5 reasons to choose Micron

for data center memory and storage

Data is your most valuable and unique resource, and it's your key to unlock AI, edge servers, and next-gen technologies.

To get the most from your data, you need to find the ideal memory and storage to keep your CPUs and GPUs running at optimal levels, reduce power consumption, and scale for the future.

Success means overtaking the competition and position your business as an industry leader. When you partner with Micron, failure's not an option.

Here are five reasons to choose Micron memory and storage so you can get the most from your data centers.

1. Vertically-integrated data center technology

Micron has 40+ years of expertise in die selection, memory and PCB design, module assembly, and testing from start to finish. Being fully integrated means we can select the highest-quality DRAM and NAND for our data center products and it enables superior chip availability.

From server DRAM to data center SSDs, Micron's portfolio delivers the innovations you need to keep your business growing.
- Purpose-built workload solutions for every business
- In-depth engineering support and market data at your fingertips
- Next-gen technology to tame increasing workload complexity
- A portfolio designed from the ground up to meet today's data center challenges

2. Expert support for your engineering teams

Micron's experts rigorously test and analyze workloads to find the ideal memory and storage solutions to optimize GPU and CPU utilization and improve performance. We work closely with customers at engineering sites across the country to streamline processes and reduce the load on your engineering teams.

Businesses engage directly with Micron for:
- Expert DRAM and SSD knowledge and vast experience working across the entire data center ecosystem
- Actionable market insights
- Recommendations based on workloads, performance requirements, and business goals
- Technical support for solutions implementation and optimization

3. Proven DRAM for a wide range of workloads

Whether you need DDR5 for high-performance applications or DDR4 to upgrade legacy servers, Micron will work with you to find the best balance of speed, bandwidth, and value for your server memory. We're leaders in DRAM innovation, which means we can roll out products with the highest capacities, lowest power consumption, and most cost-effective solutions — and we can do it faster than our competitors.

Micron DDR5 Server DRAM

Micron DDR5 Server Memory delivers higher bandwidths along with improved reliability, availability, and scaling[1] when compared to DDR4. It's ideal for resource-intensive tasks like AI and HPC.
- Faster processing times for memory intensive applications like AI[2] and GNN
- Improved bandwidths and better reliability, availability, and scaling than DDR4
- Broad market enablement

Micron DDR4 Server DRAM

For legacy servers, Micron DDR4 Server DRAM lets you maximize system performance by increasing the installed memory capacity. This can provide a cost-effective performance boost for mainstream applications.
- Increase server and workstation performance
- Optimized for Intel® and AMD® processor product families
- 100% component and module tested to mission-critical server standards

4. Superior storage solutions

Selecting the right storage for your workloads can help you keep costly GPUs and CPUs running at optimal levels so data flows smoothly from start to finish. Micron takes total ownership of design and production, from silica sand to NAND, to stay ahead of the market and deliver higher capacities, lower power consumption, and more cost-effective solutions.

High-performance 9550 NVMe SSD

The Micron 9550 SSD is a breakthrough, high-performance storage device that offers strong performance, latency, and power efficiency for the most demanding data center workloads.

- Optimized for AI and other high-performance applications
- Significantly reduces power consumption[3]
- Micron-designed controller ASIC, 8th-generation NAND, and DRAM

Mainstream 7500 NVMe SSD

Micron's 7500 NVMe SSD is designed for mainstream data center workloads. It also offers next-generation security features[4] like Micron's unique Secure Execution Environment.

- Improves performance while supporting the latest in security
- Reduces latency for workloads such as real-time analytics, content distribution, and OLTP[5]
- Powers the processes behind edge, databases, and cloud computing

High-capacity 6500 ION NVMe SSD

Make cloud-storage challenges a thing of the past with massive capacity[6] and purpose-built performance. The Micron 6500 SSD eliminates the need to sacrifice cloud storage performance for capacity or pay for speeds and endurance that will never be used.

- Promotes environmental sustainability within data centers
- Consolidates more storage onto fewer servers
- Cost-effective storage for massive data lakes

Mainstream 5400 SATA SSD

Micron's proven data center architecture helps you get more from your SATA platforms with SSDs that have 50% better reliability (mean time to failure rating) and up to 50% greater endurance than the other leading SATA SSDs.[7]

- Best-in-class mixed-use write speed performance
- Can extend the life of existing servers
- Performance can saturate typical network bandwidth, even at 240 GB

5. Partners for the future

Memory and storage are the building blocks for data center success. Partner with Micron to streamline your infrastructure, reduce the strain on your engineers, and optimize workloads to exceed your leadership's expectations.

[Learn more at microncpg.com/datacenter](https://microncpg.com/datacenter)

Sources

1. Under memory-intensive workloads, DDR5 is designed to deliver more than 2x the bandwidth of DDR4 as a result of double the burst length, double the banks and bank groups, and significantly higher speed (6,400MT/s vs 3,200MT/s), as established by JEDEC, an independent organization that develops open standards for the microelectronics industry.

2. Micron's Data Center Workload Engineering (DCWE) team performed testing and validation in collaboration with Supermicro and Intel to determine an ideal CPU-powered platform optimized for AI inference workloads. Workload tests performed by Micron focused on MLPerf (Machine Learning Performance) inference benchmarking, which measures how fast systems run models in a deployment scenario that includes NLP using BERT (Bidirectional Encoder Representations from Transformers); DLRM (Deep Learning Recommendation Model); and Image classification using ResNet. Actual results may vary. Learn more: Micron Server DDR5 AI Use Case Test Results eBook (EN) (microncpg.com)

3. Based on Micron engineering test results in AI training offload, measured SSD-to-GPU direct data transfer rate with a 1TB dataset, and standard AI performance benchmarks.

4. 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.

5. Micron internal testing results show sub-1ms latency in 6x9s QoS with 4K 100% random read up to and including QD128, based on Micron internal testing vs competitive SSDs

6. 30.72TB capacity is the largest option. User capacity: 1GB = 1 billion bytes; formatted capacity is less

7. Based on public data sheet specifications. The Micron 5400 SSD has a mean time to failure (MTTF) rating of 3 million device hours, compared to a typical 2 million hour MTTF rating for data center SATA SSDs, based on public information available at the time of this document's publication. The Micron 5400 MAX SSD has up to 5 drive write per day (DWPD) endurance rating compared to up to 3 DWPD rating for other data center SATA SSDs. The Micron 5400 PRO SSD has up to 1.5 DWPD compared to up to 1 DWPD for other data center SATA SSDs.