

Micron Solutions Guide

for Networking and Communications Infrastructure Applications



The unique requirements of networking and communications infrastructure applications demand high-performance memory with low latency, rigorous thermal specifications, pristine signal integrity and ECC data protection.¹ We design and manufacture a broad portfolio of solutions to meet your mission-critical

networking needs. This guide outlines the various networking solutions — from DRAM components and modules, to NOR and NAND Flash, to SSDs — so you can select the right solution for your specific application.

Why Micron for Networking?	Typical Applications
<p>Your applications require an unprecedented combination of advanced features, high performance and high reliability — all while balancing design requirements and cost. Our solutions go beyond meeting these requirements to deliver even more benefits for your design.</p> <ul style="list-style-type: none"> • World-class products and technical support • Proven product longevity • Application-specific memory solutions <ul style="list-style-type: none"> • Form factor flexibility • High-density modules • Low-latency, high-bandwidth DRAM • Industrial temperature support • Broad memory portfolio • Consistent supply • Innovation leadership • Quality in product and support <div style="text-align: right; margin-top: 20px;"> </div>	<ul style="list-style-type: none"> • Mobile infrastructure equipment • Enterprise and service provider routers and switches • Storage area networking • Optical delivery • Satellite headend • Security¹ appliances • Content delivery • Picocell and femtocell • Branch routers • WAN optimization • Digital subscriber line access multiplexer (DSLAM) • Internet protocol (IP) telephony <p><i>Note: Several of these applications are covered in Advanced Telecommunications Computing Architecture (ATCA) specifications.</i></p>

networked
innovation



Micron Networking Products

DRAM				
Product	Benefits	Ideal Applications	Why Micron?	
Key DRAM Networking Products	RLDRAM® 2 Memory RLDRAM 3 Memory	<ul style="list-style-type: none"> • SRAM performance levels at DRAM densities • Ultra-low bus turnaround time enables higher sustainable bandwidth 	<ul style="list-style-type: none"> • Low-latency, high-speed network infrastructure equipment • Packet buffering and inspections • SRAM replacement in high-speed systems 	<ul style="list-style-type: none"> • Lower-cost alternative to SRAM • Best-in-class, low-latency performance
	DRAM IT-grade components	<ul style="list-style-type: none"> • Extended operating temperature range 	<ul style="list-style-type: none"> • Network infrastructure equipment that resides in harsh environments 	<ul style="list-style-type: none"> • Support for all DRAM types • Primary supplier of legacy IT components
	DDR3 1866 and 2133 components	<ul style="list-style-type: none"> • 1866 and 2133 MT/s DDR3 operation 	<ul style="list-style-type: none"> • High-speed network infrastructure equipment 	<ul style="list-style-type: none"> • Full lineup of high-speed components, including IT
DRAM Components and Modules	<ul style="list-style-type: none"> • Complete portfolio of SDR, DDR, DDR2, DDR3 and DDR4 components and modules 	<ul style="list-style-type: none"> • Networking systems that require dynamic memory 	<ul style="list-style-type: none"> • Long-term support • Broad product portfolio • One supplier for all your memory needs 	

HMC			
Product	Benefits	Ideal Applications	Why Micron?
Hybrid Memory Cube	<ul style="list-style-type: none"> • Ultra-high bandwidth • Efficient energy per bit 	<ul style="list-style-type: none"> • Networking • High-performance computing 	<ul style="list-style-type: none"> • 3D expertise

SSDs			
Product	Benefits	Ideal Applications	Why Micron?
Client SSDs	<ul style="list-style-type: none"> • Good performance and features at an affordable price point 	<ul style="list-style-type: none"> • Primary storage • Boot drives 	<ul style="list-style-type: none"> • NAND technology expertise • End-to-end quality • Drives optimized for our NAND components inside
Enterprise SATA SSDs	<ul style="list-style-type: none"> • Application-centric, read-specific drives for cost and utilization effectiveness 	<ul style="list-style-type: none"> • Boot drives • Enhanced endurance boot drives • Logging applications • Archiving applications 	
Enterprise PCIe SSDs	<ul style="list-style-type: none"> • High availability • High performance – some of the fastest PCIe drives in the industry 	<ul style="list-style-type: none"> • Transactional and write-caching applications • I/O acceleration • DRAM backup 	



Micron Networking Products (Continued)

NOR/NAND Flash			
Product	Benefits	Ideal Applications	Why Micron?
Xccela™ Flash Memory	<ul style="list-style-type: none"> • Extreme performance up to 400 MB/s reads • Low pin counts (11 active signals) • Low read energy consumption per bit • Rich security features for code and data protection¹ 	<ul style="list-style-type: none"> • Hybrid code (boot/programs) • Data storage and execution 	<ul style="list-style-type: none"> • Long-term support • Broad product portfolio • One supplier for all your memory needs
Parallel NOR	<ul style="list-style-type: none"> • Standard products • Densities ranging from 128Mb to 2Gb • 3V voltage 	<ul style="list-style-type: none"> • Boot code for more complex networking infrastructure equipment (e.g., high-end routers) 	
SPI NOR	<ul style="list-style-type: none"> • Standard products up to 90 MB/s reads • Densities ranging from 128Mb to 2Gb • Full voltage range • Industry-standard packaging • Extended temperature range 	<ul style="list-style-type: none"> • Boot code for less complex networking infrastructure equipment 	
SLC NAND	<ul style="list-style-type: none"> • Up to 100,000 P/E cycle endurance • Fastest throughput of the various NAND technologies (MLC, TLC) • Compatibility with the ONFI synchronous interface 	<ul style="list-style-type: none"> • Operating systems and configuration tables for networking infrastructure equipment (xPON or router) that require higher density than NOR and higher endurance than MLC NAND 	
MLC NAND	<ul style="list-style-type: none"> • Solid performance and endurance • Less ECC complexity • 2X the density of SLC NAND at a lower cost/bit • Compatibility with the ONFI synchronous interface 	<ul style="list-style-type: none"> • Custom, SSD-like storage format for networking infrastructure or data center core equipment that require lowest cost/bit and SSD-like capacities 	
Managed NAND	<ul style="list-style-type: none"> • Simpler solutions to design in • NAND management (e.g., ECC and bad block management) handled by the device like in eUSB and e.MMC memory solutions 	<ul style="list-style-type: none"> • Low-capacity storage for networking infrastructure equipment that requires better performance and reliability than HDDs 	

Partner Ecosystem

We are reinforcing and expanding current relationships with preferred partners and key enablers in the networking industry. Find out how you can benefit from these partnerships on our [Chipset Partner page](#).

More Information

View more information about networking and communications infrastructure solutions, and find a sales representative or authorized distributor at micron.com.

micron.com

1. 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.

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