Sun™ Crypto Accelerator 4000 Board

Reducing the cost and complexity of network security

Key highlights

- Integrated Gigabit Ethernet with a copper or fiber interface.
- Accelerates IPsec and SSL cryptographic functions.
- SSL session establishment rate: Up to 8000 operations per second[1].
- SSL bulk encryption rate: Up to 800 Mbps.
- Provides up to 2048-bit RSA encryption.
- Delivers up to 10 times faster 3DES bulk data encryption[2].
- Provides tamper-proof, centralized key and certificate storage.
- Designed to FIPS 140-2 Level 3 certification[3] and verification.
- Support the Cryptographic Framework module from Solaris 10.
- Shared Key keystore backup/restore operations Fault Management.
- Architecture (FMA) support.
- Jumbo Frames support.

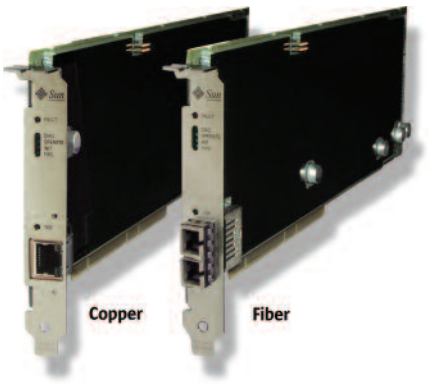
Supports:

- Solaris™ Operating System (IPsec) Cryptographic Framework.
- Sun Java Enterprise Web Server.
- Sun Java Enterprise Software that leverages the Solaris 10 Encryption Framework.
- Apache software through dynamic linking support.
- Third-party software through Solaris 10 Cryptographic Framework.

Improve Your Network Security and Your Bottom Line

While security is mandatory in today's business environment, it doesn't need to add undue complexity or be a drain on your system performance, resources, or budget. Designed to offer maximum value, the Sun™ Crypto Accelerator 4000 board lets you efficiently deliver cost-effective network security on Sun servers running Solaris™ Operating System, Sun Java Enterprise Web Server, and other Sun Java Enterprise software that can leverage the Solaris 10 Encryption Framework, or Apache software through dynamic linking support. By combining Gigabit Ethernet functionality with specialized hardware that off-loads and accelerates IPsec and SSL cryptographic operations, the Sun Crypto Accelerator 4000 board allows you to significantly improve the security, performance, and availability of your applications. Ideal for companies using IPsec VPNs, the board provides the high-bandwidth connections and optimized performance required to efficiently protect your business-to-business and server-to-server communications. Applications using the SSL protocol can also gain increased transaction protection and performance from the board.

Capable of establishing SSL sessions at up to 8000 RSA operations per second, the Sun Crypto Accelerator 4000 board efficiently off-loads IPsec and SSL functions from host processors, helping to eliminate the dropped connections that can result from compute-intensive cryptographic calculations. By handling both authentication and encryption functions, this specialized board frees servers to complete primary tasks, enabling you to maximize resource use and reduce your cost of ownership for network security. The PCI-based card also lets you better manage unexpected spikes in encrypted traffic and leverage gigabit Ethernet bandwidth to support increased traffic requirements, helping you provide a more consistent, satisfactory user experience.



Sun Crypto Accelerator 4000 Board Specifications

Operating System

Solaris 10 Operating System

Solaris 9 or later for IPsec

Solaris 8 7/01 or later for SSL

Web Server Environment

- Sun Java Enterprise Web Server and other Sun Java Enterprise software that can leverage the Solaris 10 Encryption Framework
- Apache Web server through dynamic linking support

Protocols

SSL (Secure Sockets Layer)

IPsec (Internet Protocol security) VPN

Cryptographic Functions

Hash functions: SHA1 and MD5

Block cyphers: DES and 3DES

Modular exponentiation:
RSA/IKE public key with lengths of 512 bits to 2048 bits
RSA 1024-bit private key with CRT; up to 4300 ops/sec.
DSA 1024-bit public key; up to 5400 ops/sec.
3DES bulk encryption acceleration; up to 800 Mbps
True random number generation

Gigabit Ethernet Functions

1000 Mbps Ethernet with a fiber or copper interface

Complies with IEEE 802.3ab/802.3z Gigabit Ethernet Standard

Connections

Sun Crypto Accelerator 4000 Copper: RJ-45 UTP connector for Cat 5 cabling

Sun Crypto Accelerator 4000 Fiber: SC fiber connector for 50/62.5 micron fiber

PCI Adapter

33/66 MHz, 32/64-bit

PCI 2.2 Spec compliant

Full-length PCI card

Regulatory Standards Certification

Sun Spec 990-1151: Test limits and margins

EN55022: RF radiated and conducted emissions

FCC (>1 GHz): RF radiated emissions

EN55024:
EN61000-4-2 ESD
EN61000-4-3 RF immunity
EN61000-4-4 EFT/burst I/O lines, if applicable
EN61000-4-5 surge I/O lines, if applicable
EN61000-4-6 conducted immunity I/O lines, if applicable

Safety and ergonomic: IEC 825 and US FDA laser and LED safety certificates, if applicable

Country registrations: Canada ICES, Japan VCCI, Korea MIC, Taiwan BSMI

Environment

Fully compliant with Sun's EMI and safety requirements

Operating: 0° C to 60° C

Nonoperating: -40° C to 85° C

Humidity: 0% to 95% relative humidity, noncondensing

Power/power dissipation: Under 25 W maximum

Universal signaling: 3.3 V or 5 V; PCI signaling

Dimensions

Width: 107mm (4.2 in.)

Depth: 314mm (12.38 in.)
Full-length PCI card

Systems Supported

Workstations: Sun Blade™ 100, 150, 1000, 1500, 2000, 2500

Volume servers: Sun Fire™ V120, V210, V240, 280R, V480, V880; Netra™ 20, 240, 440, V440, V490, V890

Midframe servers: Sun Fire 4800, 4900, 6800, 6900

High-end servers: Sun Fire 12K, 15K, 20K, 25K

See updated list of systems supported at:
sun.com/networking/crypto

1 SSL performance may degrade when activating FIPS mode.

2 Tests were done by encrypting 16-KB buffers using the Sun Crypto Accelerator 4000 board and software respectively on a Sun Fire 280R with one 900-MHz UltraSPARC® IIICu processor, achieving up to 800 Mbps throughput.

3 Applies to SSL protocol. Certification testing completion scheduled for August 2003.

Get the details.
Learn more about Sun Crypto Accelerator products. Visit sun.com/networking.

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