

OCTEON® II CN61XX Multi-Core MIPS64 Processors

Product Brief



OVERVIEW

The OCTEON® II CN61XX family of Multi-Core MIPS64 Processors targets SMB and Mid-level modular and fixed Enterprise platforms for networking and storage including Switches, Routers, UTM, Mainstream Control Plane, WLAN controllers, and NAS/iSCSI appliances. The family includes four software and pin-compatible processors, with two to four cnMIPS64 v2 cores on a massively integrated SoC that includes the latest SERDES-based I/O's including PCIe Gen2 and XAUI, along with Cavium's most advanced third-generation application hardware acceleration to deliver a major performance, power and features over alternative solutions.

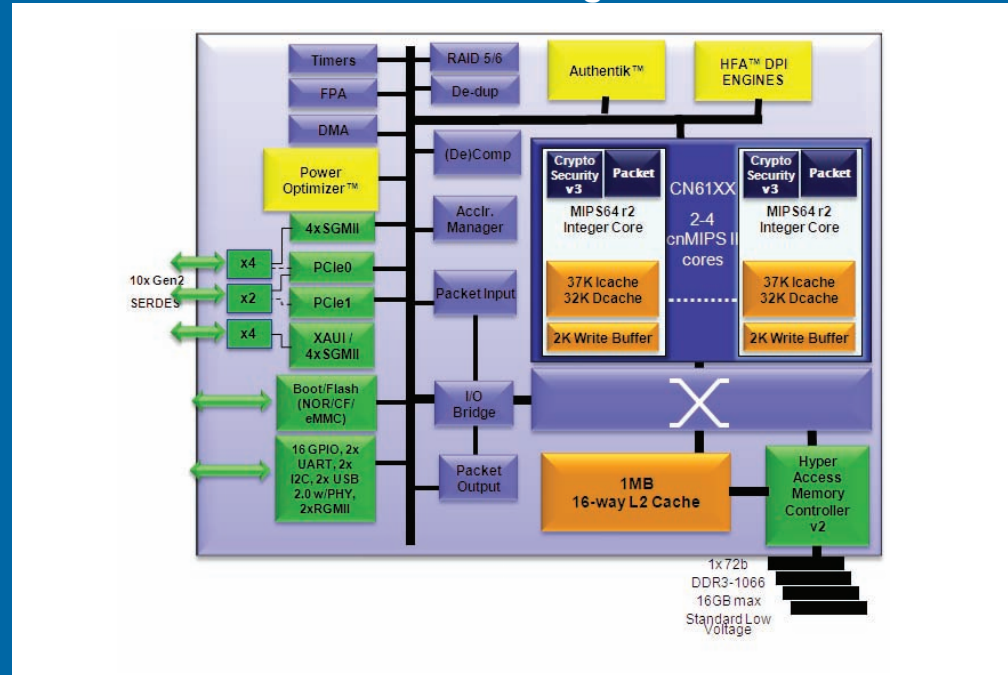
FEATURES

- Up to 1.2GHz / core with large 1MB L2 cache and enhanced core architecture
- Packet I/O processors and hardware application acceleration manager
- New security acceleration engine with expanded algorithm support (3GSNOW)
- Third-generation pattern search capability with new Hyper Finite Automata (HFA) engines without additional memory requirement for BOM reduction
- Latest memory and I/O Interfaces: DDR3, PCIe Gen2, 10GbE/GbE
- 4W to 10W max power and power optimizer technology
- Powerful DMA, RAID, and De-dup engines

BENEFITS

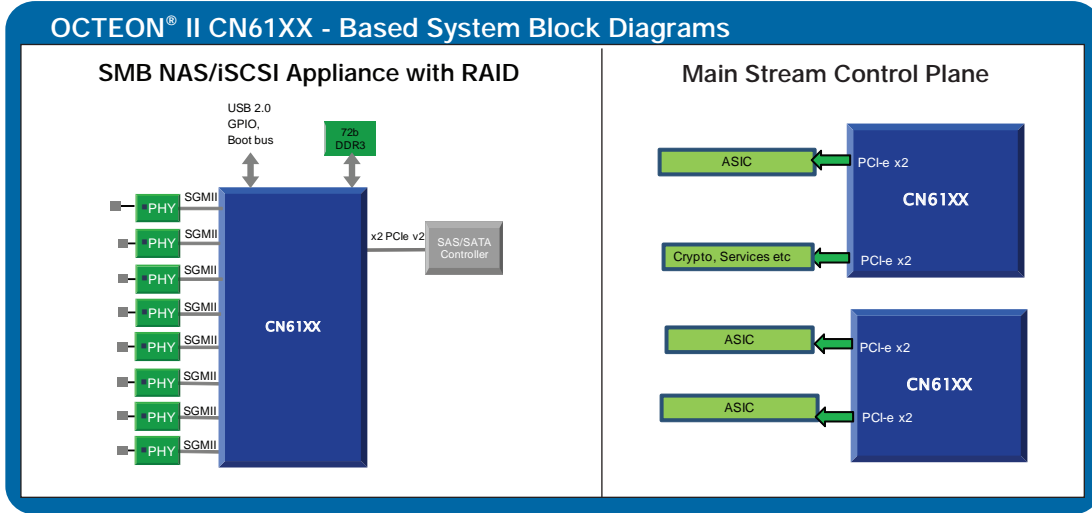
- Power, Performance and Cost Optimized control plane solution with total compute of up to 1.6 GHz
- Up to 5+Gbps of packet processing with QoS
- Up to 5+Gbps security
- 2Gbps+ Deep Packet Inspection, with mainstream pattern memory and 10X+ reduction in graph size
- Future proof I/O's along with seamless connectivity to DSP's and peripherals
- 3x performance/watt over best alternatives

OCTEON® II CN61XX - Block Diagram



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OCTEON II APPLICATIONS

- Next-generation integrated, standalone routers and appliances
- Unified Threat Management (UTM) appliances with Firewall, VPN (IPsec, SSL), IDS, IPS and anti-virus scanning
- Control Plane and Services Processor for storage and networking
- Mid-end Storage appliances with TCP, iSCSI, RAID, compression processing
- Wireless LAN switch/appliance security and packet processing
- Wireless Infrastructure control, packet, security, Deep Packet Inspection, security for LTE/4G/3G

OCTEON II SOFTWARE SUPPORT

- Cavium SDK includes:
 - Up to 32-way SMP LINUX support
 - Cavium Simple Executive for data plane applications
 - Complete GNU tool-chain, GDB, DDD and viewzilla for tuning
 - Optimized C libraries for security, regular expression, de/compression processing offload
 - Support for run-to-completion or pipelined software models
- Complete production quality development toolkits for IP, IPsec, SSL, TCP, SSL-VPN available
- Comprehensive Ecosystem support
 - Popular third-party Operating systems and toolchains
 - Broad range of third-party application software vendors
 - Appliances, AMC, ATCA cards from Cavium's Ecosystem support
- MIPS64/32 support enables thousands of MIPS and other C/C++ applications to be easily ported to OCTEON

OCTEON® II CN61XX - Product Family

Device	Part Number	cnMIPS cores	Performance	Option		L2 Cache	Networking Interfaces	PCI-Express	Memory IO w/ECC	Package
			Max. Available Instructions Per Second	A A P	S C P					
CN6120	CN6120-XXXBG900- Option Code	2	4.8G	Y	Y	1MB	8x SGMII and 2x RGMII (10 CONTROLLERS)	2x2 1x4	DDR3 up to 1066 MHz, 1 x 72-bit	868 HS8GA
CN6130	CN6130-XXXBG900- Option Code	4	9.6G	Y	Y	1MB				

Device Options:

Device Speed Grade (600 = 600 MHz, 800 = 800 MHz, 1000 = 1GHz, 1200 = 1.2 GHz)

Option code for device family listed below:

AAP = Application Acceleration Processor: Includes RAID, encryption, RegEx acceleration, compression/decompression, networking, TCP acceleration, and QoS encryption

SCP = Communication Processor: Includes networking, TCP acceleration, and QoS