Marvell Launches Next Generation Family Of OCTEON Fusion Wireless Infrastructure Processors

Built on the OCTEON TX2 platform and optimized for 5G, OCTEON Fusion is a family of solutions for base station applications

SANTA CLARA, Calif., March 2, 2020 /[PRNewswire](#)/ -- Marvell (NASDAQ: MRVL) today introduced a new generation family of OCTEON Fusion® processors built on the OCTEON® TX2 platform and optimized for cellular base station designs including baseband unit and smart radio unit applications. 5G wireless networks promise a dramatic improvement in bandwidth and latency, delivering an unprecedented level of service and unlocking new use cases for mobile operators. To make this promise a reality, 5G wireless infrastructure requires more processing power and OCTEON Fusion is optimized to meet this surging demand for compute. Built on Marvell's OCTEON TX2 platform, which provides a complex of Arm® v8 cores and a series of hardware accelerators for networking and security, OCTEON Fusion adds programmable DSP cores and baseband accelerators making it the optimal solution for base stations. More than seven million OCTEON and OCTEON Fusion processors have been designed into 3G, 4G and now 5G base stations worldwide and leading tier 1 telecommunication infrastructure OEMs have already selected the latest OCTEON Fusion processors for their next generation of 5G base stations.

The OCTEON Fusion family is ideally suited for layer 1 processing in traditional all-in-one base stations as well as Distributed Unit (DU) processing in 5G split architectures. In addition, the highly scalable multi-core OCTEON Fusion architecture enables it to address a multitude of base station solutions from mid-capacity small cells to high-capacity modular macro cells. In the Radio Unit (RU), the family offers processing solutions for smart radio heads requiring more compute power to support the complex beamforming algorithms associated with massive MIMO antenna arrays.

OCTEON Fusion is an integral part of Marvell's portfolio of semiconductor solutions for Radio Access Network (RAN) infrastructure. This platform enables OEMs to construct RAN solutions with world-class silicon from a single supplier and supports industry standard software and APIs to facilitate product development.

The Marvell RAN portfolio includes:

- OCTEON Fusion: Complete 4G and 5G layer 1 baseband processing
- OCTEON TX2: Layer 2 and 3 transport and control plane processing
- Prestera®: A line of Ethernet switching solutions for fronthaul, backhaul and intra-RAN connectivity
- Ethernet Connectivity: Marvell's Ethernet adapter, controller, and PHY product lines provide a comprehensive set of connectivity options for RAN infrastructure
- Custom and semi-custom ASICS: OEM-differentiated solutions for baseband and radio unit designs

OCTEON Fusion and OCTEON TX2 processors allow OEMs to deliver base station products that meet the demanding latency and bandwidth requirements of 5G network deployments while being in position to upgrade their offerings as cellular standards evolve. In addition, Marvell is engaged with wireless infrastructure OEMs to develop customized solutions allowing them to combine their own intellectual property with Marvell's hardened and widely deployed processor and accelerator technology. This unique capability allows customers to differentiate their offerings and maintain flexibility while providing them with a time-to-market advantage.

"Marvell has continued to innovate around the OCTEON Fusion architecture to achieve an increasingly comprehensive cellular network portfolio," said Caroline Gabriel, principal analyst, Wireless at Analysis Mason. "Their ability to address today's 5G network roll-out while offering future design flexibility makes a lot of sense in this quickly evolving marketplace. There will be a number of different 5G networking configurations, and Marvell processors will be capable of addressing each one of them."

"Marvell provides the industry's most comprehensive set of 5G silicon solutions," said Raj Singh, executive vice president of the Processors Business Group at Marvell. "And the OCTEON Fusion family is the cornerstone of our architecture, providing a comprehensive, software-compatible, and customizable base station compute platform to meet the diverse needs of next generation 5G mobile networks."

Key features:

- High capacity: supports thousands of connected users/devices
- Wide connectivity: connects to many radio heads and/or massive MIMO antenna arrays
- High throughput: supports multiple 100 MHz channel bandwidths or a higher number of narrower channel bandwidths

- Wide frequency: supports sub-7 GHz and millimeter wave frequency spectrums

Marvell's OCTEON Fusion CN95xx is available now and shipping in volume, with reference designs and development kits available.

For more information, please visit https://www.marvell.com/products/infrastructure-processors/baseband-processors/octeon-fusion-4g-5g-processors.html

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Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, processing, networking, security and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. To learn more, visit: https://www.marvell.com/

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