

# NXP Unveils World's Smallest and Lowest Power 64-Bit ARM®-based Processor

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Tiny QorIQ LS1012A delivers networking-grade security and performance acceleration to battery-powered, space-constrained applications

NUREMBURG, Germany--(BUSINESS WIRE)--Feb. 22, 2016-- NXP Semiconductors N.V. (NASDAQ: NXPI) has introduced the <u>OorIQ LS1012A</u> processor, delivering enterprise-class performance and security capabilities to consumer and networking applications, all in a package size normally associated with microcontrollers. Combining a 64-bit ARM®v8-based processor with network packet acceleration and QorIQ trust architecture security capabilities, the device features line-rate networking performance at 1W typical power in a 9.6mm x 9.6mm package.

This Smart News Release features multimedia. View the full release here: http://www.businesswire.com/news/home/20160221005055/en/



This new NXP processor is designed to enable the creation of entirely new classes of products which combine batterypowered operation with line-rate networking. The QorlQ LS1012A is also ideal for a range of established and fast-growing applications including next-generation IoT gateways, portable entertainment platforms, high performance portable storage applications featuring mobile HDD, and mobile storage for cameras, tablets and other rechargeable devices.

Additionally, the LS1012A is the first processor designed specifically for an emerging new storage paradigm. As cloud data storage requirements continue to grow, the industry is increasingly turning to object-based file architectures in a bid to simplify and reduce costs. Object-based storage relies on an intelligent hard disk drive (HDD) which is directly connected to the data center Ethernet network. The LS1012A is the first network processor small enough to be integrated directly onto

NXP's new QorlQ LS1012A device is the world's smallest and lowest power 64-bit ARM®-based processor (Photo: Business Wire)

the PCB of a HDD, enabling the so-called "Ethernet Drive" and occupying the same form-factor as the existing HDDs.

"The groundbreaking combination of low power, tiny footprint and networking-grade performance of NXP's LS1012 processor is ideal for consumer, networking and Internet of Things applications alike, including comprehensive IoT Gateway solutions which integrate low power 64-bit ARM based processors together with BLE, ZigBee® & Thread wireless technologies," said Tareq Bustami, senior vice president and general manager of NXP's Digital Networking business. "This unique blend of capabilities unleashes embedded systems designers and developers to imagine and create radically innovative end-products across a broad spectrum of high-growth markets."

With the new LS1012A, NXP has combined a low-power, 2 Gbps packet crypto accelerator with a highly power-efficient 64-bit ARM Cortex® A53 core, and integrated them with a full suite of high speed peripherals in a small package unprecedented for this class of device. The product incorporates dual 2.5 Gigabit Ethernet, PCIe, SATA3 and USB 3.0 with integrated PHY. It is the only 1W, 64-bit processor in the market to combine such a comprehensive set of high speed peripherals in a single SoC, thus enabling lower system-level costs. And due to innovative packaging, the processor can be routed on low-cost, 4-layer PCBs.

"With the introduction of the LS1012A, NXP's 64-bit ARMv8 communications processor portfolio now scales from single ARM A53 cores to octal ARM A72 designs," said Linley Gwennap, founder and principal analyst for The Linley Group. "This new offering reinforces NXP's position of having one of the broadest portfolios of ARM 64-bit networking solutions in the market."

#### Multi-output DC-DC converter/PMIC

The QorlQ LS1012A is powered by NXP's new VR5100 multi-output DC-DC converter, which enhances the LS1012A processor's power efficiency features. It includes three buck regulators, six LDOs and a boost regulator offering a complete power management solution for Network Attached Storage, battery operated mobile NAS, IoT gateway, and home/factory automation systems. While providing exceptionally low quiescent current operation compared to competing solutions, the highly integrated VR5100 is specifically programmed for optimal processor performance and reduced

development time, and will be included in the LS1012A evaluation board.

### Software, development tools and availability

To speed product design, NXP is now accepting orders for LS1012A. The product will be enabled with application-optimized software kits for routing and storage applications, as well as a rich Linux SDK suitable for a broad range of markets. Development tools include a full software development kit with Yocto support, the CodeWarrior for ARM-64 bit tool chain and a full-featured RDB board.

NXP's LS1012A will be available in April 2016 and can be ordered now.

#### **About NXP Semiconductors**

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