

Cisco UCS CNA M72KR-E Emulex Converged Network Adapter

Cisco Unified Computing System Overview

The Cisco Unified Computing System™ (Cisco UCS™) is a next-generation data center platform that unites computing, networking, storage access, and virtualization resources 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 CNA M72KR-E Emulex Converged Network Adapter (CNA) is a high-performance 10-Gbps Fibre Channel over Ethernet (FCoE) mezzanine-card adapter that consolidates traffic for networking, Fibre Channel, and FCoE storage for Cisco UCS B-Series Blade Servers (Figure 1). The Cisco UCS CNA M72KR-E supports a common 10 Gigabit Ethernet infrastructure for unified networking and storage; extends Cisco's standards-based unified network fabric; reduces capital expenditures (CapEx) for adapters, switches, and cables; and reduces operating expenses (OpEx) for power, cooling, and IT administration.

Figure 1. Cisco UCS CNA M72KR-E Emulex Converged Network Adapter

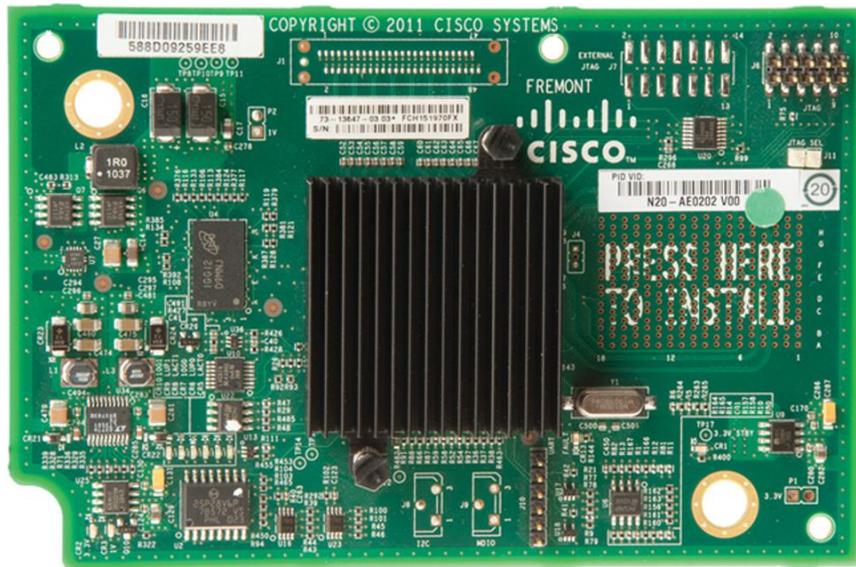
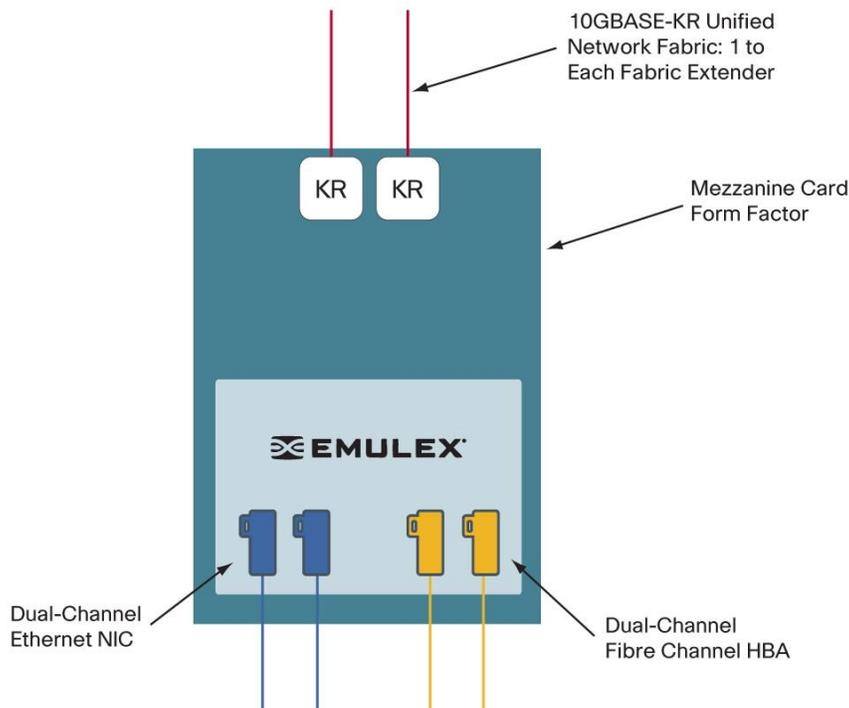


Figure 2 shows the Cisco UCS CNA M72KR-E architecture.

Figure 2. Cisco UCS CNA M72KR-E Emulex Converged Network Adapter Architecture



Features and Benefits

The Cisco UCS CNA M72KR-E provides both 10 Gigabit Ethernet and 8-Gbps Fibre Channel functions using drivers from Emulex:

- Risk mitigation through compatibility with current Emulex adapter-based SAN environments and drivers
- Investment protection for existing server, network, storage, and facilities assets
- 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), host bus adapters (HBAs), cables, and switches
- Integrated management with Cisco UCS Manager

It offers these main features:

- Enterprise ready: 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

- Advanced error checking: Provides end-to-end data protection with hardware parity, cyclic redundancy check (CRC), error correction code (ECC), and other advanced error checking and correction to help ensure that data is safe from corruption
- More virtual machines per server: Using protocol offload for TCP/IP and FCoE, enables more virtual machines per server, providing greater cost savings for server virtualization

Platform Support and Compatibility

The Cisco UCS CNA M72KR-E mezzanine card is designed specifically for Cisco UCS B-Series Blade Servers and works in a dedicated environment with Cisco UCS Manager.

Specifications

The Cisco UCS CNA M72KR-E mezzanine card is designed for use only on Cisco UCS B-Series Blade Servers. Each half-width server, including the Cisco UCS B200 M1 and M2 Blade Servers and Cisco UCS B230 M1 Blade Server, supports one mezzanine adapter. Each full-width server, including the Cisco UCS B250 M1 and M2 Extended Memory Blade Servers and Cisco UCS B440 M1 High-Performance Blade Server, supports up to two adapters. The adapter is not designed or intended for other purposes.

- Standards
 - ANSI INCITS T11 FC-BB-5, FC-GS-4, FC-TAPE, and FCP-3, FC-FS-2, FC-LS
 - PCI Express Base Spec 2.0 and PCI Bus Power Management Interface Revision 1.2
- Advanced error reporting (AER)
 - IEEE 802.3ae (10-Gbps Ethernet)
 - IEEE 802.1q (VLAN)
 - IEEE 802.1p (Quality of Service [QoS] and Class of Service [CoS])
 - IEEE 802.3ad (Link Aggregation)
 - IEEE 802.3x (Flow Control)
 - Data Center Bridging: Enhanced Transmission Selection (ETS; IEEE P802.1Qaz)
 - Priority-Based Flow Control (PFC; IEEE P802.1Qbb)
 - Data Center Bridging Exchange Protocol (CIN-DCBX and CEE-DCBX; IEEE P802.1Qaz)
- FCoE features
 - Common driver for universal CNAs (UCNAs) and HBAs
 - N-Port ID Virtualization (NPIV)
 - Support for FCoE Initialization Protocol (FIP) and FCoE EtherTypes
 - Fabric-provided MAC addressing (FPMA) support
 - 1024 concurrent port logins (remote port indicators [RPIs]) and 2048 active exchanges (exchange resource indicators [XRIs]) per port
- Components: Emulex Blade Engine 2 application-specific integrated circuit (ASIC)
- Ports: 2 x 10-Gbps Ethernet and mezzanine connectors
- Connectivity: 1000BASE-BX and Cisco UCS midplane
- Performance: 250,000 I/O operations per second (IOPS) per port
- Network management: Cisco UCS Manager Release 1.3.1 or later

- Physical dimensions
 - Length: 7.25 in. (18.4 cm)
 - Width: 3.65 in. (9.3 cm)
- Typical power: 13 watts (W)
- Inlet operating temperature range: 50 to 95°F (10 to 35°C)

Warranty Information

Find warranty information at <http://www.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 helps 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. 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 ASICs, integrated management, and standard computing components.

For More Information

For more information about the Cisco UCS CNA M72KR-E Emulex Converged Network Adapter, visit <http://www.cisco.com/en/US/products/ps10265> or contact your local Cisco representative.



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