red Hat Enterprise Linux 5.1 32-bit/64-bit 		
SUSE Linux		
<ul style="list-style-type: none"> • SUSE Linux Enterprise Server 10 SP1 64-bit • SUSE Linux Enterprise Server 9 SP3 64-bit (only on Sun Fire X4600 M2 and Sun Fire X4200 M2 servers) 		
Network Management		
<ul style="list-style-type: none"> • Wired for Management (WfM) baseline v2.0 enabled for servers • DMI 2.0 support, Windows Management Instrumentation (WMI), and SNMP Remote Installation Services (RIS) • PXE 2.0—enabled through boot read-only memory (ROM) 		
Certifications		
Hardware certifications: FCC B, UL, CE, VCCI, BSMI, C-Tick, MIC		
Ordering Part Numbers		
<ul style="list-style-type: none"> • Sun X1106A-z / Sun 1106A-z—Sun 10 GbE XFP SR PCI Express card includes one 10 GbE port with one fixed XFP SR transceiver (please note that the XFP transceiver is fixed to the card and not pluggable) • Sun X1107A-z / Sun 1107A-z—Sun Dual 10 GbE XFP 2 SR PCI Express card includes two 10 GbE ports with two fixed XFP SR transceivers (please note that the two XFP transceivers are fixed to the card and not pluggable) 		

Warranty

Visit oracle.com/sun/warranty for Oracle's global warranty support information on Sun products.

Services

Visit oracle.com/sun/services for information on Oracle's service program offerings for Sun products.

Contact Us

For more information about Oracle's Sun 10 Gigabit Ethernet Networking Cards with Fixed Transceivers, please visit oracle.com/sun or call +1.800.786.0404 to speak to an Oracle representative.



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