

Cisco UCS Fusion ioDrive2 Adapter for C-Series Rack Servers

Product Overview

The Cisco Unified Computing System™ (Cisco UCS®) is a next-generation data center platform that unites computing, networking, storage access, and virtualization resources in a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility.

Using ultra-low latency Fusion ioMemory technology, the Fusion ioDrive2 adapter built for Cisco UCS C-Series Rack Servers decouples storage performance from capacity through the integration of a powerful new memory tier uniquely designed to accelerate application delivery.

Main Benefits

The Cisco UCS Fusion ioDrive2 Adapter (Figure 1) offers the following main benefits:

- Significant improvements in application performance for Cisco UCS C-Series servers: Fusion ioMemory significantly reduces latency in enterprise applications with a persistent, high-performance, high-capacity memory tier. This memory tier integrates transparently with Cisco UCS rack servers to immediately improve performance and relieve I/O bottlenecks.
- Dramatically reduced TCO: With significant performance improvements, Cisco® customers can reduce the amount of physical infrastructure that they need to deploy, increase the number of virtual machines that they can place on a single physical server, and further improve overall system efficiency. These improvements provide savings in capital expenditures (CapEx) and operating expenses (OpEx), including reduced application licensing fees and savings related to space, cooling, and energy use.
- Improved enterprise reliability through self-healing features, wear management, and predictive monitoring: The Cisco UCS Fusion ioDrive2 Adapter includes powerful features to eliminate concerns about reliability, including NAND flash memory failures and excessive wear. The all-new intelligent, self-healing Fusion-io Adaptive Flashback feature provides complete chip-level fault tolerance, which enables the Cisco UCS Fusion ioDrive2 Adapter to repair itself after a single chip failure or a multichip failure without interrupting business continuity.

Figure 1. Cisco UCS Fusion ioDrive2 Adapter



Table 1 summarizes the performance of the Cisco UCS Fusion ioDrive2 Adapter, and Table 2 summarizes the product specifications.

Table 1. Cisco UCS Fusion ioDrive2 Adapter Performance

Item	Cisco UCS Fusion ioDrive2 (365 GB)	Cisco UCS Fusion ioDrive2 (785 GB)	Cisco UCS Fusion ioDrive2 (1205 GB)	Cisco UCS Fusion ioDrive2 (3.0 TB)
Read-access latency	68 microseconds	68 microseconds	68 microseconds	68 microseconds
Write-access latency	15 microseconds	15 microseconds	15 microseconds	15 microseconds
Read bandwidth (1 MB)	590 MBps	1.5 GBps	1.5 GBps	1.5 GBps
Write bandwidth (1 MB)	900 MBps	1.1 GBps	1.3 GBps	1.3 GBps
Random read IOPS (512 bytes)	137,000	270,000	275,000	143,000
Random write IOPS (512 bytes)	535,000	800,000	800,000	535,000
Random read IOPS (4 KB)	110,000	215,000	245,000	136,000
Random write IOPS (4 KB)	140,000	230,000	250,000	242,000

* 785-GB and 1205-GB performance achieved using virtual controller feature.

Table 2. Cisco UCS Fusion ioDrive2 Adapter Specifications

Item	Specification
Usable capacity	365 GB, 785 GB, 1.2 TB, and 3.0 TB
NAND type	Multilevel cell (MLC)
Interface	PCI Express (PCIe) 2.0 x 4
Cisco UCS C-Series management compatibility	Cisco UCS C-Series Integrated Management Controller (IMC) Release 1.5.2 and later
Form factor	<ul style="list-style-type: none"> 365 GB, 785 GB, and 1.2 TB: Half-height half-length 3.0 TB: Full-height half-length
Operating system	Red Hat Enterprise Linux (RHEL) Releases 5.7, 5.8, 6.2, and 6.3 (64-bit) SUSE Linux Enterprise Server 11.2 64-bit VMware ESX 4.1U3 and ESXi 4.1U3, 5.0U1, 5.0U2, 5.1, and 5.1U1 Microsoft Windows 2008 R2 SP1 and Microsoft Windows Server 2012 (64-bit)
Typical power	18 watts (W)
Operating temperature range	50 to 95°F (10 to 35°C)

Cisco UCS Integration

The Cisco UCS Fusion ioDrive2 Adapter is designed for use only in Cisco UCS C-Series Servers. Multiple Cisco UCS Fusion ioDrive2 Adapters are supported in Cisco UCS C220 M3 and Cisco UCS C240 M3 Rack Servers and C460 M2 High-Performance Rack Servers. The Cisco IMC will discover the card, and details can be viewed by choosing Server > Inventory > PCI Adapters in the GUI.

Warranty Information

Find warranty information at Cisco.com on the Product Warranties page.

Cisco Unified Computing Services

Using a unified view of data center resources, Cisco and our industry-leading partners deliver services that accelerate your transition to a unified computing architecture. Cisco® Unified Computing Services help you quickly deploy your data center resources, simplify ongoing operations, and optimize your infrastructure to better meet your business needs. For more information about these and other Cisco Data Center Services, visit <http://www.cisco.com/go/unifiedcomputingservices>.

Why Cisco?

Cisco UCS continues Cisco's long history of innovation in delivering integrated systems for improved business results based on industry standards and using the network as the platform. Recent examples include IP telephony, LAN switching, unified communications, and unified I/O. Cisco began the unified computing phase of the Cisco Unified Data Center strategy several years ago by assembling an experienced team from the computing and virtualization industries to augment our own networking and storage access expertise. As a result, Cisco delivered foundational technologies, including the Cisco Nexus® Family, supporting unified fabric and server virtualization. Cisco UCS completes this phase, delivering innovation in architecture, technology, partnerships, and services. Cisco is well positioned to deliver this innovation by taking a systems approach to computing that unifies network intelligence and scalability with innovative application-specific integrated circuits (ASICs), integrated management, and standard computing components.

For More Information

For more information about the Cisco UCS Fusion ioDrive2 Adapter, contact your local Cisco representative.



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