

Marvell Introduces Industry's First Hyper-Scale Quad ARM Cortex-A72 And Dual Cortex-A53 Based Chips On Marvell's Revolutionary MoChi And FLC Architecture

Marvell's AP806 MoChi module with FLC architecture and ARMADA A3700 MoChi module target storage and networking platforms supporting virtualization, and are designed to radically simplify the system design process - lowering costs, power and time-to-market while providing leading performance

SANTA CLARA, Calif., Oct. 6, 2015 /PRNewswire/ -- [Marvell](#) (NASDAQ:MRVL) — a worldwide leader in providing complete silicon solutions from storage to Internet of Things (IoT), cloud infrastructure, digital entertainment, in-home content delivery and Kinoma® software enabling the "Smart Life and Smart Lifestyle" — today introduced its high performance, hyper-scale Marvell® AP806 and ARMADA® A3700 chips, the company's flagship 64-bit ARM Powered® products based on Marvell's revolutionary modular chip or [MoChi™ architecture](#). The AP806 integrates Marvell's [Final-Level Cache \(FLC\) architecture](#), and is designed as a virtual system-on-chip (Marvell VSoC™) with multiple storage and networking companion modules. A groundbreaking ARM® Cortex®-A72 based SoC, the AP806 easily and seamlessly connects to other Marvell MoChi modules creating a Virtual SoC that enables lower system cost, simpler board design and faster time-to-market. The MoChi architecture offers developers and engineers the flexibility to build solutions based on their individual needs, making the Hyper-Scale Quad Cortex-A72 AP806 the most versatile, advanced SoC on the market.

Marvell is also introducing another member in the MoChi architecture family, the ARMADA A3700, a Dual and Single Cortex-A53 based chip integrated with a mix of networking and storage IPs that can be expanded with additional MoChi modules for connectivity and offload options such as packet processor offloads, Wi-Fi, BLE, ZigBee, USB, SATA, etc. The ARMADA A3700 chip addresses cloud-distributed storage, networking management, home and small office/home office (SOHO) routers and storage solutions, and battery-powered IoT devices. The Marvell AP806 and ARMADA A3700 MoChi chips continue the success of the earlier ARMADA SoC generations such as the Cortex-A9 based ARMADA 380 which is now available in 2GHz core speed.

"Today's launch of our first product based on our unique MoChi and FLC architectures marks a significant milestone, and we are excited to see the great impact it will have on the technology industry in helping drive the 'Smart Life, Smart Lifestyle'," said Maya Strelar-Migotti, Senior Vice President of the Smart Networked Devices and Solutions (SNDS) Business Group. "Marvell's MoChi and FLC architectures are designed to provide a solution to combat the pain points that the industry faces in the move to new process technology nodes, and to address the critical need for lower operating power systems. The Marvell AP806 and ARMADA A3700 are the first MoChi modules in a long line of Marvell offerings that will truly redefine how we innovate and build devices, bringing new, cost- and energy-efficient solutions, and helping to improve the lives of people around the world."

"As the industry has continued to drive toward advanced process nodes, the push has always been for more and more integration onto each SoC. Beyond 28nm, however, the steep rise in R&D and mask costs is starting to take its toll on the bottom line of semiconductor companies," said Linley Gwennap, Founder and Principal Analyst of The Linley Group. "The introduction of Marvell's AP806 MoChi module is the first step in creating a new process that can change the way that the industry designs chips. This Virtual SoC is a simpler, more flexible approach that can reduce design cost and speed time to market."

Marvell's MoChi architecture was designed to address the challenges of producing single-die SoCs, which have historically provided steep cost advantages through integration but have now reached a limit whereby the cost per transistor cannot linearly be improved. Implementing MoChi architecture in the AP806 and ARMADA A3700 provides an optimized process selection per MoChi building block while reducing the software investment for a single architecture, and allows for countless configurations and shorter time-to-market. A key element to the MoChi architecture is Marvell's second generation Aurora2 coherent interconnect technology. This high-speed, high-bandwidth interconnect effectively ties together the CPU clusters and the MCI interfaces for coherent, high-performance traffic. The AP806 also builds on Marvell's Final Level Cache (FLC) technology, which reduces the amount of DRAM main memory needed in a system and replaces it with a small layer of high-speed DRAM cache and an inexpensive solid-state drive (SSD) main memory, providing significant cost and power savings.

"Networking and cloud infrastructure is evolving rapidly to address exponential traffic and storage growth so the ARM ecosystem is responding with highly integrated solutions such as Marvell's hyperscale AP806 and ARMADA A3700 chips," said Charlene Marini, Vice President, Embedded Marketing, ARM. "The combination of power-efficient ARM Cortex-A72 and Cortex-A53 processors with the MoChi architecture provides a highly scalable platform to develop innovative storage and networking solutions that will simplify system integration."

For information on Marvell's MoChi and FLC architectures, visit <http://www.marvell.com/architecture/>.

About Marvell

Marvell (NASDAQ: MRVL) is a global leader in providing complete silicon solutions and Kinoma software enabling the "Smart Life and Smart Lifestyle." From storage to Internet of Things, cloud infrastructure, digital entertainment and in-home content delivery, Marvell's diverse product portfolio aligns complete platform designs with industry-leading performance, security, reliability and efficiency. At the core of the world's most powerful consumer, network and enterprise systems, Marvell empowers partners and their customers to always stand at the forefront of innovation, performance and mass appeal. By providing people around the world with mobility and ease of access to services adding value to their social, private and work lives, Marvell is committed to enhancing the human experience.

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