Cisco UCS M71KR-E Emulex Converged Network Adapter

Cisco Unified Computing System Overview

The Cisco® Unified Computing System is a next-generation data center platform that unites compute, network, storage access, and virtualization into a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility. The system integrates a low-latency, lossless 10 Gigabit Ethernet unified network fabric with enterprise-class, x86-architecture servers. The system is an integrated, scalable, multichassis platform in which all resources participate in a unified management domain.

Product Overview

The Cisco UCS M71KR-E Emulex Converged Network Adapter (CNA) is an Emulex-based Fibre Channel over Ethernet (FCoE) mezzanine card that provides connectivity for Cisco UCS B-Series Blade Servers in the Cisco Unified Computing System.

Designed specifically for the Cisco UCS blades, the adapter provides a dual-port connection to the midplane of the blade server chassis. The Cisco UCS M71KR-E uses an Intel 82598 10 Gigabit Ethernet controller for network traffic and an Emulex 4-Gbps Fibre Channel controller for Fibre Channel traffic all on the same mezzanine card. The Cisco UCS M71KR-E presents two discrete Fibre Channel host bus adapter (HBA) ports and two Ethernet network ports to the operating system (Figure 1).

Figure 1.   Cisco UCS M71KR-E Emulex Converged Network Adapter

Features and Benefits

The Cisco UCS M71KR-E provides both 10 Gigabit Ethernet and 4-Gbps Fibre Channel functions using drivers from Emulex (Figure 2), providing:

- Risk mitigation through compatibility with current Emulex adapter-based SAN environments and drivers
- Reduced TCO through consolidation of LAN and SAN traffic over the same mezzanine card and fabric, reducing the overall number of network interface cards (NICs), HBAs, cables, and switches
- Integrated management with Cisco UCS Manager

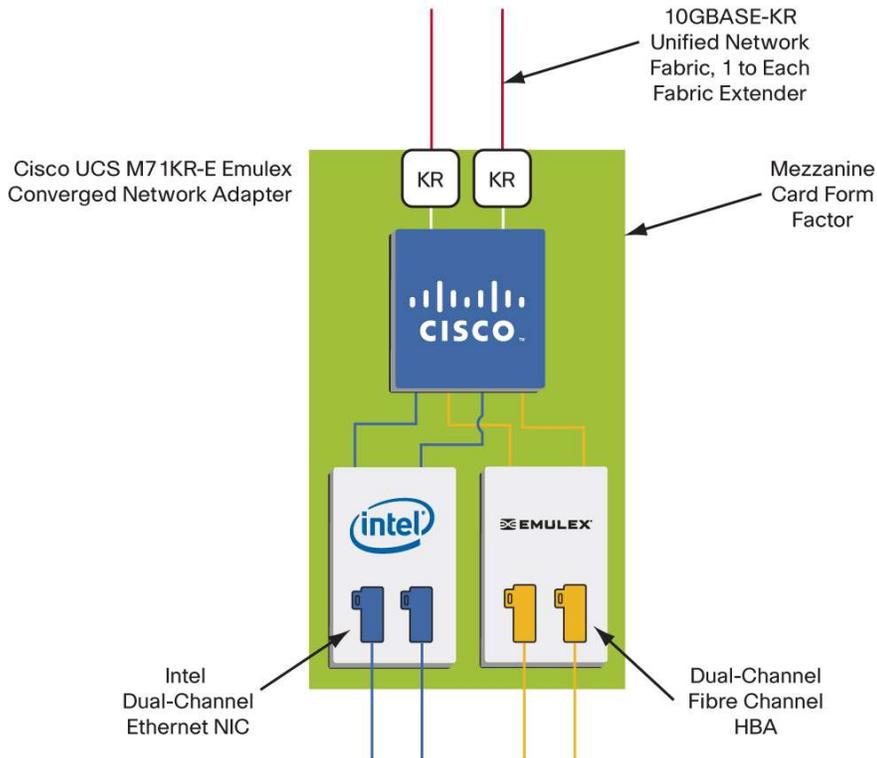**Figure 2.**   Cisco UCS M71KR-E Emulex Converged Network Adapter Architecture

Table 1 summarizes the features and benefits of the Cisco UCS M71KR-E.

Table 1.   Features and Benefits

Feature	Benefit
Emulex Fibre Channel controller application-specific integrated circuits (ASICs)	Allows customers to use existing Emulex HBA stacks and drivers for storage
Unified I/O	Helps reduce TCO by consolidating the overall number of NICs, HBAs, cables, and switches because LAN and SAN traffic run over the same mezzanine card and fabric
Network architecture	Provides redundant path to fabric interconnect using dual 10 Gigabit Ethernet ports to the fabric carrying both Fibre Channel and Ethernet traffic
Unified management	Through Cisco UCS Manager, automatically discovers blades and the mezzanine cards on the blades
Intel 82598 ASIC for Ethernet traffic	Delivers efficient, high-performance Ethernet support
Support for lossless Ethernet	Uses priority flow control (PFC) and IEEE 802.3x Pause to enable FCoE as part of the Cisco unified fabric
Support for Fibre Channel N-port ID virtualization (NPIV) sessions	Supports 64 sessions of Microsoft Windows and Linux operating systems

Platform Support and Compatibility

The Cisco UCS M71KR-E mezzanine card is designed specifically for Cisco UCS B-Series Blade Servers and works in a dedicated environment with Cisco UCS Manager.

Table 2 summarizes the specifications for the Cisco UCS M71KR-E.

Table 2.   Product Specifications

Item	Specification
Standards	10 Gigabit Ethernet, IEEE 802.3ae (XAUI), IEEE 802.3, IEEE 802.1Qaz, IEEE 802.1q VLAN support, 1000BASE-BX, jumbo frames up to 16 KB, 1/2/4-Gbps Fibre Channel, and T11 FCoE
Components	Cisco ASIC, Emulex Fibre Channel ASIC, and Intel 82598 ASIC
Ports	2x 10 Gigabit Ethernet and mezzanine connectors
Connectivity	1000BASE-BX and Cisco Unified Computing System midplane
Memory	512-KB receive buffer, 320-KB transmit buffer, 8-KB instruction cache, and 8-KB data cache
Performance	150,000 I/O operations per second (IOPS) per port
Network management	Cisco UCS Manager v1.0.1
Network (or programming or other) interfaces	2x 10 Gigabit Ethernet
Physical dimensions	Length = 7.25 in. (18.4 cm) Width = 3.65 in. (9.3 cm)
Typical power	21 watts (W)
Inlet operating temperature range	50 to 95°F (10 to 35°C)

System Requirements

The Cisco UCS M71KR-E is a mezzanine card designed to be used only on Cisco UCS B-Series Blade Servers. Each Cisco UCS B200 M1 2-Socket Blade Server supports one mezzanine adapter, and each Cisco UCS B250 M1 2-Socket Extended Memory Blade Server supports up to two adapters. The adapter is not designed or intended for other purposes.

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?

The Cisco Unified Computing System 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 Data Center 3.0 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. The Cisco Unified Computing System 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 ASICs, integrated management, and standard computing components.

For More Information

For more information about the Cisco UCS M71KR-E Emulex Converged Network Adapter, visit http://www.cisco.com/en/US/products/ps10265/index.html or contact your local Cisco representative.

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