

## Marvell Powers Dell "Copper" ARM Server

**Marvell's ultra-low power ARMADA XP CPU System-on-Chip unleashes a new era of energy-efficient servers for cloud applications**

SANTA CLARA, Calif., May 30, 2012 /PRNewswire/ -- Marvell (Nasdaq: MRVL) today announced its [ARMADA® XP](#) chipset is at the core of Dell's recently announced "[Copper](#)" ARM server. By enabling the ARM ecosystem, Dell is responding to the demands of customers who want greater density and power efficiency at a dramatically lower total cost of ownership (TCO). Dell is now delivering its Copper servers to select hyperscale customers and partners.

(Logo: [https://investor.marvell.com/image/Marvell\\_logo.jpg](https://investor.marvell.com/image/Marvell_logo.jpg))

"Marvell is honored to find itself at the technological core of Dell's new cloud server platform," said Paul Valentine, vice president of marketing for the Cloud Services and Infrastructure (CSI) Business Unit of Marvell Semiconductor, Inc. "Leveraging Marvell's expertise in all-encompassing cloud services and infrastructure, Copper delivers the most integrated and balanced combination of security, network, compute, memory and storage elements, resulting in a dramatic improvement in system utilization and a significant reduction in OPEX and TCO. In essence, Marvell equips partners and their respective customers with the power to not only support an escalation in demand for cloud services, but to use their cloud capabilities as a point of differentiation."

"We've worked with Marvell for well over a year on our ARM-based server, and chose their ARMADA XP CPU based on the advantages it delivers in performance and performance per Watt," said Steve Cumings, Executive Director, Dell Data Center Solutions. "The right-sized performance, memory and networking capabilities have a lot to offer Web 2.0, big data and other applications, and we look forward to our continued partnership with Marvell, as we help the ARM server ecosystem mature and grow."

"This collaboration between Dell and Marvell is an excellent example of innovation across the ARM ecosystem," said Ian Ferguson, director of server systems and ecosystems, ARM. "We see this as a further validation of ARM's vision that highly integrated system-on-chip devices will solve the energy and density challenges arising in businesses delivering cloud-based services."

The ARM-based server market is experiencing rapid adoption and acceptance, with customers expressing a greater level of interest in ARM technology along with rising expectations. Servers based on Marvell's quad core ARM-based ARMADA XP SoC products – the world's first quad-core ARM processor designed for enterprise-class cloud computing applications – drive up to 95 percent higher CPU utilization and offer demand-based scaling as an alternative to server virtualization. The result is lower power, higher efficiency server solutions for data centers and enterprises that lead to significant savings.

Additionally, the complete integration of server-related I/O peripherals results in superior density and a lower bill of materials (BOM) costs. Data centers not only require processing capabilities, but also storage and networking solutions. Marvell's expertise in storage, networking and ARM CPUs enables the company to provide completely integrated solutions that also help reduce TCO.

The Marvell ARMADA XP series of multi-core processors employs a very low power architecture and incorporates up to four Marvell-designed ARM V7 MP-compliant 1.6GHz CPU cores to deliver the best performance per Watt for next-generation "Green" system designs. The ARMADA XP series supports SMP (Symmetrical Multi-processing)/AMP (Asymmetrical Multi-processing) modes with hardware cache coherency and a 64-bit DDR2/DDR3 memory interface at an 800MHz clock rate (1600MHz data rate) to enable the utmost in performance.

These devices also incorporate up to 2MB of L2 cache, Quad x4 PCI-express interfaces, multiple USB ports, Gigabit Ethernet ports, SATA, security engine and advanced power management techniques, setting new technology benchmarks for integration, performance and power. With its broad offering of five pin-compatible chips, the ARMADA XP is ideally suited for applications ranging from networking, wireless infrastructure and web servers to high-volume products like NAS, home servers, laser printers and other embedded applications.

Other key features of Marvell ARMADA XP include:

- Up to four high-performance CPU cores with Vector Floating Point (VFP) support
- Up to 1.6GHz operating speed
- Heterogeneous multiprocessing (SMP/AMP/Mixed) with hardware-based cache coherency
- I/O cache coherency

- 32KB-Instruction (4-way) and 32KB-Data (8-way), set-associative L1 cache per core
- Up to 2MB shared and unified 32-way, set-associative L2 cache
- 64-bit DDR2/DDR3/DDR3L memory interface with ECC support at up to 1.6GHz operating speed
- Four Gigabit Ethernet MACs with interface options (GMII/RGMII/SGMII/QSGMII)
- High-performance security engines
- Four PCI-e 2.0 ports (two x4 ports can be configured to Quad x1 - up to 16 lanes)
- Three USB 2.0 ports
- Two SATA 2.0 ports
- Up to 16 high-speed Marvell SERDES lanes with multi functionality (PCI-e, SATA, SGMII, QSGMII)
- Advanced power management
- On-chip LCD controller, NOR, NAND, SPI, SDIO, UART, I2C, TDM interfaces, etc.

## About Marvell

Marvell (NASDAQ: MRVL) is a world leader in the development of storage, communications and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, wireless and storage solutions that power the entire communications infrastructure, including enterprise, metro, home and storage networking. As used in this release, the term "Marvell" refers to Marvell Technology Group Ltd. and its subsidiaries. For more information, visit [Marvell.com](http://Marvell.com).

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