Freescale takes its next generation QorIQ multicore platform to 16nm FinFET technology

Comms processing leader to migrate its vast portfolio of networking IP to 16nm, the platform for next-generation standard product multicores and radically innovative semi-custom designs

AUSTIN, Texas – June 23, 2015 – (Freescale Technology Forum 2015) – Freescale Semiconductor (NYSE: FSL) has disclosed initial details regarding the next generation of its successful QorIQ multicore processor portfolio, today announcing it will drive innovation for the secure Internet of Tomorrow (IoT) on highly advanced 16nm FinFET process technology.

The move to 16nm FinFET is expected to enable next-generation QorIQ processors to deliver 2x performance gains within the same power envelope relative to 28nm products. Freescale has already performed extensive evaluation and testing on 16nm FinFET, and is now applying its findings to next-node implementations of cores, hardware accelerators, interconnect fabrics and other IP.

At this node, Freescale will maintain its focus on extending its leadership in standard product communications processor families, while also unleashing the breadth of its extensive IP portfolio with complementary new go-to-market engagement models, including the development of innovative semi-custom designs in tight alignment with select strategic customers.

“The world’s networks are moving and changing faster than ever before, driven by the convergence of extreme virtualization, software-centric network topologies, continued expansion of the IoT, and growing demand for increased, flexible intelligence at the network’s edge,” said Tom Deitrich, SVP and GM of Freescale’s Digital Networking group. “This new paradigm favors silicon providers like Freescale with advanced process technology, deep bonds with the world’s leading equipment OEMs, and the breadth of critical IP like software, advanced acceleration engines and optimized compute densities ideally suited to drive the Internet of Tomorrow.”

To help its deep roster of top networking OEM customers differentiate and thrive in this new environment, Freescale plans to exploit the full value of its 16nm FinFET IP to create innovative, semi-custom designs engineered to meet the dynamic requirements of highly virtualized networks. Customers can mix and match Freescale IP alongside their own proprietary IP to offer the most differentiated solution in their market space. Aligning in this manner with strategic customers is expected to optimize efficiencies, speed time-to-market and foster closer customer cooperation in the development of next-generation solutions. For Freescale, these kinds of new engagement models can enable optimized R&D
Providing the building blocks for innovation at 16nm
To meet the demands of tomorrow’s networks, Freescale will provide lead customers and partners access to a broad spectrum of 16nm building blocks. Freescale maintains one of the broadest and most diverse portfolios of networking IP in the world, including high performance 64-bit cores based on ARM® and Power Architecture® technology, StarCore DSP cores, highly advanced I/O and acceleration technologies, world-class network security blocks and extensive software solutions – all backed by Freescale’s proven networking systems knowledge and decades of SoC design experience.

Rich ecosystem and complete enablement
The Freescale 16nm platform will be supported by a comprehensive ecosystem providing ease-of-use support for its QorIQ processors, supplemented with operating systems and BSPs from its partner network. The CodeWarrior Integrated Development Environment (IDE), and an optimized and compliance tested Layer-1 software components library for FDD & TDD LTE/LTE-A processing chains will enable rapid customer LTE L1 software development. Communications targeted Linux SDKs including low latency Layer 2 support will also be offered. Freescale supports Linaro and OpenDataPath (ODP) APIs and management software for easy setup, initialization and teardown of interfaces, accelerators and networking functions. For fast time to market, performance-optimized functional datapath libraries, Freescale VortiQa software solutions and a selection of development tools and open-source software are planned. Software services are offered enabling customers to leverage Freescale’s systems expertise for specifically targeted deliverables.

Initial 16nm FinFET SoC product sampling is expected in mid-2016.

About Freescale Semiconductor
Freescale Semiconductor (NYSE:FSL) enables secure, embedded processing solutions for the Internet of Tomorrow. Freescale’s solutions drive a more innovative and connected world, simplifying our lives and making us safer. While serving the world’s largest companies, Freescale is also committed to supporting science, technology, engineering and math (STEM) education, enabling the next generation of innovators. www.freescale.com.

About the Freescale Technology Forum
For ten years, the Freescale Technology Forum (FTF) has driven innovation and collaboration by featuring one of the most comprehensive embedded ecosystems in the industry. FTF provides the training and expertise customers need to create and enable the secure, embedded solutions needed for the Internet of Things – today and tomorrow. FTF features four days of in-depth training, hands-on workshops, demonstrations from Freescale and ecosystem partners and exceptional opportunities to collaborate with industry peers and visionaries. The
forum has been enthusiastically received by the global developer community, drawing nearly 70,000 attendees worldwide since its inception in 2005. FTF takes place June 22-25, 2015, in Austin, Texas. The keynotes will be available by live stream. Don't miss out – save the dates to your calendar.

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**Media Contacts:**

**Americas**
Jack Taylor  
Freescale Semiconductor  
(512) 560-7143  
jack.taylor@freescale.com

**Asia Pacific**
Gloria Shiu  
Freescale Semiconductor  
(85-22) 666-8237  
gloria.shiu@freescale.com

**Europe, Middle East and Africa**
Laurent Massicot  
Freescale Semiconductor  
(33-16) 935-7712  
laurent.massicot@freescale.com

**India**
Anjali Srivastava  
Freescale Semiconductor  
(91-120) 395-0000  
anjali.srivastava@freescale.com

**Japan**
Kiyomi Masuda  
Freescale Semiconductor  
(81-3) 5437-9392  
R31989@freescale.com

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