TECHNOLOGY

Cisco Ucs C 240 M 4 Sff Rack Server Spec Sheet

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Introduction to the Cisco UCS C240 M4 SFF Rack Server

The Cisco UCS C240 M4 SFF rack server stands as a remarkable piece of enterprise hardware that has delivered consistent performance across a wide spectrum of data center workloads. For IT professionals evaluating the **Cisco UCS C240 M4 SFF rack server spec sheet**, the details reveal a machine built for versatility, reliability, and scalability. Whether you are supporting virtualization, big data analytics, or mission-critical databases, this server has earned its reputation as a workhorse in modern infrastructure environments. In this article, we will take a deep dive into every meaningful specification, architectural detail, and operational use case that defines this platform.

The C240 M4 is part of the fourth generation of UCS C-Series servers, and the SFF (Small Form Factor) variant specifically addresses environments where storage density and IO performance are paramount. By examining the **Cisco UCS C240 M4 SFF rack server spec sheet**thoroughly, you will gain a clearer understanding of why this server continues to be a popular choice for organizations that demand consistent uptime and high throughput.

Overview of the Cisco UCS C240 M4 SFF Architecture

The Cisco UCS C240 M4 SFF is a 2U rack-mounted server designed to handle a broad range of enterprise applications. Its architecture emphasizes balanced compute, memory, and storage resources. The chassis supports dual Intel Xeon E5-2600 v4 or v3 processors, providing up to 28 cores per socket in the highest configurations. This flexibility allows the server to scale from lightweight application serving to heavy compute workloads without requiring a hardware change.

When you first study the **Cisco UCS C240 M4 SFF rack server spec sheet**, you will notice the server supports up to 24 DIMM slots, enabling substantial memory capacity. This is especially important for in-memory databases and large virtualization hosts. The memory architecture uses DDR4 technology, which improves bandwidth and power efficiency compared to earlier generations.

The SFF designation refers to the 2.5-inch small form factor drive bays. This configuration is ideal for deployments that prioritize IOPS and storage density. The server can accommodate up to 24 SAS or SATA drives, or a mix of SSDs and HDDs, providing a flexible storage layer that can be tuned for performance or capacity.

Detailed Processor and Memory Specifications

Processor Options

One of the most critical sections of any **Cisco UCS C240 M4 SFF rack server spec sheet**is the processor support list. The server supports Intel Xeon E5-2600 v4 family processors with TDP ratings from 85W to 145W. Options range from the Intel Xeon E5-2603 v4 with six cores at 1.7 GHz to the Intel Xeon E5-2699 v4 with 22 cores at 2.2 GHz. This range means you can select a processor that matches your performance and budget requirements precisely.

For customers staying with the v3 family, the server also supports Intel Xeon E5-2600 v3 processors, which are broadly backward-compatible within the same socket. The dual-socket architecture allows symmetric multiprocessing, enabling the operating system to address all cores and memory channels across both sockets.

Memory Capacity and Configuration

The C240 M4 SFF supports up to 1.5 TB of memory using 64 GB RDIMMs or 1 TB using 64 GB LRDIMMs. The 24 DIMM slots are distributed across two processor memory controllers, with 12 slots per socket. This balanced layout ensures memory bandwidth is maximized when all channels are populated. The memory speed can reach up to 2400 MHz with DDR4 modules, though the actual speed depends on the processor model and DIMM configuration.

For applications that require fault tolerance, the server supports RAS features such as ECC, memory mirroring, and sparing. These features are essential for deployments where data integrity and uptime are non-negotiable. The **Cisco UCS C240 M4 SFF rack server spec sheet**clearly outlines the supported memory types and configurations, making it easier to plan a deployment that meets both performance and reliability goals.

Storage Capabilities and Configuration Options

Drive Bays and Supported Media

The SFF variant of the C240 M4 offers 24 hot-swappable 2.5-inch drive bays. This is a significant advantage over the LFF (Large Form Factor) version, which provides fewer bays but supports larger 3.5-inch drives. The 24-bay configuration is ideal for environments that require high IOPS, such as virtual desktop infrastructure or transaction-heavy databases.

The supported drive types include SAS, SATA, and NVMe SSDs, providing a spectrum of price and performance options. You can mix SAS HDDs for bulk storage with SSDs for caching or high-speed data access. This flexibility is one of the reasons the **Cisco UCS C240 M4 SFF rack server spec sheet**remains relevant for storage administrators evaluating infrastructure upgrades.

RAID Controllers and Storage Connectivity

The server supports several RAID controller options, including the Cisco UCS 12G SAS RAID controller and the Cisco UCS 12G SAS Modular RAID controller. These controllers support RAID levels 0, 1, 5, 6, 10, 50, and 60, giving administrators the ability to tune data protection and performance. The modular RAID controller supports cache sizes up to 4 GB and includes options for supercapacitor backup, ensuring data integrity during unexpected power loss.

For deployments that require direct JBOD attachment, the server also supports HBA (Host Bus Adapter) modes. The storage configuration section of the **Cisco UCS C240 M4 SFF rack server spec sheet**provides detailed guidance on which controllers and drive configurations are compatible, which helps avoid compatibility issues during procurement.

Networking and Expansion Capabilities

Embedded Networking Options

The C240 M4 SFF includes embedded networking options that reduce the need for separate interface cards. The server supports the Cisco UCS Virtual Interface Card (VIC) 1340 and 1380, which provide up to 40 Gbps of bandwidth. These cards support Cisco UCS Manager integration, enabling policy-based provisioning and simplified management.

Additionally, the server offers optional LAN-on-motherboard (LOM) configurations with up to four 1 GbE or two 10 GbE ports. This embedded networking is sufficient for many environments and reduces overall acquisition costs. The relevant section of the **Cisco UCS C240 M4 SFF rack server spec sheet**details the supported VIC models and their bandwidth capabilities.

PCIe Expansion Slots

The server provides up to nine PCIe 3.0 slots, offering substantial room for add-in cards such as GPUs, additional storage controllers, or high-performance network adapters. The slot configuration includes x8 and x16 electrical interfaces, allowing you to install dual-width GPUs for compute-intensive workloads. The expansion slot layout is designed to maximize airflow and thermal performance, which is critical when the chassis is fully populated with drives and high-power processors.

For organizations that require GPU acceleration, the C240 M4 SFF supports NVIDIA GRID and Tesla GPUs, making it suitable for virtual GPU workloads and machine learning inference. This versatility is a key highlight when reviewing the **Cisco UCS C240 M4 SFF rack server spec sheet** for use cases that extend beyond traditional application hosting.

Management and UCS Integration

Cisco Integrated Management Controller (CIMC)

Every C240 M4 SFF includes the Cisco Integrated Management Controller, which provides out-of-band management capabilities. Through CIMC, administrators can remotely power cycle the server, monitor hardware health, update firmware, and configure BIOS settings. The web-based interface is intuitive and includes a virtual KVM feature that allows full remote console access.

CIMC also supports integration with Cisco UCS Manager when the server is deployed in a UCS system. In this mode, the service profiles define the server's identity, networking, and storage configuration. This policy-based approach reduces manual configuration errors and accelerates deployment times. The management features described in the **Cisco UCS C240 M4 SFF rack server spec sheet** explain how the server fits into a larger UCS fabric.

Firmware and Driver Management

Cisco provides a Host Upgrade Utility (HUU) that simplifies firmware and driver updates. The tool scans the server components and applies the correct firmware versions in a single reboot cycle. This is especially valuable in environments with strict change management policies. The spec sheet often includes references to the supported firmware versions and compatibility matrices.

Performance Characteristics and Use Cases

Virtualization Host

One of the most common deployments for the C240 M4 SFF is as a virtualization host. The combination of dual high-core-count processors, large memory capacity, and high IOPS from SFF drives makes it ideal for VMware, Hyper-V, or KVM environments. The server can host hundreds of virtual machines when properly configured, providing a dense and efficient virtualization platform.

The ability to mix SSD and HDD drive types allows administrators to tier storage according to workload requirements. The **Cisco UCS C240 M4 SFF rack server spec sheet** provides the exact specifications needed to plan a virtualization cluster that meets both performance and capacity targets.

Database and Transaction Processing

For SQL Server, Oracle, or MySQL databases, the C240 M4 SFF offers the necessary memory bandwidth and storage throughput. The 24 DIMM slots allow extensive memory capacity for caching, while the PCIe 3.0 lanes

provide high bandwidth for database storage. When paired with a high-performance RAID controller and SSD drives, the server can handle thousands of transactions per second.

The 2U form factor also allows dense deployment in racks, making it practical to scale out a database farm. The thermal and power specifications in the spec sheet help data center operators plan cooling and power capacity accurately.

Big Data and Analytics

Big data workloads such as Hadoop or Spark benefit from the server's balanced architecture. The high core count per socket, combined with memory bandwidth and local storage, allows efficient data processing. The SFF drive configuration provides ample space for intermediate data storage while maintaining fast read and write speeds.

When deployed in a UCS system, the server can leverage fabric interconnects for high-speed data movement between nodes. The **Cisco UCS C240 M4 SFF rack server spec sheet** provides the networking details that matter for these data-intensive environments.

Power Supply and Cooling Specifications

The server supports up to two redundant power supplies, available in 650W, 770W, 930W, and 1200W AC options, as well as DC power supplies for telco environments. The power supplies are hot-swappable and support N+1 redundancy. The titanium-rated power supplies achieve up to 94% efficiency, reducing operational costs in high-density deployments.

Cooling is provided by dual fan modules that are also hot-swappable. The fan speed adjusts dynamically based on component temperatures, which minimizes acoustic noise and power consumption. The thermal design of the C240 M4 SFF ensures that all components operate within specified temperature ranges even when fully loaded. Detailed power and thermal specifications are a standard part of the **Cisco UCS C240 M4 SFF rack server spec sheet** and are essential for capacity planning.

Comparing the C240 M4 SFF with Other Models

The C240 M4 SFF sits alongside the C220 M4 and C240 M4 LFF within the same generation. The C220 M4 is a 1U server that offers less expansion and storage capacity, making it suitable for lighter workloads. The C240 M4 LFF uses 3.5-inch drives and is better for high-capacity bulk storage. The SFF variant distinguishes itself with higher IOPS and storage density, making it the preferred choice for performance-oriented applications.

Within the UCS portfolio, the C240 M4 has been succeeded by the C240 M5 and M6 models, which support newer processors and higher memory speeds. However, the C240 M4 remains a cost-effective option for workloads that do not require the absolute latest hardware. The **Cisco UCS C240 M4 SFF rack server spec sheet** continues to serve as a reference for budgets that need to balance performance and capital expenditure.

Conclusion

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