



Intelligent edge infrastructure begins with Micron

Harness floods of data with Micron's scalable memory and storage portfolio

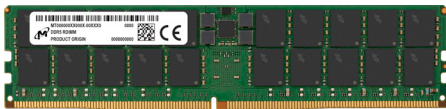
In this new economy, 5G-connected devices and the internet of things (IoT) are shifting where data is stored, processed, and transformed – from the cloud to the network's intelligent edge. New business opportunities often depend on integrating artificial intelligence (AI), database edge analytics and other data-intensive workloads with new storage and processing trends. Even more, an infrastructure shift is necessary to address the increasing velocity and volume of key edge data.

The push to the network edge

To unlock the value of data fast enough to gain a competitive advantage, it must be processed as closely as possible to where it was generated. Compute resources are no longer bound to the cloud; they have moved to the edge, causing a substantial shift in IT infrastructure. Edge servers are increasingly being called on for the same sophisticated workloads found in centralized facilities. Savvy business leaders use next-gen technology to manage these distributed networks for workload orchestration and to ensure data security. Up-and-coming edge devices will be especially hungry for memory and storage.

Micron memory and storage technology to the rescue

Micron offers a vast edge-to-cloud portfolio of memory and storage products to accelerate the effectiveness of compute at the edge. These solutions deliver industry leading low latency, high performance, large capacity, and massive bandwidth for the 5G and intelligent edge infrastructure. Micron is one of only three global DRAM manufacturers and a leader in NAND storage. From our nearly 45 years of experience and vertical integration, we offer expert guidance and proven innovation to our partners for projects that span from the cloud to the intelligent edge.



1. For high-bandwidth server DRAM

Designed for data-intensive applications, [Micron® DDR5 Server DRAM](#) is more than a generational jump in memory innovation. Though recently released, this server DRAM is already being integrated to manage critical workloads. DDR5 reverses the trend of decreased bandwidth per core, feeds rapidly growing processor core counts with memory bandwidth and capacity, plus enables nearly 2x the data rates of DDR4¹. As a Micron partner, you might be aware that we led the ecosystem transition to DDR5 with the industry's only Technology Enablement Program². To unleash the next-gen server platforms, blazing-fast Micron DDR5 Server Memory will be critical.



2. For industry-leading server DRAM

Multi-core processors in edge gateway servers and distributed computing performance demand great server memory. [Micron® DDR4 Server DRAM](#) is our best mainstream generation of DRAM technology, with features centered on power savings, performance enhancement, manufacturability and density. DDR4 server DRAM speeds up applications while maximizing IT budgets. It also optimizes server computing potential. For fully validated, multi-access edge computing, choose DDR4 server DRAM.

Unleash the business value of data at the edge



[Register the for e-book](#)

Businesses are increasingly making decisions at the network edge. This free e-book, written by the experts at Omdia and commissioned by Micron, covers the innovation that's enabled data capture and processing to expand out of server farms. New business processes are springing up at locations where computing devices could never have been placed before. The critical element: responsive, flexible, next-gen IT infrastructure. Optimized for performance-critical mixed-use workloads, the Micron 9400 SSD can consistently read and write at 7GB per second for sequential data². Micron verified the superior position of the 9400 with a series of benchmark tests versus three leading, performance-focused NVMe SSD competitors. How did it do?



3. For high performance NVMe storage

Better SSDs come from better NAND. Micron continues to innovate in density, performance and capacity, with our proven 176-layer 3D NAND, offering the fastest I/O yet³. For performance-critical workloads, fast ingest alone is not enough. Responding in microseconds delivers a true competitive advantage. The [Micron® 9400 NVMe SSD](#) sets a new performance benchmark for data center PCIe® Gen4 storage. This server SSD packs in more than 30TB⁴ of usable capacity (the largest commercially available), outperforms competitors up to 2.3x in mixed workloads⁵ and improves power efficiency up to 77%⁶. When workloads allow no concessions, the Micron 9400 is your ultimate data center SSD.

4. For responsive mainstream NVMe storage

Micron high-endurance and low-power storage has been well tested in our customer's industrial settings. The [Micron® 7450 NVMe SSD](#) offers the industry's broadest range of PCIe Gen4 SSD form factors⁷ and enables several storage use cases, including boot, cache and main data storage. It also features Micron's unique Secure Execution Environment⁸ to help keep your data secure. The Micron 7450 SSD consistently reads up to 6.8GB/s of sequential data and delivers 2ms and below QoS read latency of 99.9999% for small IO (4KB), mixed, random workloads⁹. Choose it for flexible deployments in cloud, data center, edge servers and other designs.

Micron for your edge infrastructure

Micron offers a wide portfolio of memory and storage capacity, density, form factor, interface technology and thermal/environmental metric options for responsive infrastructure to meet data challenges from the edge to the cloud. We lead the industry in memory and storage innovation.

For more information on Micron and products for the 5G-activated intelligent edge, visit online at Microncpg.com/datacenteredge

Sources:

1. Under memory-intensive workloads, DDR5 is designed to deliver 1.87x the bandwidth from double burst length, double the banks and bank groups, and significantly higher speed than DDR4, as established by JEDEC, an independent organization that develops open standards for the microelectronics industry.
2. Information and how to register for the Micron Technology Enablement Program (TEP) for DDR5 at <https://www.micron.com/solutions/micron-ecosystem-partner-programs/tep>
3. Micron 232-layer NAND delivers 2.4 gigabytes per second (GB/s) I/O speed and enables NV-LPDDR4, a low-voltage interface that delivers per-bit transfer savings of more than 30% compared to prior I/O interfaces. More at <https://investors.micron.com/news-releases/news-release-details/micron-ships-worlds-first-232-layer-nand-extends-technology>
4. The Micron® 9400 NVMe SSD has a capacity of 30.72TB. Comparisons are made based on other leading PCIe Gen4 Data Center U.2/U.3 NVMe SSDs based on data center market share as noted in the Forward Insights SSD Supplier Status Q2/22 report and available data. 1GB = 1 billion bytes, formatted capacity is less.
5. Best-in-class and competitive comparisons in this document were made based on other leading PCIe Gen4 Data Center U.2/U.3 NVMe SSDs based on data center market share as noted in the Forward Insights SSD Supplier Status Q2/22 report and available on the open market at the time of this document's initial publication.
6. The Micron 9400 NVMe SSD 77% efficiency improvement is vs the Micron 9300 SSD. Efficiency is defined as performance per watt.
7. Based on similar use SSDs with NVMe available on the open market as of March 2022, the Micron 7450 SSD offers the broadest range of form factors, including U.3, M.2 and E1.S.; U.3 is available in both 15mm and 7mm. All combined with Micron's leading 176-layer NAND.
8. Micron's Secure Execution Environment is an isolated security processor within the 7450 SSD controller. 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. Micron 7450 SSD delivers 2ms and below 99.9999% read latency, measured up to queue depth = 32 for 4KB, 100% random, 70% read workload.