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Numonyx launches low-cost, low-power DDR interface Non-Volatile RAM products GENEVA, July 22, 2008 – Numonyx B.V. introduced today its Velocity LP™ NV-RAM product family – the industry's fastest low-power, double-data-rate (LPDDR) non-volatile memory – giving mobile phones and other consumer electronics makers better memory performance at lower costs than current solutions. The new devices deliver two to three times faster read bandwidth performance improvement over traditional NOR Flash memory, while providing a cost saving alternative to platforms using high DRAM content. The Numonyx Velocity LP NV-RAM family also offers a seamless architectural path to the company's upcoming phase change memory (PCM) products.

Digital images, videos, games and other applications continue to put significant memory demands on wireless phones. To meet that demand, most mobile phone makers utilize combinations of non-volatile memory like NOR and NAND with costly RAM memory technologies. Each of these memory types require different hardware and software interfaces and often force designers to make trade-offs between memory system performance and supporting more interfaces which can increase system cost.

Numonyx Velocity LP NV-RAM combines the attributes of the execution memories in the system onto one, widely accepted LPDDR interface – helping to simplify system architecture, increase speeds and reduce costs. Because this non-volatile memory is also executable, designers can enable digital content to be read at RAM speeds and lower the memory system cost by reducing the requirements for LP RAM in the system. Support for the new interface also helps system architects to scale their memory systems to support more phones, from low-end to high-end, with the same architecture.

"Numonyx continues to lead the wireless non-volatile memory market segment," said Marco Dallabora, vice president and general manager of Wireless Business Group at Numonyx. "With Numonyx Velocity LP NV-RAM, we are the first to deliver the benefits of the LPDDR-NVM interface with the leading features of our proven 65nm non-volatile memory technology. Our goal is to help OEMs introduce cost-effective, high-performance phones to market, and to realize a considerable head-start on delivering PCM-based devices for the wireless market."

The Numonyx Velocity LP NV-RAM family is compliant with the JEDEC Low Power Double Date Rate (LPDDR) NVM Standard announced in November 2007. Upon ratification, Numonyx will continue to work with the industry to support future generations of interface standards with their products. This is the first step in helping to deliver faster non-volatile memory, reducing the need for added RAM for mobile platforms.

In developing the Numonyx Velocity LP NV-RAM family, the company actively engaged the ecosystem and customers to enable LPDDR NV-RAM solutions to hit the market in 2009. "The LPDDR-NVM interface offers significant benefits to developers implementing mobile applications around the ARM* architecture," said Keith Clarke, vice president operations and Fabric IP, Processor Division, ARM. "We collaborated closely with Numonyx to extend the AMBA* 3 AXI*-based ARM PrimeCell* PL340 dynamic memory controller to work with the Numonyx Velocity LP NV-RAM solution and it has already been successfully deployed to our lead partners."

Adding value with software and packaging
In addition to offering innovative NVM silicon, Numonyx also delivers innovative software solutions. With its Advanced XIP File System (AXFS), Numonyx enables software designers and architects to utilize a single file system to support NV-RAM, NOR, NAND and RAM technologies, as well as future PCM-based products. AXFS software helps designers get 50 percent more storage in a given density by compressing unused code pages; optimizing system-level performance and cost during design; and lowering system power by decreasing RAM requirements.

Through innovative packaging techniques, Numonyx enhances the benefit of sharing RAM and Velocity LP NV-RAM in a single package-on-package solution. This allows designers to deliver a high-performance, low-cost memory solution on top of the processor. By having RAM and Velocity LP NV-RAM on the same bus, Numonyx can stack the memories on top of each other, saving physical space or "memory footprint" on the circuit board.

About Numonyx
Numonyx designs and manufactures a full complement of integrated NV-RAM, NOR, NAND and phase change non-volatile memory technologies and products to meet the increasingly sophisticated needs of customers in the wireless, data and embedded markets. Numonyx combines the technology and manufacturing expertise of the flash memory divisions of Intel Corporation and STMicroelectronics, and is dedicated to providing high density, low power memory technologies and packaging solutions to a global base of customers. Additional information about Numonyx is available at:

- NOR solutions card for wireless applications
- White Paper: Designing a cellular low power DDR non-volatile memory system