



NITROX™ Production Board PCI / PCI-X Acceleration Board for SSL or IPsec

System Performance

SSL or IPsec Performance (depending on Processor Part)

- Up to 28,000 SSL transactions per second
- Up to 2 Gbps of SSL Record processing
- Up to 2 Gbps of 3DES+SHA1 IPsec packet processing
- Up to 6,000 IKE Main Mode /sec (2 DH + 2RSA ops)
- Optional local 64bit DRAM for IPsec SA or SSL Context
- Supports unlimited SSL context or IPsec SAs with host memory

Random Number Generator

- 200 Mbps Random Number Generator



Figure1: Picture of NITROX Board

Hardware Specifications

NITROX Processor Options

CN1220 or CN1230 processor

Interfaces

PCI Industry Standard

- PCI v2.2 compliant, 64bit, 66MHz, 3.3V
- PCI-X v1.0 compliant, 64bit, 133MHz, 3.3V

Memory (optional)

DDR Dim connector

- 200pin SODIMM Slot
- Up to 1GB, 133 MHz DDR with ECC protection

Mechanical Data

Dimension: 4.2 x 6.6 inches PCI form factor

Operating Data

Operating Temperature: 0°C to 55°C

Power Consumption: Typical 6W to 15W based on I/O

FCC Class A certified

Heat Dissipation

- No air-flow required with heat sink
- Heat Sink provided

Overview

The NITROX Production Board enables system designers to quickly integrate high performance SSL and IPsec into their systems. The NITROX Board can be used with a wide variety of networking equipment like routers, switches, web-servers, server load balancers, firewalls, SANs, and VPN gateways. The NITROX Board has optional local DRAM for IPsec SA or SSL session context.

Software Support

Operating Systems

- Linux, BSD and Windows
- Software Development kit with low level drivers, diagnostics, APIs, source code and documentation

SSL systems

- Modified OpenSSL using Cavium's TurboSSL modifications

IPsec Systems

- Modified KAME, Free S/WAN and support for CheckPoint with Cavium's TurboIPsec modifications.

Ordering Information

Part Number	System Interface	Performance			
		RSA 1024b ops/s	DH 180b ops/s	IPsec Mbps (3DES+SHA1)	SSL Rec Mbps (ARC4+MD5)
CN1220-350-NPB	64bit/133 MHz PCI-X	14,000	24,000	1,200	1,200
CN1230-350-NPB	64bit/133 MHz PCI-X	28,000	48,000	2,000	2,000