Micron Unveils Portfolio of Industry-First SSDs to Power the AI Revolution

July 29, 2025 at 9:00 AM EDT

News highlights:

- Complete new portfolio of industry-leading Micron G9 NAND data center SSDs is the first to utilize the industry's 9th generation 3D NAND node.
- The 9650 SSD, the world's first PCIe® Gen6 data center SSD, delivers twice the performance of competitive drives.[1]
- The 6600 ION SSD, the world's first E3.S 122TB data center SSD with the industry's 9th generation NAND, increases storage density up to 67%. The upcoming 245TB drive is expected to deliver the highest single-drive capacity on the market.
- The 7600 SSD offers superior PCIe® Gen5 performance, quality of service (QoS) and energy efficiency for mainstream data center workloads.

A Media Snippet accompanying this announcement is available by clicking on this link.

BOISE, Idaho, July 29, 2025 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), develops innovative memory and storage solutions to address the data needs of the AI-driven data center with superior performance, capacity and energy efficiency. Today Micron extends its industry leadership in storage with the launch of three new data center SSDs all built with Micron G9 NAND. This expansion of Micron's storage portfolio includes the world's first PCIe Gen6 NVMe™ SSD, industry-leading capacity for an E3.S SSD and the lowest latency mainstream Gen5 SSD for AI data centers.[1] These new products are highly performant, energy and space efficient, and validated with leading ecosystem partners to streamline qualification and ensure seamless integration, making them the ideal portfolio for the widely divergent needs of AI workloads.

"With the industry's first PCIe Gen6 SSD, industry-leading capacities and the lowest latency mainstream SSD—all powered by our first-to-market G9 NAND—Micron is not just setting the pace; we are redefining the frontier of data center innovation," said Jeremy Werner, senior vice president and general manager of Micron's Core Data Center Business Unit. "This launch cements our leadership in data center SSDs and signals a new era of performance, density and efficiency for our customers."

Micron 9650 SSD: The world's first PCIe Gen6 data center SSD

The unmatched 28 GB/s performance of the 9650 SSD dramatically accelerates AI training and inference workloads. During inference, high throughput and ultralow latency are essential to enable real-time data access for large models, such as enterprise agents with extended context windows and retrieval-augmented generation pipelines. The 9650 offers superior performance per watt compared to Gen5 SSDs, achieving up to 25% and 67% better storage energy efficiency for random writes and reads, respectively. The reduction in power consumption and carbon emissions allows data centers to meet sustainability goals while enhancing performance.[2]

- Record-setting Gen6 performance:[3]
    - Up to 28 GB/s sequential read and 14 GB/s sequential write speeds
    - Up to 5.5 MIOPS random read and 900 KIOPS random write speeds
- FIPS 140-3 Level 2 and Trade Agreement Act (TAA) compliant SSD options help ensure SSDs sold to the U.S. government are manufactured or substantially transformed in the United States or in designated countries.
- Pioneering ecosystem collaborations, including prior public demonstrations with Astera Labs and Broadcom accelerate adoption through proven interoperability.
- A liquid-cooled E1.S version is available for the most advanced AI servers.

"With up to 5.5 million IOPS for random reads, the Micron 9650 is purpose-built for AI pipelines' high-throughput, low-latency demands. This product helps ensure GPUs remain continuously fed with data, minimizing idle cycles and maximizing system efficiency. Combined with Dell's advanced server architecture, this innovation empowers enterprises to unlock new levels of performance and insight," said Arunkumar Narayanan, senior vice president of Compute and Networking, Infrastructure Solutions Group (ISG) at Dell Technologies.

"Advanced AI reasoning workloads require agents to swiftly access massive volumes of business and internet data," said Kevin Deierling, senior vice president of Networking at NVIDIA. "PCIe Gen6 SSDs like the Micron 9650 provide high-speed data access to support accelerated computing performance and efficiency for AI inference and training."

Micron 6600 ION SSD: Massive density with the best-in-class space efficiency for AI data lakes

The Micron 6600 ION SSD delivers breakthrough scalability featuring up to 245TBs in a single drive, enabling hyperscale and enterprise data centers to consolidate server infrastructure and build massive AI data lakes — all while reducing storage footprint, energy and carbon emissions. This offering increases storage density up to 67% over the competition and delivers over 88PB per rack using servers,[4] drastically reducing TCO.

- The industry-leading 122TB E3.S SSD is approximately the size of a deck of cards, providing an incredible 2.4PB of PCIe Gen5 flash storage in a 1U server.
- The 122TB 6600 ION consumes only 1 watt per 4.9TB, offering 37% better energy efficiency than the three 36TB HDDs required to deliver the same capacity, all in less than a quarter of the space.
- For storage deployments with 2 exabytes of storage, the 6600 ION delivers up to 3.4 megawatt-hours of daily energy savings over HDDs—which is enough energy to power 124 average U.S. homes every day.[5]
- The 6600 ION SSD provides the ultimate in data protection by supporting advanced enterprise-grade security features.

"With Supermicro's broadest selection of Petascale storage optimized servers supporting up to 36 E3.S SSDs, the Micron 6600 ION enables up to 4.42PB per 2U server delivering the highest density and power efficiency for large capacity AI workloads," said Michael McNerney, senior vice president, Marketing and Network Security at Supermicro. "Our customers benefit from the collaboration between Supermicro and Micron to provide compact, energy-efficient and TCO-optimized systems."

"The Micron 6600 ION is a game-changer for AI infrastructure, delivering exceptional capacity and performance that enables WEKA customers to manage and process larger datasets with less infrastructure and lower energy use," said Ajay Singh, chief product officer at WEKA. "We're also excited about the Micron 9650 PCIe Gen6 SSD, which pairs perfectly with our Augmented Memory Grid™ technology, which extends GPU memory by leveraging ultra-fast NVMe to accelerate time to first token, boost token throughput, and help avoid the memory wall in high-throughput inference environments."

Micron 7600 SSD: Leading performance for AI inference and mixed workloads

The 7600 PCIe Gen5 SSD offers class-leading performance,[6] low latency and high-reliability QoS to support predictable, lightning-fast responsiveness for demanding data center workloads like AI transformation, training and inference. Capable of delivering industry-best sub-1 millisecond latency on the taxing RocksDB workload, the 7600 SSD is ideal for workloads where response time is critical. The 7600 SSD provides the right balance of affordability, performance and predictable latency for most data center workloads including AI.

- With best-in-class sequential reads of 12 GB/s, the 7600 SSD outperforms competitive mainstream SSDs, with up to:
    - 27% better sequential writes with 7 GB/s
    - 5% better random reads with 2.1 MIOPS
    - 100% better random writes with 400 KIOPS
- Unrivaled RocksDB workload performance and energy efficiency compared to competitive Gen5 SSDs, as follows:[7]

	Random read	Random read while writing
Maximum performance	Up to 21% higher	Up to 23% higher
99th percentile latency	Up to 59% better	Up to 76% better
Energy efficiency	Up to 78% better	Up to 79% better

"At CoreWeave, we're relentlessly focused on pushing the boundaries of performance and helping our customers maximize their infrastructure efficiency," said Chetan Kapoor, chief product officer at CoreWeave. "The Micron 7600 SSD, with its strong performance and low latency, is a welcome addition that will help our customers scale out to hundreds of gigabytes of data throughput and accelerate their time to market."

Micron's vertical integration ensures that each of these SSDs is designed and manufactured with a Micron controller, G9 NAND, DRAM, firmware and manufacturing processes. This integration helps provide exceptional quality and a more reliable, secure supply chain. Additionally, key security features — including hardware root of trust, SPDM 1.2 (attestation) for identity authentication and firmware verification, CNSA 2.0 dual signed PKI/LMS firmware binary, self-encrypting drive (SED) and Micron Secure Execution Environment[8] — help secure data. OCP 2.6 support is available for the Micron 9650 and 6600 ION SSDs, and the 7600 SSD utilizes OCP 2.5 support.[9]

Availability

The 9650 and 7600 SSD samples are shipping now to customers. The 9650 is offered in E3.S and E1.S 9.5mm and 15mm form factors with air-cooled and liquid-cooled options. The 7600 SSD is available in multiple form factors, including E3.S, U.2 and E1.S with air-cooled heat sink options. The 6600 ION 122TB SSD samples are shipping later in the third quarter of calendar year 2025 in E3.S and U.2 form factors. The 245TB SSD version of the 6600 ION SSD is planned to be available in the first half of calendar year 2026.

Werner will present at the Future of Memory and Storage Summit 2025 with a keynote address on Aug. 5 at 1 p.m. PT. The 9650, 6600 ION and 7600 SSDs — along with Micron HBM4, SOCAMM and LPDDR5 memory — will be showcased at Micron's booth (#107) from Aug. 5-7, highlighting Micron's extensive portfolio of data center memory and storage products.

More thoughts from the industry…

"Micron's cutting-edge storage technologies showcase the importance of fast, efficient storage as AI workloads continue to redefine infrastructure requirements," said Raghu Nambiar, corporate vice president, Data Center Ecosystems and Solutions, AMD. "Our close engineering collaboration with Micron ensures their storage innovations are well-positioned to unlock the full potential of next-generation server platforms powered by AMD. Together, we're enabling the performance, scalability and efficiency needed to support today's most demanding enterprise applications."

"The sheer velocity of AI—from ever-growing frontier models to the proliferation of agentic systems—demands a leap forward in data movement," said Thad Omura, Chief Business Officer at Astera Labs. "To utilize the full potential of rack-scale compute, next generation PCI Express is critical not just for increased throughput, but for boosting overall system efficiency and enabling more performance per watt, which accelerates AI breakthroughs. Our demonstrated end-to-end PCIe 6 interoperability, connecting Micron's 9650 SSD with our Scorpio P-Series Fabric Switches and Aries Smart PCIe Gen6 Retimers, is key to enabling the high-bandwidth, low-latency fabric vital for AI at scale."

"Interoperability testing with Micron's new 9650 SSD and the Marvell® Alaska P PCIe Gen6 retimer marks a key milestone in advancing the PCIe Gen 6 ecosystem and supports our joint development efforts for hyperscale customers," said Xi Wang, senior vice president and general manager, Connectivity BU of Marvell. "Combining the high-performance, energy-efficient SSD with the PCIe retimer's robust link extension capabilities removes physical barriers between compute and storage—giving customers the flexibility to optimize for a wide range of AI workloads."

Additional resources

- Micron FMS webpage
- Micron 9650 SSD product image gallery
- Micron 6600 ION SSD product image gallery
- Micron 7600 SSD product image gallery
- Micron data center storage webpage
- Micron 9650 SSD webpage
- Micron 6600 ION SSD webpage
- Micron 7600 SSD webpage

About Micron Technology, Inc.

Micron Technology, Inc., is 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.

© 2025 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.

Micron Product and Technology Communications Contact:
Mengxi Liu Evensen
+1 (408) 444-2276
productandtechnology@micron.com

Micron Investor Relations Contact
Satya Kumar
+1 (408) 450-6199
satyakumar@micron.com

---

[1] At the time of announcement, no other Gen6 competitive SSDs are available that can provide the same or better performance as the Micron 9650 Gen6 SSD. The 9650 has two times the sequential read performance of the previous-generation 9550. Additionally, the Micron 6600 ION currently provides the highest-capacity solution available in a rack comparison using Micron E3.S drives: 20 SSDs per 1U x 36 servers (36U) x 122TB equals 88.5PB versus similar competitive U.2 form factor SSDs with 24 SSDs per 2U x 18 servers (36U) x 122TB equaling 53PB, leaving 6U for other equipment in each rack. The Micron 7600 SSD has the lowest latency based on competitive testing in Micron labs and has the lowest sub-1ms latency up to QD128 based on RocksDB testing in Micron labs with available drives, per footnote 5.

[2] The 9650 has improved energy efficiency with two times the sequential read performance of the 9550 SSD, Micron's previous-generation drive, with the same 25W maximum power.

[3] Learn more details about the Micron 9650 SSD in the available product brief.

[4] System comparison based on E3.S and U.2 form factors, preferred by major OEM, using a 20-slot, E3.S-based 1U SSD platform versus 24-slot, U.2-based 2U SSD platform.

[5] The 6600 ION 122TB SSD operates at 25W peak power and three 36TB HDDs operate at 10W peak power each. Energy savings are calculated as the difference between the drives running at maximum power. HDD comparison is to 36TB Seagate Exos Mozaic 3+ HDDs. Source: Seagate Mozaic Platform. Average home energy consumption is based on the U.S. EIA average of 10,500 kilowatt-hours (kWh) of electricity per year, or 28.8kWh per day, per household.

[6] 7600 SSD comparisons are based on currently in-production and available Gen5 mainstream data center SSDs from the top five competitive suppliers of OEM data center SSDs by revenue as of May 2025, as per Forward Insights analyst report, "SSD Supplier Status Q1/25."

[7] As tested in Micron labs, SSD comparisons are based on currently in-production and available Gen5 high-capacity data center SSDs from the top five competitive suppliers of OEM data center SSDs by revenue as of May 2025, as per Forward Insights analyst report, "SSD Supplier Status Q1/25".

[8] No hardware, software or system can provide absolute security under all conditions. Micron assumes no liability for lost, stolen or corrupted data arising from the use of any Micron products, including those products that incorporate any of the mentioned security features.

[9] "The Micron 9650 and 6600 ION data center SSDs comply with most, but not all, requirements of the Open Compute Project Datacenter NVMe SSD Specification 2.6. The 7600 SSD complies with most, but not all, requirements of the Open Compute Project Datacenter NVMe SSD Specification 2.5.

.μicron.

Source: Micron Technology, Inc.