May 10, 2017

Micron Accelerates All-Flash Storage Speed, Performance and Value with New Flexible Petabyte-Scale Enterprise Data Center Solution

All-flash Ceph reference architecture for cloud and local storage runs on Red Hat Ceph storage platform with Micron NVMe solid state drives and Supermicro Ultra SuperServer systems

News Highlights

- Micron joins forces with Red Hat and Supermicro to deliver a 4-server-node, all-flash, accelerated Ceph Storage Solution that leverages the high performance of Micron 9100 NVMe PCIe solid state drives and benefits of network unified storage.
- New all-NVMe Ceph reference architecture achieves very fast 1.15M IOPs[1] and 21.8 GB/s throughput[2] which allows it to support more than 7,000 ultra-high-definition data streams simultaneously[3].
- Open-source data management platform is optimized for large installations, and capacity can be scaled quickly from 95 terabytes to 1.1 petabytes in a single 42U-rack server.

BOSTON, May 10, 2017 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq:MU) today announced at the OpenStack Summit a high-performance, all-flash Ceph storage reference architecture that leverages the exabyte scalability of Red Hat Ceph Storage, the rack-space efficiency of the Supermicro 1U Ultra SuperServer and the speed and endurance of Micron 9100 MAX NVMe flash PCIe solid state drives. This Micron Accelerated Ceph Solution addresses the needs of enterprise storage users who must efficiently deploy software-defined storage (SDS) optimized for I/O intensive workloads. It is a 4-server node storage cluster that hits 1.1M IOPs[1] and reaches 21.8 GB/s throughput[2], which can support 7,000+ ultra-high-definition data streams simultaneously[3]. As the newest member of the Micron Accelerated Solutions (MAS) family of all-flash storage solutions, the NVMe reference design carries the Micron SOLID Ready seal.

Organizations are increasingly looking for storage that helps simplify and lower the cost of managing exponential data growth. Much of that growth is in large complex datasets as well as in exploding unstructured object data. Today's agile IT environments are no longer willing to bear the cost and complexity of maintaining and updating separate proprietary storage arrays for object and block data. With virtualization and cloud computing enabling the pooling of compute, storage and networking across an entire data center, users want the agility to deploy applications that easily scale and are cloud ready.

Ceph is open source software designed to provide highly scalable object-, block- and file-based storage under a unified system. Surveys taken at past OpenStack Summits have shown that OpenStack users overwhelmingly prefer Ceph as their block device for OpenStack cloud deployments. Red Hat Ceph Storage is based on the open source community version of Ceph Storage (version 10.2.5), the Jewel release stream.

With Red Hat Ceph Storage, Micron can offer a unified block and object storage platform capable of scaling to meet the demands of IOPs-intensive as well as throughput-intensive workloads. The all-NVMe 4-node Ceph building block can be used to scale either the Ceph cluster performance or the Ceph cluster capacity (or both), and is designed for scale-out, software-defined data centers that tightly integrate compute and storage to achieve new levels of performance and value for customers

Supporting Quotes
"Red Hat Ceph Storage is a robust software-defined storage platform that can serve a variety of workloads, but strong performance also depends upon the right hardware," said Ranga Rangachari, vice president and general manager, Storage, Red Hat. "This reference architecture offers a solution to customers who need the scale and programmability of Ceph with the performance of all-flash hardware. We believe that this solution can offer customers an optimal storage solution for OpenStack and other use cases."

"Data center managers seeking a compact, space-efficient 1U rack footprint should be pleased with the performance of this Micron NVMe reference platform on our Supermicro Ultra SuperServer SYS-1028U-TN10RT+, which can support up to 10 NVMe U.2 drives on each platform," said Michael McNerney, general manager, Marketing and Solutions, at Supermicro. "Our latest SuperServer line delivers unrivaled performance, flexibility, scalability and serviceability that are ideal for demanding enterprise workloads."

"Solid state drives and DRAM represent a large portion of the value of today's advanced server and storage solutions," said Eric Endebrock, vice president, Storage Solutions Marketing at Micron Technology."With the growing industry adoption of software defined storage and the 'serverfication' of storage, enterprise customers should no longer have to overprovision but can now fine tune their storage performance for I/O-intensive workloads with building blocks like the all-NVMe Micron Acceleration Solutions optimized for Red Hat Ceph Storage."

Availability
Putting choice in the hands of customers, there are several approaches to deploying a Micron Accelerated Solution. For more information on where and how to buy, visit: www.micron.com/accelerated-solutions.

SOLID Ready
Micron Accelerated Solutions have received the SOLID Ready seal, providing customers with confidence in deploying a solution that has been architected, optimized and tuned from the storage core to the application level. The SOLID Ready seal simplifies and accelerates the transition to an agile infrastructure by providing tested and proven reference architectures for next-generation enterprise and hyperscale applications including software defined storage platforms, virtualized workload infrastructures, OpenStack solutions and big data environments. The SOLID Ready seal is bestowed upon industry leading solutions that have been evaluated and developed by engineering teams from Micron and our partners to deliver SOLID performance. For more information, the core tenets of the SOLID Ready seal, visit: www.micron.com/solid-ready.

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[1] FIO storage performance tool used to measure 1.15M IOPs for 4k block random reads by the 4-node 40-drive all-flash Ceph cluster. A more detailed description of the test methodology will be available in an upcoming Micron Accelerated Ceph Solution whitepaper.

[2] RADOS Bench object store benchmarking tool used to measure 21.8GB/s throughput for 4MB Object reads by the 4-node 40-drive all-flash Ceph cluster. A more detailed description of the test methodology will be available in an upcoming Micron Accelerated Ceph Solution whitepaper

[3] Per Netflix Internet Connection Speed Recommendations

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