## Mangstor Delivers Industry's First NVMeoF-Compliant Storage Arrays

## Award-Winning NX-Series Now Compliant with Newly Released NVMeoF Specification

Austin, TX – July 19, 2016 – Mangstor Inc., a leading developer of high performance next generation non-volatile memory storage solutions, today announced that its family of <u>NX-Series</u> <u>Storage Arrays</u> are the first to comply with the newly released NVMe over Fabrics (NVMeoF) specification developed by the NVM Express, Inc. consortium. Mangstor is a founding member of the consortium's NVMeoF committee and was an active participant in the ratification of the new standard.

The NVMe over Fabrics specification was created to enable flash-based SSDs to communicate over RDMA fabrics (i.e. InfiniBand or Converged Ethernet), delivering the same high performance, low latency benefits as local attached NVMe. The specification has broad reach and is expected to help drive All-Flash Array (AFA) revenue from \$2.58 billion in 2015 to \$5.65 billion in 2019 according to IDC, representing a 21.65 percent CAGR over this forecasted period.

Mangstor Inc., a developer of next generation non-volatile memory storage products, leverages its expertise in storage and flash controller technologies, networking and storage interfaces, and high performance software to develop the industry's first available storage arrays supporting NVMe over both Ethernet (RoCE) and Infiniband fabrics. These industry-first NX-Series solutions are scalable shared storage arrays that enable IT managers to dynamically provision NAND flash memory locally or remotely, with centralized management. The performance-optimized NX-Series are based on Mangstor's software-configurable MX6300 NVMe-based SSDs and TITAN software storage stack.

"The newly released standard is helping to lead an industry transition to NVMeoF technology as a superior alternative to FC or iSCSI SAN All-Flash Array solutions, which use interfaces that were created for HDD-based systems," said Paul Prince, CTO for Mangstor Inc. "Our NX6320 delivers Read and Write latencies of 110 $\mu$ s and 30 $\mu$ s, comparable to internal PCIe SSDs, and it delivers sustained performance of millions of IOPS with latencies under 200 $\mu$ s — an order of magnitude better than typical FC or iSCSI interfaces."

When fully configured, a single NX6320 storage array delivers over three million random 4KB Read IOPS performance and over 2.25 million 4KB Write IOPS, as well as bandwidth of 12GB/s for Read operations and 9GB/s for Write operations. Performance scales linearly to hundreds of GB/s as arrays are added with virtually no increase in latency, so if more capacity or performance is needed, arrays can simply be added as required. Latency is consistent,

predictable and similar to local SSD access times, and in some cases, even better since there is no significant latency tax from the optimized RDMA network.

The NX6320, with up to 10x higher bandwidth and one-tenth the latency when compared to iSCSI and FC-based AFAs is an ideal solution for data-intensive storage, latency-sensitive applications and real-time analytics. The NX6320 was shown at the 2015 Flash Memory Summit where it earned the Best of Show award as the Most Innovative Flash Memory Technology, and the first available storage array solution for NVMeoF. In compliance with the newly released specification, Mangstor is helping to drive adoption of the NVMeoF standard.

NX-Series Storage Arrays are available through Mangstor's worldwide sales channel of distributors, resellers, system integrators and manufacturing representatives. Product information is available at www.mangstor.com. Sales and pricing information is available at at

## About Mangstor Inc.

Mangstor Inc., founded in 2012 and headquartered in Austin, Texas, is a leading developer of next generation non-volatile memory storage products optimized for low latency, high performance applications that require either SSDs to attach directly to a server host PCIe bus (MX-Series) or fabric-attached storage arrays that can be shared by many servers (NX-Series). The Mangstor MX6300 Series are PCIe NVMe SSDs that aggregate, protect and manage a large array of NAND flash chips through a patent pending storage controller and firmware creating a reliable tier of high capacity, low latency memory. The Mangstor NX6300 Series utilizes RDMA network access to bring the low latency benefits of NVMe to a shared storage environment enabling flash memory acceleration to be deployed centrally for multiple server access.

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