Data Sheet
FUJITSU Converged Network Adapter (CNA) Emulex OCe14401

40GbE Converged Network Adapter

A Converged Network Adapter (CNA) is a Network Adapter that supports both the Ethernet and Fibre Channel standards. It provides connectivity at various transfer rates to Ethernet networks and also connects to Fibre Channel storage area networks (SANs) using Fibre Channel over Ethernet (FCoE) and Data Center Bridging (DCB). The adapter consolidates Ethernet data and FCoE storage traffic, reducing the number of cables and adapters needed for a server. The CNA provides 2 independent physical functions per port which can both be used at the same time for FC and Ethernet. Each port of the device provides separate NIC and HBA functions to the operating system or hypervisor. FC and network traffic are transmitted simultaneously over a common cable to a DCB-enabled FCoE switch which segregates Ethernet and Fibre Channel I/O to the appropriate network.

Converged Network Adapter (CNA) Emulex OCe14401

The Emulex OneConnect Universal CNA OCe14000 family of Ethernet Network Adapters is the FCoE and most advanced generation of Emulex Ethernet adapters. Powered by the XE100 controller, OCe14000 adapters offer enhanced support for virtualization, cloud and hyperscale cluster deployments. This paper highlights support for Emulex's Virtual Network eXceleration initiative that delivers support for Single Root I/O Virtualization, Universal Multi-Channel™ NIC Partitioning and Stateless TCP/IP Offloads amongst its many capabilities.

As a member of the CNA 14000 family, the OCe14401 uses a 40Gbit/s DCB (Converged Enhanced Ethernet) infrastructure for networking and storage, reducing capital expense (CapEx) for adapters, switches and cables, and operational expense (OpEx) for power, cooling and IT administration. The OCe14401 adapter increases data center IT agility and scalability, as well as optimation of the server hardware utilization by scaling high density virtualization.
The OCe14401 with 40GbE CNAs is designed for the high bandwidth and scalability demands of Tier-1 enterprise applications with storage protocol (FCoE and iSCSI) offloads,enhanced Single-Root I/O Virtualization (SR-IOV) and NIC port partitioning, and cloud optimization using Overlay Networking technology.



Main Features	Benefits
■ Superior network scalability - 40GbE bandwidth on common software platform	■ Maximizes server hardware ROI with high virtual machine density
■ SR-IOV	■ Simplifies deployment of secure, scalable multitenant cloud infrastructure
■ Stateless TCP/IP offloads	■ Provides the bandwidth needed for slot constrained server platforms
■ 1x 40Gb or 4x 10Gb Support with Break-out cable	■ Highest density of 10Gb Ethernet ports in a 1U rack server

Technical details

Technical details

Controller Silicon	Emulex Engine XE100
Controller type	Converged Network Adapter
Connector type	QSFP+
Operating system pre-installed	Comprehensive OS Support Information to released operating systems can be found in the server datasheets. Details can be found in the released drivers list on the support portal.
Released drivers list link	http://support.ts.fujitsu.com/Download/Index.asp
Number of ports	1
Data transfer rate(s)	40 Gbit/s
Bus interface	PCIe 3.0 x8
Bus transfer rate	8GT/s
HW Virtualization	SR-IOV support (up to 64 virtual functions per port for NIC) Overlay Network Virtualization (NVGRE & VXLAN) Universal Multi-Channel for Port Partitioning
Interrupt Levels	MSI-X
WoL	No
LEDs	2 LED per port Green: Blink = Activity Off = No activity Amber: On = Link up Off = Link down
Teaming	all teaming functions provided by the OS
Remote boot support	PXE 2.1 iSCSI FCoE
Remote boot support notes	one boot function can be enabled at the same time
Offloading	Stateless TCP Storage protocols: iSCSI and FCoE Virtual Network Fabrics (NVGRE & VXLAN)
Standards	**Ethernet:** - IEEE 802.3ba 40Gb/s Ethernet ports - IEEE 802.1Q virtual LANs (VLAN) - IEEE 802.3x Flow control with Pause frames - IEEE 802.3AX Link Aggregation / LACP - IEEE 802.1AB Link Layer Discovery Protocol (LLDP) - IEEE 802.1Qbg Edge Vitual Bridging **DCE/CEE Support:** - IEEE 802.1Qbb Priority Flow Control (PFC) - IEEE 802.1Qaz Enhanced Transmission Selection (ETS) Data Center Bridging Capability Exchange (DCBX) - IEEE 802.1Qau Congestion Notification (QCN) **Fibre Channel over Ethernet:** FC-BB-5 by INCITS Technical Committee T11

Order code	Height of bracket	Number of ports	Related product
MC-0JCE91	Low Profile (LP)	1	PRIMEQUEST Server
MC-0JCE92	Full Height (FH)	1	PRIMEQUEST Server
MCX0JCE91	Full Height / Low Profile	1	PRIMEQUEST Server
S26361-F5539-E1	Full Height (FH)	1	PRIMERGY Server
S26361-F5539-E201	Low Profile (LP)	1	PRIMERGY Server
S26361-F5539-E551	Full Height / Low Profile	1	PRIMERGY Server
S26361-F5539-L501	Full Height / Low Profile	1	PRIMERGY Server
S26361-F5539-L551	Full Height / Low Profile	1	PRIMERGY Server

Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
MC-0JCEA1	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	MTO / up to 150m
MCX0JCEA1	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	MTO / up to 150m
S26361-F5539-E140	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	MTO / up to 150m
S26361-F5539-L140	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	MTO / up to 150m
S26361-F3986-E400	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / passive	QSFP+ / 2m or 5m
S26361-F3986-L402	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / passive	QSFP+ / 2m
S26361-F3986-L405	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / passive	QSFP+ / 5m
S26361-F3986-L410	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 10m
S26361-F5317-E40	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / customized
S26361-F5317-L41	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 1m
S26361-F5317-L43	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 3m
S26361-F5317-L45	Ethernet 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 5m
D:QSFP-QSFP-AOC10L	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	QSFP+ / 10m
S26361-F5317-E400	Ethernet 4x10 / 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / customized
S26361-F5317-L401	Ethernet 4x10 / 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 1m
S26361-F5317-L403	Ethernet 4x10 / 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 3m
S26361-F5317-L405	Ethernet 4x10 / 40 Gbit/s	QSFP+ Twinax Cable / active	QSFP+ / 5m
D:QSFP-4SFP-AOC10L	Ethernet 4x10 / 40 Gbit/s	QSFP+ / MMF (SWL)	QSFP+ / 10m
Interface Module notes	Only Fujitsu certified modules and cables are supported Order codes starting with "S26361-F5317" and "D:QSFP" are Brocade branded cables, required for connections to Brocade switches		
Description optional cable	40Gbit/s transceiver module for MMF (S26361-F5539-E140 / -L140 and MC-0JCEA1 / MCX0JCEA1) supports: - OM3 (Multi Mode Fiber 50.0/125µm, 2000 MHz*km) up to 100m - OM4 (Multi Mode Fiber 50.0/125µm, 4700 MHz*km) up to 150m		

Environment

Power consumption	optical 40Gb: 9.9W (typical), 13,0W (max) DAC cable 40Gb: 8.6W (typical), 11,6W (max)
Temperature (operating)	0 - 55 °C
Storage temperature	-40 - 70 °C

Compliance

Compliance notes	According to the corresponding system
Compliance link	https://sp.ts.fujitsu.com/sites/certificates

More information

Fujitsu products, solutions & services

In addition to Fujitsu with Converged Network Adapter (CNA) Emulex OCe14401, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio
Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

Computing Products
www.fujitsu.com/global/products/computing/

Software
www.fujitsu.com/software/

More information

Learn more about FUJITSU Server Converged Network Adapter (CNA) Emulex OCe14401, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
www.fujitsu.com/primergy

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment.
Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT.
Please find further information at http://www.fujitsu.com/global/about/environment



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