

Overview

Models

PCI SSL Hardware Accelerator

NOTE: This option will EOL /Discontinue by the end of CY 2004.

3R-A3188-AA

SSL performance solution for secure application servers:

- Supports over 330 SSL connections per second
- Supports over 660 SSL connections using CRT

At A Glance

- Overcomes the performance bottleneck of SSL-secured applications
- Accelerates SSL security processing for secure web application servers such as IIS 5.0, NES, iPlanet, Apache
- Adds a dedicated co-processor to the Alpha server, offloading cycle-consuming exponentiation
- Supports more than 330 SSL connections per second with standard Web servers
- Enabled with Chinese Remainder Theorem (CRT) to improve performance with CRT-enabled applications
- Enabled with MultiPrime for MultiPrime-enabled applications such as wireless e-Commerce
- Provides a much lower cost per SSL connection per second than any product on the market
- Single card per system (not available on all Alpha platforms, refer to platform Supported Options List)
- Meets PCI 2.2 specifications for fast and easy installation
- Plugs directly into AlphaServer PCI I/O bus running Tru64 UNIX (OpenVMS support not available)

Performance Bottleneck in SSL-secured Application Servers

Secure Sockets Layer (SSL) is a cryptographic protocol that protects the digital communications between a browser and a server. SSL is the de facto standard for Internet security today and is found in software in hundreds of millions of browsers and hundreds of thousands of application servers. It is a crucial element in many Internet applications such as home banking, online trading, and consumer e-commerce. As secure servers handle more and more SSL traffic, a performance bottleneck occurs which can severely affect customer satisfaction.

The SSL protocol provides a "handshake" between a browser and a server that establishes which cryptographic algorithms will be used for that session. This handshake requires the server to perform a compute-intensive exponentiation of a cryptographic key. Performing this exponentiation in software, a typical secure server is severely taxed at only a handful of SSL connections per second. The server's CPUs perform cryptographic processing with few cycles left for business processing. A successful application may have new customers waiting to connect to the server. Customers may become frustrated and go elsewhere.

AXL300 Accelerator PCI Card Solves Performance Bottleneck

The immediate recourse to the performance bottleneck is to add another application processor. This can be expensive, and may require that additional memory be installed, which in turn, can result in more complex operations and system management. The preferred alternative is to offload all exponentiation processing to a special-purpose peripheral, leaving the general-purpose processor free to run the business application.

The AXL300 Accelerator PCI Card brings the power of a special-purpose peripheral processor to bear on the performance bottleneck of secure applications. It meets the PCI 2.2 specification and provides for easy installation and use. For example, a typical secure server is saturated running only a handful of SSL connects per second at 100 percent CPU utilization. The AXL300 PCI offloads security processing overhead, so that CPU utilization devoted to exponentiation drops to near zero. For much less than the cost of another general-purpose processor, the AXL300 Accelerator PCI Card frees the server to run the business application.

Server Support

The AXL300 Accelerator PCI Card is only supported on a subset of the AlphaServer platform family. Refer to the Supported Options List -- <http://h18002.www1.hp.com/alphaserver/> -- for specific AlphaServers to determine support and configuration rules.

Platform Ease of Use

PCI Plug-and-Play

The 3R-A3188-AA is compliant with the 2.2 PCI specification and automatically configures its I/O address and interrupts (IRQ) settings for easy installation.

Overview

Performance

Bus-mastering

The 3R-A3188-AA uses bus-mastering technology to maximize throughput and optimize host system utilization.

Warranty

Maximum - The remaining warranty of the HP AlphaServer in which it is installed.

Minimum - 1-year Return-to-Factory with Advance Exchange

NOTE: [Certain restrictions and exclusions apply. Contact 1-800-OK-COMPAQ for details.](#)

Host Platform Support and Configuration Rules

Refer to the Supported Options List (SOL) for specific AlphaServers or AlphaStations at: <http://h18002.www1.hp.com/alphaserver/> to determine support status (hardware configuration rules, minimum supported revisions for operating systems, console firmware, and other related layered products).

Driver Support and where to find it

Driver Support, Tru64 UNIX only, is supplied on a CD shipped with each option.

Tru64 UNIX ONLY	Minimum Supported Version: 4.0F w/NHD1
Tru64 UNIX Driver Kit CD and User's Guide included with each option	Tru64 UNIX V4.0F/TCR 1.6 Tru64 UNIX V5.1/TCR 5.1
Required Patch Kits:	Tru64 UNIX V4.0F: DUV40FAS0006-20010620.tar Tru64 UNIX V4.0G: T64V40GAS0003-20010613.tar Tru64 UNIX V5.1: T64V51AS0003-20010413.tar
SRM Console	V6.1 or later

Ordering Information

NOTE: Before ordering, refer to the Supported Options List (SOL) for your specific AlphaServers or AlphaStations at: <http://h18002.www1.hp.com/alphaserver/> to determine support status (hardware configuration rules, minimum supported revisions for operating systems, console firmware, and other related layered products).

SSL PCI HW Accelerator

Part Number	Description
3R-A3188-AA	AXL300 SSL HW Accelerator PCI Card for Alpha Systems

Technical Specifications

Performance	Standard RSA with 1024-bit keys	330 SSL connections per second
	RSA 1024-bit keys with Chinese Remainder Theorem (CRT)	660 SSL connections per second
Power and Environmental	PCI Specifications	PCI V2.2 Compliant (32 bit, 33 MHz)
	Operating temperature	32 to 100.4° F (0° to 38° C)
	Non-operating temperature	TBS
	Power requirement	2.5W (0.5 A x 5 V)
	Safety compliance	UL, CSA, TUV
	MTBF	Calculated - Greater than 800,000 hours
	Dimensions (L x W x H - primary side; H-Back side)	6.875 in (17.46 cm): 4.2 in (10.67 cm): 0.57 in (14.48 mm); 0.105 in (2.67 mm)

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