**Accelerator Boards**

# OCTEON™ Plus XL NIC Express Accelerator Board Family
Product Brief



## OVERVIEW

The new OCTEON Plus XL family of intelligent, Gigabit Ethernet network interface cards (NICs) targets Secure Network Services and compression acceleration in security,  storage and networking appliances with up to 6Gbps performance.
This family includes 2 different PCI-e NICs, with in-line hardware offload for TCP, compression/decompression, Security (SSL/IPsec, SRTP, Data-at-rest), intrusion prevention and anti-virus applications – to deliver the most advanced, multi-function acceleration. Optional C/C++ programmability of the OCTEON Plus CN57XX multi-core MIPS64 processor on the card allows vendors to easily add proprietary features in a field upgradeable manner.

## FEATURES

Comprehensive acceleration for compression/decompression, and  encryption/decryption, pattern matching, TCP, networking, QoS via OCTEON CN57XX Secure Services Processor
- 12 MIPS64 processor cores
- C/C++ programming option

Integrated networking and system I/O
- Four 10/100/1000 RJ-45 Ehternet Ports or Quad SFP cage
- PCIe Express v1.1 x8

Standard PCI-e form-factor – 4.2" x 6.6"

Single-slot thickness

High-performance memory subsystem
- 2 VLP Mini-Dimm memory modules supporting up to 8GB capacity of DDR2-800
- Compact Flash socket up to 4 GB

Additional I/O connectors
- E-JTAG
- Dual RS-232 for console/debug

## BENEFITS

Market-leading performance
- Best compression performance of up to 6Gbps and compression ratio of 4.6:1 (typical)
- Best security acceleration for IPsec/SSL, and TCP of up to 16Gbps/2GBps

Multi-function acceleration provides all acceleration in a single card, vs. using multiple single-function cards

NIC configuration enables reduced PCI-e utilization and higher performance

Optional 'C' programmable solution enables users to add proprietary processing features, as required

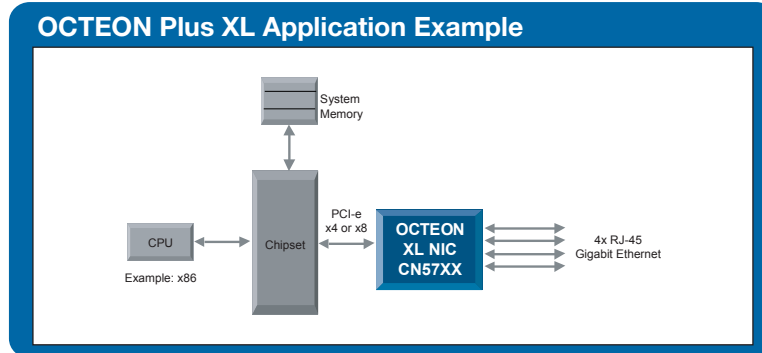Production solution provides rapid time to market for wide range of x86-based appliance systems

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### OCTEON Plus XL Application Example



### ADDITIONAL SPECIFICATIONS

Certifications
- FCC Class A
- CE
- UL (Safety)

RoHS 6 compliant

Temperature range 0 to 55 deg C

### SOFTWARE SUPPORT

Host software support
- PCI-e driver for Linux Host (source provided) and Windows Host
- Compression API's
- TCP offload API's
- SSL API's
- GDB over PCI-e (debug)
- Data-at-rest Security

Optional flexibility to customize OCTEON processing
- OCTEON SDK
  - Complete GNU tool-chain
  - Up to 12-way SMP Linux support
  - Cavium Simple Executive for data plane applications
- Third-party OS and toolchain support, including Monta Vista, Wind River Linux and VxWorks and ENEA OSE
- Broad range of third-party application software vendors

### Ordering Information

| Part Number | Integrated Processor | Front Bracket I/O | Other I/O | Compression | IPsec, SSL,TCP |
|---|---|---|---|---|---|
| CN5534-500-SSP-NIC4E-*M1*-1.0-*YY-G* | 500 MHz CN5534 (6-Core) SSP | Quad RJ-45 UART Status LED | x8 PCI-e Edge connector | 6Gbps | 16Gbps |
| CN5750-800-SSP-NIC4E-*M2*-1.0-*YY-G* | 800 MHz CN5750 (12-Core) SSP | Quad RJ-45 UART Status LED | x8 PCI-e Edge connector | 6Gbps | 16Gbps |

Part Number Options

-*XX* = Blank, Card does not ship with DDR2 Mini-DIMM memory (must be supplied separately)
-*XX* = M1, Card ships with 1x1GB (Total =1GB) DDR2 Mini-DIMMs up to DDR2-800
-*XX* = M2, Card ships with 2x1GB (Total =2GB) DDR2 Mini-DIMMs up to DDR2-800
-*YY* = Blank, Production Card
-*YY* = PR (Prototype Card)