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Micron SSD Advances the Portable Computing Experience

Micron's M600 SSD sets new benchmarks for low power use and innovative performance enhancements

Key Messages:

- Class-leading power efficiency helps extend system battery life
- Unique dynamic write acceleration technology delivers consistently high write performance regardless of SSD capacity
- Robust endurance specifications and government-grade hardware encryption provide customer peace of mind

Multimedia Elements:

- Media Kit

BOISE, Idaho, Sept. 16, 2014 (GLOBE NEWSWIRE) -- Micron Technology, Inc., (Nasdaq:MU) today announced a next-generation, client-class solid state drive (SSD) that sets a new bar for low-power, high-performance storage for personal computers. The M600 SATA SSD—specifically designed to take advantage of Micron's leading-edge NAND Flash technology—addresses the storage demands of modern mobile computing applications, including Ultrabook™ platforms and tablets, as we as performance-oriented PC desktops and video capture systems.

"Storage is an important enabler for ultrathin designs in personal portable computing devices," said Greg Wong, founder and principal analyst at Forward Insights. "Micron's M600 delivers the power efficiency and performance that helps to enable instant-on performance and responsiveness as well as the all-day battery life demanded by next-generation computing systems."

To help meet consumers' ever-increasing expectations for longer battery life, the M600 offers class-leading SSD power efficiency. It draws less than 2 milliwatts (mW)[i] in sleep mode and averages 150mW during active use. Typical laptop hard drives require exponentially more power when idle (130mW) and ten times as much power while they spin their platters to access data during active use (1400mW to 2000mW).[ii]

Despite its extraordinarily low power use, the M600 offers strong performance. It can read data as fast as the SATA interface allows—with random reads up to 100,000 input/output operations per second (IOPS) and 560 MB/s sequential read speeds for all capacities. The M600 also excels in write performance due to Micron's innovative dynamic write acceleration. This technology switches NAND cells to behave more like higher-grade Flash (from MLC to SLC) on-the-fly, creating a cache that is sized according to drive demands—instead of sacrificing user capacity for a permanent cache. The end result reduces power use and improves write performance as much as 2.8 times[iii] over non-cached systems, ensuring that even the lower-capacity M600 SSDs deliver excellent write speeds.

This unique write architecture also helps the M600 achieve greater longevity. For example, the 1TB M600 is warranted to reach up to 400TB total bytes written (TBW), which is five times more than typical client drives.[iv] That's enough endurance to write 220GB a day, every day, for five years—dramatically more than a normal client workload and enough to make even the most cautious user stop worrying about SSD wear-out.

The M600 is also equipped with powerful self-encryption technology designed to meet strict government standards—ensuring valuable mobile data is secure even in the event of theft or loss. The M600's AES-256-bit hardware encryption engine actively encrypts data without performance degradation and complies with the TCG™ Opal 2.0 standards and the Microsoft® eDrive protocol, making it easy to enable using management tools or within Windows 8.[v]

The M600 uses Micron's 16nm process technology— their most advanced Flash technology and winner of TechInsights' Most Innovative Memory Device and Semiconductor of the Year. The drive features a host of quality and reliability features that Micron customers have come to expect, including RAIN onboard fail-over protection, client-class power-loss protection for data at rest, and adaptive thermal monitoring, which dynamically adjusts power consumption based on system temperature—ideal

for ultra-small, thermally constrained systems.

"The M600 sets a new bar for power, security and efficiency in client SSDs and delivers on our vision to provide the most advanced storage solutions," said Darren Thomas, vice president of Micron's storage business. "OEMs expect Micron to deliver leading-edge SSDs that give their products an advantage and a noticeably better user experience. The M600 fulfills that promise."

The M600 SSD uses Micron's 128Gb NAND to enable a wide range of capacities in tiny configurations. The M600 is offered in 128, 256 and 512GB mSATA and M.2 module configurations. The gumstick-sized M.2 module is offered in both 80mm and 60mm versions (2280 and 2260) to provide versatile options for ultra-slim tablet systems. The M600 is also available in a 2.5-inch, 7mm form factor, which is available in capacities from 128GB to 1TB.

The M600 SSD is currently in production and is sold directly to OEMs and to system builders and businesses through Micron's extensive distribution network. For additional information on the key features of the M600, visit www.micron.com.

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Micron Technology, Inc.

Micron Technology, Inc., is a global leader in advanced semiconductor systems. Micron's broad portfolio of high-performance memory technologies—including DRAM, NAND and NOR Flash—is the basis for solid state drives, modules, multichip packages and other system solutions. Backed by more than 35 years of technology leadership, Micron's memory solutions enable the world's most innovative computing, consumer, enterprise storage, networking, mobile, embedded and automotive applications. Micron's common stock is traded on the NASDAQ under the MU symbol. To learn more about Micron Technology, Inc., visit www.micron.com.

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[i] Less than 3mW for 1TB capacity.

[ii] HDD power use based on published specifications for popular mobile 320GB HDDs: Toshiba MK3256GSY and Western Digital WD7500BPVT.

[iii] Results based on Micron testing of SSDs with dynamic write acceleration technology enabled and disabled.

[iv] Endurance (TBW) at 128GB - 100 TB, 256GB - 200TB, 512GB - 300TB, 1TB - 400TB.

[v] eDrive capability is supported on Windows 8 RT, Professional and Enterprise editions.

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