

Ucs C240 M4 Spec Sheet

UCS C240 M4 Spec Sheet: An In-Depth Overview of This Enterprise-Grade Server **ucs c240 m4 spec sheet** provides a comprehensive overview of one of the most reliable and versatile rack servers designed for enterprise environments. Known for its robust performance, scalability, and extensive configuration options, the UCS C240 M4 serves as an ideal solution for data centers, virtualization, database management, and high-performance computing. In this article, we delve into the detailed specifications, key features, and capabilities of the UCS C240 M4, helping IT professionals and system administrators understand why it remains a top choice in enterprise server solutions.

Overview of the UCS C240 M4 Server The Cisco UCS C240 M4 is a high-density, dual-socket server built to deliver powerful processing capabilities combined with extensive storage options. It is part of Cisco's Unified Computing System lineup, integrating computing, networking, and storage access into a single platform optimized for demanding workloads.

Key Highlights of the UCS C240 M4

- Dual Intel Xeon E5-2600 v3/v4 processors
- Support for up to 24 DIMMs for maximum memory capacity
- Flexible storage configurations with up to 14 drive bays
- Multiple network interface options
- Advanced management features with Cisco UCS Manager
- Scalability and redundancy features for mission-critical operations

Technical Specifications of UCS C240 M4 The UCS C240 M4's specifications are designed to meet and exceed enterprise requirements for performance, reliability, and flexibility. Below is a detailed breakdown of its technical specs.

Processor Options The server supports dual Intel Xeon E5-2600 v3 or v4 family processors, offering:

- Up to 22 cores per processor
- Hyper-threading technology for improved multitasking
- Support for Intel Turbo Boost technology for dynamic frequency scaling
- Compatibility with Intel Advanced Vector Extensions (AVX) for high-performance computing

Memory Configuration Memory capacity is a significant factor in server performance, and the UCS C240 M4 offers:

- Up to 24 DDR4 DIMM slots
- Maximum RAM capacity of 768GB using 32GB DIMMs
- Support for RDIMMs and LRDIMMs
- Memory speeds up to 2133 MHz (with v4 processors)

Storage Capabilities Designed for flexible and scalable storage configurations, the server includes:

- Up to 14 hot-swappable drive bays
- Support for SAS, SATA, and NVMe drives
- Drive bay configurations including: - 8 x 2.5-inch hot-swappable SAS/SATA drives - 8 x 2.5-inch hot-swappable NVMe drives (optional) - 4 x 3.5-inch hot-swappable drives (with optional backplanes)
- Support for RAID configurations via integrated controllers

Storage Controllers and Expansion

- Embedded LSI MegaRAID controllers (e.g., SAS 9271-8i)
- Support for PCIe expansion cards for additional storage or network interfaces
- Multiple PCIe 3.0 slots for GPUs, network adapters, or storage controllers

Networking The server provides flexible networking options, including:

- Built-in Gigabit Ethernet ports
- Optional 10GbE or 25GbE network cards
- Support for Cisco UCS Virtual Interface Cards (VICs)
- Multiple network port configurations for redundancy and load balancing

Power Supply and Redundancy Reliability is enhanced through:

- Dual hot-swappable power supplies, each rated at 750W or higher
- Power redundancy to ensure uptime
- Optional high-efficiency (80 PLUS Platinum) power supplies

Management Features The UCS C240 M4 comes equipped with advanced management capabilities such as:

- Cisco UCS Manager for centralized management
- Out-of-band management via dedicated CIMC (Cisco Integrated Management Controller)
- Support for remote firmware upgrades and system monitoring
- Hardware health monitoring and alerting

Physical Dimensions and Form Factor The server adheres to standard rack-mount specifications:

- Form factor: 2U rack server
- Dimensions: approximately 3.44 inches in height, 17.2 inches deep, and 19 inches wide
- Weight varies depending on configuration but generally around 40-50 lbs

Key Features and Benefits

High Performance for Enterprise Workloads Thanks to dual Xeon processors and extensive memory support, the UCS C240 M4 delivers exceptional performance for:

- Virtualization platforms
- Database management systems
- Big data analytics
- High-performance computing (HPC)

Scalability and Flexibility The server's design allows for:

- Up to 768GB RAM for large in-memory databases
- Multiple storage options including NVMe for high-speed storage
- Expansion slots for additional network or storage controllers

Reliability and Redundancy Features such as redundant power supplies, hot-swappable components, and hardware health monitoring ensure maximum uptime and data integrity.

Simplified Management Cisco UCS Manager offers a unified interface for server provisioning, configuration, and monitoring, reducing administrative

overhead and streamlining operations. Applications and Use Cases The UCS C240 M4 is ideal for various enterprise applications, including: - Virtualization and Cloud Computing - Database Servers (SQL, Oracle, MySQL) - Data Warehousing and Big Data Analytics - High-Performance Computing (HPC) - Enterprise Storage Solutions - Web Hosting and Application Servers Comparing UCS C240 M4 with Other Enterprise Servers When evaluating enterprise servers, it's important to compare specifications and features. The UCS C240 M4 stands out due to: - Its balanced combination of processing power, memory capacity, and storage options - Cisco's management ecosystem for streamlined operations - Flexibility in configuration to match workload demands Other servers may offer similar specs but might lack the integrated management or modularity of the UCS C240 M4. Conclusion The ucs c240 m4 spec sheet highlights a robust, versatile, and high-performance server built to meet the rigorous demands of modern enterprise environments. Its combination of dual-socket processing, extensive memory and storage support, and advanced management capabilities make it a premier choice for data centers and mission-critical applications. Whether deploying virtualized infrastructure, managing large databases, or supporting high-performance workloads, the UCS C240 M4 provides the scalability, reliability, and ease of management necessary for enterprise success. Investing in this server means securing a platform that adapts to evolving business needs, ensures uptime, and delivers exceptional performance. For IT professionals seeking a comprehensive, enterprise-grade server solution, the UCS C240 M4 remains a compelling option backed by Cisco's proven technology and support infrastructure. Note: For the most current and detailed specifications, always refer to the official Cisco UCS C240 M4 spec sheet or product documentation.

UCS C240 M4 Spec Sheet: An In-Depth Analysis of a Robust Enterprise Server The UCS C240 M4 stands out as a formidable enterprise-class server designed to meet the demanding needs of modern data centers and large-scale computing environments. As part of Cisco's Unified Computing System (UCS) family, this server blends high performance, scalability, and reliability into a versatile platform suitable for various workloads—from virtualization and database management to high-performance computing. In this article, we will dissect the specifications of the UCS C240 M4, exploring its architecture, hardware capabilities, and the strategic advantages it offers to enterprise users.

Overview of the UCS C240 M4

The Cisco UCS C240 M4 is engineered as a dual-socket, rack-mountable server that emphasizes expandability, processing power, and storage capabilities. It is optimized for data-intensive applications, offering a high degree of flexibility to adapt to evolving enterprise requirements. The server's design emphasizes modularity, allowing organizations to tailor configurations for specific workloads. Key Highlights: - Dual Intel Xeon E5-2600 v3 or v4 series processors - Support for up to 1.5 TB of DDR4 RAM - Extensive storage options with support for numerous hard drives and SSDs - Multiple PCIe expansion slots - Advanced management features via Cisco UCS management tools

Processor and Memory Architecture

Processors Supported

The UCS C240 M4 is compatible with Intel Xeon E5-2600 v3 and v4 series processors, providing a broad spectrum of options tailored to performance and budget considerations. These processors are built on the Intel Haswell and Broadwell architectures, respectively, offering significant improvements over previous generations in terms of core counts, energy efficiency, and integrated features. - Number of Sockets: Dual sockets, supporting two processors simultaneously - Core Counts: Up to 22 cores per processor, enabling high parallelism - Hyper-Threading: Supports Hyper-Threading technology for improved multitasking - Cache: Up to 55 MB of Intel Smart Cache per processor

These processor capabilities position the UCS C240 M4 as a powerhouse for compute-heavy workloads, including virtualization, database management, and scientific computing.

Memory Capacity and Speed

Memory performance and capacity are vital for server responsiveness and data throughput. The UCS C240 M4 supports:

- Maximum RAM: Up to 1.5 TB of DDR4 Registered (RDIMM) or Load-Reduced DIMMs (LRDIMM)
- Memory Modules: Up to 24 DIMM slots, evenly distributed across the two CPU sockets
- Memory Speeds: Supports DDR4-2133 and DDR4-2400 modules, depending on configuration
- Memory Features: Supports features like ECC (Error Correcting Code) for data integrity, rank sparing, and mirroring for enhanced reliability

By supporting high-capacity, high-speed memory, the server ensures efficient handling of large datasets and virtualized environments, minimizing latency and maximizing throughput.

Storage Capabilities and Drive Support

Drive Bays and Storage Architecture

One of the defining features of the UCS C240 M4 is its flexible and expansive storage architecture:

- Drive Bays: Up to 24 SFF (Small Form Factor) or 12 LFF (Large Form Factor) drive bays, depending on the configuration
- Drive Support: Compatibility with a broad range of SAS, SATA, and NVMe drives
- Hot-swappable Drives: Supports hot-swapping for minimal downtime
- RAID Support: Integrated hardware RAID controllers (e.g., LSI MegaRAID series), supporting RAID levels 0, 1, 5, 10, 50, and 60

This extensive storage capacity allows for high-density configurations, suitable for large-scale data storage, virtual machine hosting, and data analytics.

Storage Expansion and Options

The server provides multiple options for expanding storage and optimizing data access:

- SSD Caching: Supports SSD cache modules to accelerate read/write operations
- NVMe Support: Enables ultra-fast data transfer rates for high-performance workloads
- Optical Drive Support: Optional DVD or Blu-ray drives for specific use cases
- External Storage Connectors: Multiple SAS and SATA ports for external arrays or JBODs

The flexibility in drive support and expansion options ensures the UCS C240 M4 can be customized for a variety of enterprise storage needs.

Expansion and Connectivity

PCIe Slots and Expansion Capabilities

The server offers a rich set of PCIe expansion slots, enabling additional hardware integration:

- Number of Slots: Up to 4 PCIe 3.0 slots
- Configurations: Supports various configurations, including GPU accelerators, network interface cards (NICs), and additional RAID controllers
- Form Factors: Slots are available in different sizes to accommodate a broad range of expansion cards

This expansion capability facilitates high-performance networking, GPU-compute tasks, or other specialized functions vital to enterprise workloads.

Networking and I/O

Connectivity options are critical for integrating the server into enterprise networks:

- Integrated Network Ports: Typically includes four integrated 1GbE ports, with options for 10GbE NICs
- Optional FlexNIC Modules: Support for

flexible network interface configurations - Management Interfaces: Dedicated iDRAC (Integrated Dell Remote Access Controller) or Cisco's UCS management tools for remote monitoring and management The combination of onboard and expansion network options ensures high throughput and reliable connectivity.

Power and Cooling

Power Supply Units (PSUs)

Efficiency and redundancy are crucial for data center operations: - Power Supply Options: Supports dual hot-swappable power supplies for redundancy - Power Efficiency: Typically rated at 80 PLUS Platinum or Gold, ensuring reduced energy consumption - Input Voltage: Supports a wide range of input voltages (100-240V AC), accommodating global power standards

Cooling Architecture

The server's cooling system is designed for optimal airflow: - Fans: Multiple high-performance fans dynamically adjust speed based on thermal conditions - Thermal Management: Intelligent airflow management minimizes hotspots and maintains consistent operating temperatures Proper power and cooling configurations contribute to the server's reliability and lifespan in demanding enterprise environments.

Management and Security Features

UCS Management Tools

Cisco provides comprehensive management solutions: - Cisco UCS Manager: Centralized management platform offering provisioning, monitoring, and troubleshooting - iDRAC: For remote server management, including hardware health monitoring, firmware updates, and console access - Automation and Integration: Supports APIs and integration with enterprise management frameworks such as SNMP, Redfish, and CIM

Security Features

Security is embedded at multiple levels: - Secure Boot: Ensures only authorized firmware and software are loaded - Trusted Platform Module (TPM): For hardware-based security functions - Role-Based Access Control (RBAC): Limits management access based on user roles - Encryption: Supports data encryption at rest and in transit These features are essential for safeguarding sensitive data and maintaining compliance with enterprise security standards.

Operational Reliability and Certifications

The UCS C240 M4 is built with enterprise reliability in mind: - Redundant Components: Dual power supplies, hot-swappable drives, and fans - Diagnostics: Integrated health monitoring and predictive failure analysis - Certifications: Complies with industry standards such as ISO/IEC 27001, RoHS, and EPEAT for environmental sustainability Reliability features ensure maximum uptime and minimal maintenance overhead, critical for enterprise deployment.

Conclusion: Why the UCS C240 M4 Stands Out

The UCS C240 M4 exemplifies a high-performance, scalable, and flexible server tailored for demanding enterprise environments. Its robust hardware architecture—featuring dual high-core-count processors, extensive memory support, vast storage options, and multiple expansion slots—makes it suitable for a wide array of workloads. The server's management and security features further enhance its appeal, providing administrators with comprehensive tools to optimize performance and safeguard data. In an era where data growth and processing demands are accelerating, the UCS C240 M4 offers a resilient platform capable of adapting to evolving enterprise needs. Whether deployed in virtualization clusters, database farms, or high-performance computing setups, this server remains a versatile cornerstone for modern data centers. Final Thoughts: Investing in the UCS C240 M4 means embracing a future-proof infrastructure component, combining Cisco's renowned reliability with state-of-the-art hardware features. Its detailed specifications underscore its capacity to handle complex, resource-intensive workloads while providing the flexibility and management capabilities necessary for efficient enterprise operations. As organizations continue to seek scalable and secure server solutions, the UCS C240 M4 remains a compelling choice in the enterprise server landscape.

Questions & Answers About ucs c240 m4 spec sheet

No	Question	Answer
1	What are the key specifications of the UCS C240 M4 server as per its spec sheet?	The UCS C240 M4 server features dual Intel Xeon E5-2600 v3/v4 processors, up to 24 DIMM slots supporting DDR4 memory, multiple storage options including SAS, SATA, and NVMe drives, and supports various I/O configurations for high performance and scalability.
2	How much memory capacity does the UCS C240 M4 support according to its spec sheet?	The UCS C240 M4 supports up to 3TB of DDR4 memory using 24 DIMM slots, with configurations up to 128GB per DIMM, enabling extensive memory capacity for demanding workloads.
3	What storage options are available on the UCS C240 M4 server according to its spec sheet?	The server offers flexible storage configurations including support for up to 12 small form factor (SFF) drives or 6 large form factor (LFF) drives, with options for SAS, SATA, and NVMe SSDs, providing high storage density and performance.
4	Does the UCS C240 M4 support any specific network connectivity features as per its spec sheet?	Yes, the UCS C240 M4 supports integrated Gigabit Ethernet ports, optional 10GbE add-on cards, and multiple PCIe expansion slots for additional network interface cards, ensuring robust network connectivity.
5	What are the power supply options available for the UCS C240 M4 server based on its spec sheet?	The server typically comes with redundant hot-swappable power supplies, with options for 750W or higher wattage units, ensuring reliability and continuous operation in data center environments.

UCS C240 M4, server specifications, Dell PowerEdge C240 M4, technical datasheet, server hardware details, enterprise server specs, rack server features, server configuration, data center hardware, UCS server documentation