

XPedite2000

Security PMC Module Based on the Cavium Nitrox CN1230 Macro Processor

XPedite2000

Features

- Cavium CN1230 Processor
- 133MHz PCI-X cPCI Interface
- Up to 1GB 266MHz DDR SDRAM
- Linux and FreeBSD Support

Typical Applications

- LAN/WAN Networking
- SSL Acceleration / Offloading
- VPN Acceleration



XPedite2000 is a high-performance security PMC Module capable of offloading SSL and IPsec protocols as well as other cryptographic functions. A 133MHz PCI-X interface provides the system designer with ample bandwidth for the data intensive operations required by security protocols. In addition, SO-DIMM based memory allows the card to be customized for the memory requirements of the security application.

XPedite2000 utilizes the Cavium CN1230 Nitrox security processor. The Nitrox is the industry's first processor exclusively targeted towards high-performance IPsec and SSL protocol acceleration rather than ordinary cipher acceleration. The Nitrox core provides the best performance-to-area/cost/power ratio when compared to ASIC based security chips.

XPedite2000 ships with a full suite of Linux drivers and application interfaces to ease system integration. Supported operating systems include Linux, FreeBSD and OpenBSD. SSL software suites supported include OpenSSL and TurboSSL. IPsec software suites supported include SSH, FreeS/WAN, and KAME.

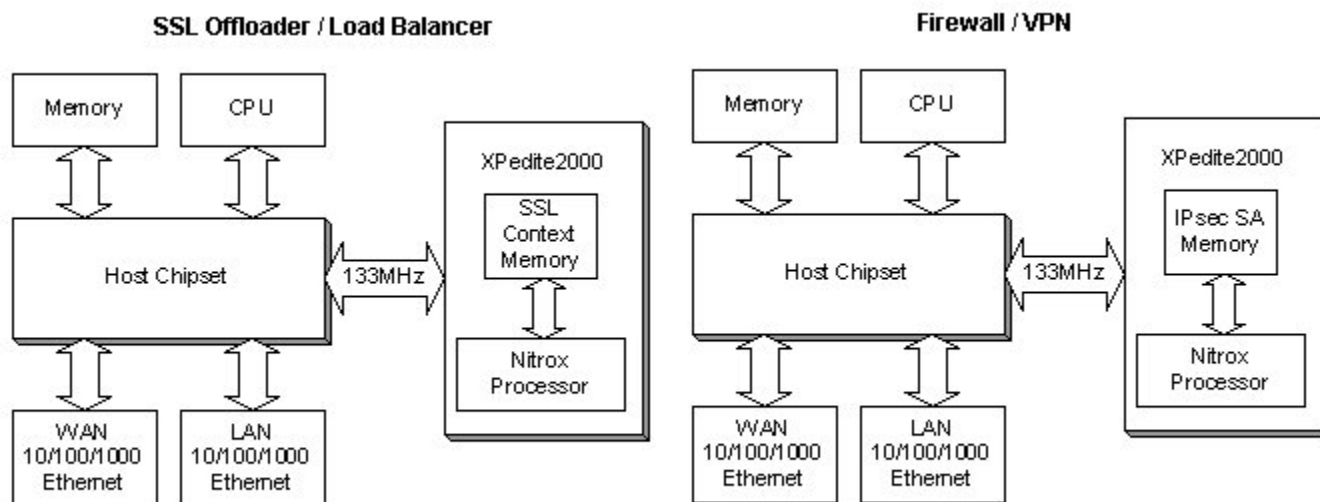
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Block Diagram

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Processor

- Cavium 1230 NITROX Macro Processor
- Accelerates all cryptographic operations
- Supports SSL, IPsec and IKE protocols
- FIPS 140-2 Level 3-4 Capable
- 366MHz Processor Speed
- 133MHz PCI-X Interface
- 266MHz DDR SDRAM Interface

DDR SDRAM

- SO-DIMM Slot
- Supports up to 1GB Memory
- Operates at 266MHz

Algorithm Support

- RSA and Diffie-Hellman (groups 1, 2, 5)
- DES/3DES, AES, ARC4
- MD5, SHA-1, HMAC-MD5, HMAC-SHA-1

Performance Characteristics

- 2Gbps Bulk Data Encryption and Hashing
- Up to 20,000 SSL TPS

Performance Characteristics (cont.)

- Up to 7,000 IKE Main Mode per second
- Up to 2.0Gbps of IPsec traffic throughput
- 200Mbps random number generator
- 2M IPsec SAs with 512MB memory
- 1M SSL contexts with 1GB memory

Software

- Linux / FreeBSD / OpenBSD Drivers
- OpenSSL / TurboSSL
- FreeS/WAN / KAME / SSH

Physical

- PMC Form Factor
- 149mm x 74mm
- 10mm PMC stacking height
- Board Weight: 3.3 oz.

Power Requirements(*)

- +3.3V 2.77A 9.1W
- +5.0V 0.0A 0.0A
- +12.0V 0.00A 0.0W

Power Requirements(*) (cont.)

- -12.0V 0.00A 0.0W

Operating Temperature

- 0 to +55C ambient, at board

Humidity

- 0% to 85%

Storage Temperature

- -40 to +70C

*Tested

- CPU at 366MHz
- DDR at 266MHz
- All Interfaces Active

