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## **VMETRO introduces Industry's First PCI Express Battery-Backed NVRAM card**

VMETRO today announced the latest member of the Umem NVRAM product line, the MM-5453CN, which is a low-profile, half-length PCI card with a PCI Express x4 interface for use by OEMs in enterprise-class server and storage appliances. Following the acquisition of Micro Memory in 2007, the Umem product line has expanded VMETRO's market reach into the rapidly growing sectors of Network Storage and Data Management. The MM-5453CN is targeted at Tier I/II OEM customers with NAS, SAN management, virtualization, disk-based backup and continuous data protection applications.

The application optimized Umem DMA engine and memory controller provide low latency accesses for operations involving file system journaling, logging and write caching. Unlike other forms of persistent (non-volatile) storage, Umem NVRAM cards are only limited by the throughput and access times of the peripheral interface, not the storage media.

Leveraging a 25 year investment in Umem data retention technology, the MM-5453CN was developed for the latest PCI Express based appliance platforms. PCI Express fabrics enable concurrent host access of multiple peripherals, and as a serial interconnect, signal integrity is improved over higher clock frequencies when compared to more traditional parallel buses such as PCI-X. Storage capacities for the MM-5453CN range from 512MB, to 1GB, and 2GB of DDR memory with ECC. Up to three re-chargeable lithium-ion batteries are located on a mezzanine that when fully configured has been designed to stay within the PCI single card slot envelope. The MM-5453CN's compact form factor is compliant with the PCI-SIG specification for low profile, mid-length options and ideal for use in tightly integrated appliances.

"With up to 2GB of DDR memory and a PCIe x4 serial interface, the MM-5453CN is capable of random access operations and total throughput that far exceeds that of any hard disk or solid state Flash drive," says Mike Jadon, Chief Technical Officer of Embedded Systems for VMETRO, Inc. "VMETRO is committed to our Tier I/II OEM customers and the product innovation that helps differentiate their enterprise solutions."

Under the direct control of the system host, Umem NVRAM cards can be utilized to maximize and differentiate file system performance that would otherwise incur prohibitive performance penalties. Especially applicable to file servers and storage appliances that adhere to the NFS protocol, Umem cards enable these products to improve performance for I/O intensive applications and still comply with the industry standard benchmark for NFS, SPEC SFS.

The MM-5453CN is available immediately and includes device drivers for various operating systems.

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