Micron Introduces the World's Fastest Data Center SSD

July 23, 2024 at 9:01 AM EDT

Innovative Micron 9550 PCIe Gen5 SSD delivers unrivaled workload performance for AI and beyond

BOISE, Idaho, July 23, 2024 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), today announced availability of the Micron 9550 NVMe™ SSD – the world's fastest data center SSD and industry leader in AI workload performance and power efficiency. [1] The Micron 9550 SSD showcases Micron's deep expertise and innovation by integrating its own controller, NAND, DRAM and firmware into one world-class product. This integrated solution enables class-leading performance, power efficiency and security features for data center operators.

The Micron 9550 SSD delivers best-in-class performance with 14.0 GB/s sequential reads and 10.0 GB/s sequential writes to provide up to 67% better performance over similar competitive SSDs[1] and enables industry-leading performance for demanding workloads such as AI. In addition, its random reads of 3,300 KIOPS are up to 35% better and random writes of 400 KIOPS are up to 33% better than competitive offerings.[1]

AI workloads require high-performance storage solutions. The sequential and random read and write speeds of the 9550 SSD unlock performance for AI use cases. For example, large language models (LLMs) require high sequential reads, while graph neural networks (GNNs) need high random read performance. The Micron 9550 SSD outperforms competitive offerings in critical AI workloads, with up to 33% faster workload completion times and up to 60% faster feature aggregation in GNN training with Big Accelerator Memory (BaM).[2] The Micron 9550 SSD also provides up to 34% higher throughput for NVIDIA Magnum IO™ GPUDirect® Storage.[3]

"The Micron 9550 SSD represents a giant leap forward for data center storage, delivering a staggering 3.3 million IOPS while consuming up to 43% less power than comparable SSDs in AI workloads such as GNN and LLM training," said Alvaro Toledo, vice president and general manager of Micron's Data Center Storage group. "This unparalleled performance, combined with exceptional power efficiency, establishes a new benchmark for AI storage solutions and demonstrates Micron's unwavering commitment to spearheading the AI revolution."

"Enhancing data center efficiency and performance for AI workloads is pivotal to reducing costs and ensuring reliable operations for enterprises everywhere," said Rob Davis, vice president of Storage Technology at NVIDIA. "With the integration of NVIDIA technologies, the Micron 9550 SSD can provide powerful storage for AI."

"Innovation in storage technologies is a critical aspect of powering latency sensitive workloads such as AI and business critical enterprise applications," said Raghu Nambiar, corporate vice president, Data Center Ecosystems and Solutions at AMD. "Our deep collaboration with Micron, and partners across the ecosystem, will ensure the full capabilities of the new 9550 SSDs are enabled on AMD EPYC-based servers."

"Intel is pleased to see Micron enter the PCIe Gen5 market with the Micron 9550 NVMe SSD. This PCIe Gen5 SSD aligns well with Intel's PCIe Gen5 CPU platforms, specifically Intel's 4 th Gen Xeon®, 5th Gen Xeon®, and Intel® Xeon® 6 processors," said Debendra Das Sharma, Senior Fellow and Chief I/O Architect at Intel. "Micron is a valued ecosystem partner to Intel, with a long history of providing well-integrated PCIe solutions with Intel-based platforms, including supporting solutions with Intel's Virtual RAID on CPU (Intel ® VROC), as well as AI workloads powered by Intel Gaudi AI accelerators."

The Micron 9550 SSD excels in delivering industry-leading power efficiency to support a variety of AI workloads, including:[3]

- GNN training with BaM: Up to 43% lower SSD average power and up to 29% reduction in overall system energy usage
- NVIDIA Magnum IO GPUDirect Storage: Up to 81% less SSD energy per 1TB transferred
- MLPerf: Up to 35% less SSD energy and up to 13% less system energy used
- Llama LLM training fine tuning with Microsoft DeepSpeed: Up to 21% less SSD energy used

The 9550 SSD features a vertically integrated architecture using Micron-developed technologies, providing flexible design choices and advanced security capabilities. The drive incorporates NVMe 2.0 and OCP 2.0 support, along with OCP 2.5 telemetry capabilities for advanced performance and health monitoring, all of which simplify data center deployment and management at large scale. The 9550 SSD is engineered with a focus on end-to-end security, featuring self-encrypting drive (SED) capabilities, compliance with Security Protocols and Data Models (SPDM 1.2), robust data encryption and other key security features. Options for FIPS 140-3 Level 2 and TAA compliance are also available for customers requiring higher security standards.

Available in capacities ranging from 3.2TB to 30.72TB and in U.2, E1.S and E3.S form factors, the 9550 SSD delivers a broad portfolio of offerings to enable performance, flexibility and scalability for today's PCIe Gen5 server designs. Designed to meet the demanding requirements of top OEMs and hyperscalers, the 9550 SSD is sampling globally and is part of Micron's industry-leading data center memory and storage product portfolio that meets the growing demands of AI, HPC and many other workloads.

Additional resources:

- Micron 9550 data center SSD
- Micron data center SSDs
- Blog post
- Micron image gallery
- Product brief

About Micron Technology, Inc.

We are an industry leader in innovative memory and storage solutions transforming how the world uses information to enrich life for all. With a relentless focus on our customers, technology leadership, and manufacturing and operational excellence, Micron delivers a rich portfolio of high-performance DRAM, NAND and NOR memory and storage products through our Micron® and Crucial® brands. Every day, the innovations that our people create fuel the data economy, enabling advances in artificial intelligence (AI) and compute-intensive applications that unleash opportunities — from the data center to the intelligent edge and across the client and mobile user experience. To learn more about Micron Technology, Inc. (Nasdaq: MU), visit micron.com.

© 2024 Micron Technology, Inc. All rights reserved. Information, products, and/or specifications are subject to change without notice. Micron, the Micron logo, and all other Micron trademarks are the property of Micron Technology, Inc. All other trademarks are the property of their respective owners.

---

[1] Performance comparisons are based on publicly available data sheet information for performance-focused 1 DWPD 7TB SSDs competitive SSDs. Competitors are defined as Kioxia and Samsung.

[2] Based on internal Micron testing.

[3] Competitive comparisons with top competitive 7.xTB read-intensive SSDs as noted in footnote 1, available in the market and as tested in Micron labs.

Micron Media Relations Contact Kelly Sasso Micron Technology, Inc. +1 (208) 340-2410 ksasso@micron.com