Cisco UCS Fusion-io ioDrive2 Adapter

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.

With ultra-low latency Fusion ioMemory technology built into Cisco UCS blade servers, storage performance can be decoupled from capacity through the integration of a powerful new memory tier uniquely designed to accelerate applications delivery.

Main Benefits

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

- Significant improvements in application performance for Cisco UCS blade 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 blade 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 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 and operating costs, including reduced application licensing fees and savings related to space, cooling costs, and energy use.

- Improved enterprise reliability through self-healing features, wear management, and predictive monitoring: The Cisco UCS Fusion-io ioDrive 2 Adapter includes powerful features to eliminate concerns about reliability, including NAND flash memory failures and excessive wear. The all-new intelligent, self-healing Fusion Adaptive Flashback feature provides complete chip-level fault tolerance, which enables the Cisco UCS Fusion-io ioDrive 2 Adapter to repair itself after a single chip or a multichip failure without interrupting business continuity.

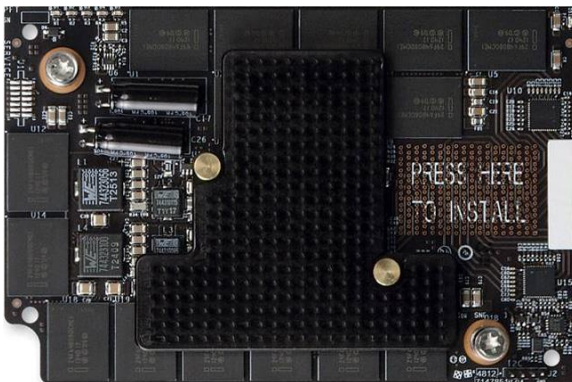**Figure 1.**   Cisco UCS Fusion-io ioDrive2 Adapter

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

Table 1. Cisco UCS Fusion-io ioDrive2 Adapter Performance

Item	365GB MLC Adapter Result	785GB MLC Adapter Result
Read access latency	68 microseconds	68 microseconds
Write access latency	15 microseconds	15 microseconds
Read bandwidth (1 MB)	590 MBps	1.45 GBps
Write bandwidth (1 MB)	900 MBps	1.1 GBps
Ran. Read IOPS (512 B)	140,000	141,000
Ran. Write IOPS (512 B)	532,000	535,000
Ran. Read IOPS (8 KB)	76,700	119,000
Ran. Write IOPS (8 KB)	74,600	127,000

Note: Results obtained using fio

Table 2. Cisco UCS Fusion-io ioDrive2 Adapter Specifications

Item	Specification
Usable capacity	365GB MLC or 785GB MLC
Interface	PCI Express (PCIe) 2.0 x4
Cisco UCS Manager compatibility	Release 2.1 and higher
Operating system	Linux: Red Hat Enterprise Linux (RHEL): Releases 5.7, 5.8, 6.2, and 6.3 (64-bit) SUSE Linux Enterprise Server 11.2 64bit VMware: ESX 4.1U3 and ESXi 4.1U3, ESXi 5.0U1, ESXi 5.0U2, ESXi 5.1, and ESXi 5.1 U1 Microsoft Windows: 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-io Adapter is designed for use only on Cisco UCS B-Series Blade Servers. A single Cisco UCS Fusion-io Adapter is supported in Cisco UCS B200 M3, B22 M3 Blade Servers, and up to two are supported in a Cisco UCS B420 M3 Blade Server. Cisco UCS Manager discovers the card, and details can be viewed by navigating Server > Inventory > Storage 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 our 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-io Adapter contact your local Cisco representative.

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