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. 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 solid state drives (SSDs) —so you can select the right solution for your specific application.

### Why Micron for Networking?

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.

- Worldwide technical support
- Proven product longevity
- Application-specific memory solutions
  - 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

### Typical Applications

- Mobile infrastructure equipment
- Enterprise and service provider routers and switches
- Storage area networking
- Optical delivery
- Satellite headend
- Security appliances
- Content delivery
- Picocell and femtocell
- Branch routers
- WAN optimization
- Digital subscriber line access multiplexer (DSLAM)
- Internet protocol (IP) telephony

*Note: Several of these applications are covered in Advanced Telecommunications Computing Architecture (ATCA) specifications.*
## Micron Networking Products

### DRAM

<table>
<thead>
<tr>
<th>Product</th>
<th>Benefits</th>
<th>Ideal Applications</th>
<th>Why Micron?</th>
</tr>
</thead>
</table>
| RLDRAWarning 2 Memory RLDRAWarning 3 Memory  | • SRAM performance levels at DRAM densities  
 • Ultra-low bus turnaround time enables higher sustainable bandwidth | • Low-latency, high-speed network infrastructure equipment  
 • Packet buffering and inspections  
 • SRAM replacement in high-speed systems | • Lower-cost alternative to SRAM  
 • Best-in-class, low-latency performance |
| DRAM IT-grade components                     | • Extended operating temperature range                                   | • Network infrastructure equipment that resides in harsh environments                 | • Support for all DRAM types  
 • Primary supplier of legacy IT components |
| DDR3 1866 and 2133 components                | • 1866 and 2133 MT/s DDR3 operation                                      | • High-speed network infrastructure equipment                                        | • Full lineup of high-speed components, including IT |
| Mini-DIMM and SORDIMM Modules               | • Small form factors  
 • ECC-enabled  
 • High densities  
 • No compromise on reliability or performance | • Networking ATCA and other size-constrained systems that require ECC modules       | • Manufactured by a leading DRAM company  
 • More than 60% of our DRAM is shipped on modules  
 • Full control of entire design process and supply chain |
| DRAM Components and Modules                 | • Complete portfolio of SDR, DDR, DDR2, DDR3, and DDR4 components and modules | • Networking systems that require dynamic memory                                     | • Long-term support  
 • Broad product portfolio  
 • One supplier for all your memory needs |

### Solid State Drives (SSDs)

<table>
<thead>
<tr>
<th>Product</th>
<th>Benefits</th>
<th>Ideal Applications</th>
<th>Why Micron?</th>
</tr>
</thead>
</table>
| Client SSDs                                  | • Good performance and features at an affordable price point             | • Primary storage  
 • Boot drives                                                                 | • NAND technology expertise  
 • End-to-end quality  
 • Drives optimized for our NAND components inside |
| Enterprise SATA SSDs                         | • Application-centric, read-specific drives for cost and utilization effectiveness | • Boot drives  
 • Enhanced endurance boot drives  
 • Logging applications  
 • Archiving applications |                                                                                                                                 |
| Enterprise PCIe SSDs                         | • High availability  
 • High performance – P320h is one of the fastest PCIe drives in the industry | • Transactional and write-caching applications  
 • I/O acceleration  
 • DRAM backup |                                                                                                                                 |
## Micron Networking Products (Continued)

<table>
<thead>
<tr>
<th>NOR/NAND Flash</th>
<th>Product</th>
<th>Benefits</th>
<th>Ideal Applications</th>
<th>Why Micron?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parallel NOR</strong></td>
<td>Standard, high-performance products up to 250 MB/s reads</td>
<td>Boot code for more complex networking infrastructure equipment (e.g., high-end routers)</td>
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<td></td>
<td>Typical high densities (64MB to 2Gb)</td>
<td></td>
<td>Long-term support</td>
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<td></td>
<td>Low pin count A/D MUX options (decreases ball count by &gt;50%)</td>
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<td>Broad product portfolio</td>
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<tr>
<td></td>
<td>Full voltage range</td>
<td></td>
<td>One supplier for all your memory needs</td>
<td></td>
</tr>
<tr>
<td><strong>SPI NOR</strong></td>
<td>Standard products up to 166 MB/s reads</td>
<td>Boot code for less complex networking infrastructure equipment</td>
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<tr>
<td></td>
<td>Typical medium densities (1Mb to 1Gb)</td>
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<td></td>
<td>Broadest SPI NOR portfolio in the market</td>
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<tr>
<td></td>
<td>Full voltage range</td>
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<td></td>
<td>Industry-standard packaging</td>
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<td></td>
<td>Extended temperature range</td>
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<tr>
<td><strong>SLC NAND</strong></td>
<td>Up to 100,000 P/E cycle endurance</td>
<td>Operating system and configuration tables for networking infrastructure equipment (xPON or router) that requires higher density than NOR and higher endurance than MLC</td>
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<td>Fastest throughput of the various NAND technologies (MLC, TLC)</td>
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<td></td>
<td>Compatibility with the ONFI synchronous interface</td>
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<tr>
<td><strong>MLC NAND</strong></td>
<td>Solid performance and endurance</td>
<td>Custom, SSD-like storage format for networking infrastructure or data center core equipment that require lowest cost/bit and SSD-like capacities</td>
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<td></td>
<td>Less ECC complexity</td>
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<td>2X the density of SLC NAND at a lower cost/bit</td>
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<td>Compatibility with the ONFI synchronous interface</td>
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<tr>
<td><strong>Managed NAND</strong></td>
<td>Simpler solutions to design in</td>
<td>Low-capacity storage for networking infrastructure equipment that requires better performance and reliability than HDDs</td>
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<td>NAND management (e.g., ECC and bad block management) handled by the device like in eUSB and e-MMC memory solutions</td>
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</tbody>
</table>

### 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 [Partner Ecosystem page](micron.com).

### More Information

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

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