

Intel, Micron Develop World's Fastest NAND Flash Memory with 5X Faster Performance

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Intel and Micron Technology unveiled a high speed NAND flash memory technology that can greatly enhance the access and transfer of data in devices that use silicon for storage. The new technology – developed jointly by Intel and Micron and manufactured by the companies' NAND flash joint venture, IM Flash Technologies (IMFT) – is five times faster than conventional NAND, allowing data to be transferred in a fraction of the time for computing, video, photography and other computing applications.

The new high speed NAND can reach speeds up to 200 megabytes per second (MB/s) for reading data and 100 MB/s for writing data, achieved by leveraging the new ONFI 2.0 specification and a four-plane architecture with higher clock speeds. In comparison, conventional single level cell NAND is limited to 40 MB/s for reading data and less than 20 MB/s for writing data.

"Micron looks forward to unlocking the possibilities with high speed NAND," said Frankie Roohparvar, Micron vice president of NAND development. "We are working with an ecosystem of key enablers and partners to build and optimize corresponding system technologies that take advantage of its improved performance capabilities. Micron is committed to NAND innovation and designing new features into the technology that create a powerful data storage solution for today's most popular consumer electronic and computing devices."

"The computing market is embracing NAND-based solutions to

accelerate system performance through the use of caching and solid-state drives," said Pete Hazen, director of marketing, Intel NAND Products Group. "At up to five times the performance over conventional NAND, the high speed NAND from Intel and Micron, based on the ONFi 2.0 industry standard, will enable new embedded solutions and removable solutions that take advantage of high-performance system interfaces, including PCIe and upcoming standards such as USB 3.0."

For example, the specific performance advantages of high speed NAND in today's most popular devices include:

- When used in a hybrid hard drive, high speed NAND can allow the system to read and write data anywhere between two or four times the speed when compared to conventional hard drives.

- With the popularity of digital video cameras and video on demand services, high speed NAND can enable a high-definition movie to be transferred five times faster than conventional NAND.

- With the pending USB 3.0 interface, high speed NAND is expected to effectively deliver on the increased data transfer rates of the new specification, where conventional NAND would act as the bottleneck in system performance. USB 3.0 is aiming for 10 times the bandwidth of current USB 2.0 solutions, or approximately achieving 4.8 gigabits per second.

- As NAND continues to move into the PC platform, the Non-Volatile Memory Host Controller Interface (NVMHCI) can take advantage of high speed NAND in solutions such as Intel Turbo Memory, allowing for even better system performance. NVMHCI is designed to provide a standard software programming interface allowing operating system drivers to access NAND flash memory storage in applications such as hard drive caching and solid-state drives.

Additional information on high speed NAND, the applications and opportunities for the technology can be found on Micron's Web site at www.micron.com/highspeednand .

Source: Intel

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