Cortex-A15 processor runs at up to 2.5GHz

ARM today introduced the Cortex-A15 MPCore processor that delivers a 5x performance improvement over today's advanced smartphone processors, within a comparable energy footprint. In advanced infrastructure applications the Cortex-A15 processor running at up to 2.5GHz will enable highly scalable solutions within constantly shrinking energy, thermal and cost budgets. The Cortex-A15 processor is available for licensing today and is targeted at manufacture in 32nm, 28nm and future geometries.

As the latest addition to ARM's Cortex-A family of processors, the Cortex-A15 MPCore processor will enable a new and vast array of products ranging from next-generation smartphones, tablets, large-screen mobile computing and high-end digital home entertainment devices through to wireless basestations and enterprise infrastructure products.

"The launch of the Cortex-A15 MPCore processor marks the beginning of an entirely new era for the ARM Partnership. It brings together more than 20 years of ARM expertise in low-power design with a host of new and very aggressive high-performance technologies," said Mike Inglis, EVP and GM, processor division, ARM. "The Cortex-A15 MPCore processor will become the next major step along the industry's energy efficient computing roadmap and open up a wide range of new application possibilities for our Partners."

The debut of the Cortex-A15 MPCore processor enhances the ARM Cortex-A Series of processors by providing the electronics industry with the broadest range of software and feature-set compatible processors. The Cortex-A15 extends the capabilities of the ARM Cortex-A Series by adding efficient hardware support for OS virtualization, soft-error recovery, larger memory addressability and system coherency. While remaining true to ARM's power-efficient design heritage, the

Cortex-A15 MPCore processor brings a new level of performance scalability as well as a feature set that enables ARM Partners to address a range of innovative and traditional markets with a single processor architecture.

The Cortex-A15 also enjoys full application compatibility with all of the other highly acclaimed Cortex-A processors. This enables immediate access to an established developer and software ecosystem, including Android, Adobe Flash Player, Java Platform Standard Edition (Java SE), JavaFX, Linux, Microsoft Windows Embedded Compact 7, Symbian and Ubuntu, along with more than 700 ARM Connected Community members providing applications software, hardware and software development tools, middleware and SoC design services.

“The operational and economic benefits of cloud computing will transform the high-tech industry over the next decade. Everything from handheld devices to the network infrastructure will require more performance and efficiency to handle the increasing amounts of information that will emerge from the use of remote resources,” said Jim McGregor, chief technology strategist at In-Stat. “ARM has been at the core of the mobile industry and the Cortex-A15 MPCore and accompanying technologies extends the potential for this highly efficient and flexible architecture to other applications critical to our connected world.”

Collaborative differentiation through partnerships continue to be the main driver of the ARM business model and the launch of the Cortex-A15 MPCore processor is the result of ARM’s work with lead licensee partners Samsung, ST Ericsson and Texas Instruments, who were key drivers of the definition of the processor, ensuring it meets the key challenges faced by the industry.

“The market’s demand for more functionality and connectivity with low-power consumption requires ever more advanced processor, system and chip design. By combining the advanced CPU technology from ARM with Samsung’s world leading chip design and manufacturing capabilities, Samsung has already achieved considerable success in offering high performances and low power Application Processor products to the market place,” said Yiwan Wong, VP of SoC marketing, system LSI division, Samsung Electronics. “We believe this new Cortex-A15 MPCore processor core from ARM, with its quantum leap in processing capabilities, will successfully enable many next-generation electronic products and redefine the level of experience consumers will demand from their smartphones and mobile computing devices.”

“We have entered a new era for smart devices where wireless computing solutions bring 3D navigation, augmented reality, HD video filming, high speed broadband and other advanced capabilities to more consumers, enabling our vision of an all-connected world,” said Edgar Auslander, senior vice president, strategic planning at ST-Ericsson. “Following our pioneering single die integration of modem and application engine featuring a dual Cortex-A9 processor, we are pleased to continue to work with ARM as a lead partner for the Cortex-A15 MPCore processor. Integrated into our leading-edge system-on-chip solutions, the new ARM core will enable our customers to build extremely power-efficient devices with an unprecedented level

of performance."

"As a long-term key partner, TI has worked with ARM for 17 years to innovate and deliver more than 3 billion ARM processor-based system-on-chip (SoC) devices. As an advanced lead partner and first licensee of the Cortex-A15 MPCore processor, we look forward to leveraging the Cortex-A15 core to deliver industry-leading processors that will provide the high performance demanded by the next generation of connected devices, all within a low-power envelope. When pairing the Cortex-A15 MPCore processor with TI's SmartReflex™ 3 technology, future OMAP applications processors will yield a 60 percent reduction in power, enabling TI to continue delivering the industry's most energy-efficient, high-performing solutions. We also see the potential for broader market implementations, leveraging the Cortex-A15 core for home entertainment and multimedia applications," said Remi El-Ouazzane, vice president, OMAP platform business unit, TI.

Supporting Technology
The Cortex-A15 MPCore processor will be supported by specifically optimized ARM Physical IP that was developed jointly with the processor. These optimizations enable rapid development of leadership physical implementations, initially targeting 32nm and 28nm technologies with a roadmap extending to 20nm.

The processor is also supported by a broad range of ARM technology including the AMBA 4 compliant CoreLink system IP, CoreSight debug and trace IP, Mali Graphics and a robust set of development tools. This technology is complemented by a broad range of SoC and software design solutions, tools and services from the ARM Connected Community ecosystem to provide ARM Partners with a smooth path through the development, verification and production of full function, compelling devices while significantly reducing time-to-market.

For details on the specific new features and capabilities of the Cortex-A15 MPCore processor and the supporting technology go to
http://www.arm.com/products/processors/cortex-a/cortex-a15.php [1]

Source URL (retrieved on *12/10/2013 - 8:38am*):
http://www.ecnmag.com/product-releases/2010/09/cortex-a15-processor-runs-25ghz

Links:
[1] http://www.arm.com/products/processors/cortex-a/cortex-a15.php