

Data Sheet

FUJITSU PLAN EP MCX4-EN 40GbE QSFP

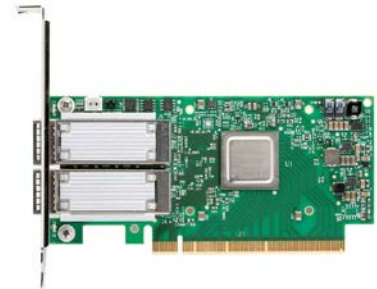
Dual-port 40Gbit/s PCIe 3.0 Network Interface Card

Ethernet cards enable data exchange between all the devices connected in a local network (LAN). A networked IT infrastructure that functions well is of great significance when managing and controlling critical business processes in a company. The wide range of complex information transported across the network relies on fast and reliable data processing by the network cards.

PLAN EP MCX4-EN 40GbE QSFP

The FUJITSU PLAN EP MCX4-EN 40GbE is based on Mellanox's ConnectX[®]-4 EN (Dual port) Network Interface Card. ConnectX-4 EN Network Controller with 40Gb/s Ethernet connectivity addresses virtualized infrastructure challenges, delivering best-in-class and highest performance to various demanding markets and applications. Providing true hardware-based I/O isolation with unmatched scalability and efficiency, achieving the most cost-effective and flexible solution for Web 2.0, Cloud, data analytics, database, and storage platforms. 40Gb Ethernet (40GbE) enables network bandwidth to be cost-effectively scaled in support of next-generation server and storage solutions residing in Cloud and Web-scale data center environments.

FUJITSU PLAN EP MCX4-EN 40GbE Network Interface Cards deliver advanced Ethernet solutions designed for FUJITSU Server PRIMERGY and PRIMEQUEST systems with use cases such as SAP HANA[®] or Microsoft Storage Spaces Direct (S2D).



Features & Benefits

Main Features	Benefits
<ul style="list-style-type: none"> ■ Designed for FUJITSU Server PRIMEQUEST and PRIMERGY systems in SAP and all genral purpose environments 	<ul style="list-style-type: none"> ■ Delivering best-in-class and highest performance to various demanding markets and applications. Providing true hardware-based I/O isolation with unmatched scalability and efficiency, achieving the most cost-effective and flexible solution for Web 2.0, Cloud, data analytics, database, and storage platforms for general purpose, SAP HANA, and Microsoft S2D (Storage Spaces Direct) environments
<ul style="list-style-type: none"> ■ Microsoft Windows Server 2016 and 2012 R2, Red Hat Enterprise Linux 7, SuSE Linux Enterprise Server 12, VMware ESXi 6.5 Support ■ RDMA over Converged Ethernet (RoCE) 	<ul style="list-style-type: none"> ■ Designed and released for qualifying PRIMERGY and PRIMEQUEST servers ■ Delivering low-latency and high-performance Remote Direct Memory Access (RDMA) over Ethernet networks. RoCE provides efficient low-latency RDMA services over Layer 2 and Layer 3 networks
<ul style="list-style-type: none"> ■ Connectivity 	<ul style="list-style-type: none"> ■ Interoperable with 1/10/25/40Gb Ethernet switches. Powered connectors for optical and active cable support. Tested with Mellanox and Cisco DAC 40G, AOC 40G. Mellanox QSFP optical transceivers are available from Fujitsu, 850nm SR4L up to 30m as well as SR4 up to 100m
<ul style="list-style-type: none"> ■ ServerView Management and MCTP/PLDMNC-SI Support 	<ul style="list-style-type: none"> ■ ServerView Update Tools and CLP for iRMC Network Inventory are supported for UEFI and in legacy boot. CLP for eIOV is supported for UEFI only. MCTP Base/Control, MCTP over PCIe/VDM, PLDM Monitoring/Control, PLDM FRU, NC-SI over MCTP

Technical details

Technical details

Controller Silicon	Mellanox ConnectX4-EN MCX416A-BCAT Dual-Port 40 Gigabit Ethernet Controller
Controller type	Ethernet Ctrl.
Connector type	QSFP
Operating system pre-installed	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	2
Number of Connectors	2
Number of external ports	2
Data transfer rate(s)	40 Gbit/s
Auto Negotiation support	Yes
Bus interface	PCIe 3.0 x16
Bus type	PCIe 3.0
Bus transfer rate	8GT/s
Bus width	x16
Network protocol and standards compatibility	IEEE 802.1p Class of Service IEEE 802.1q VLAN IEEE 802.1Qau Congestion Notification IEEE 802.1Qaz Enhanced Transmission Selection (ETS) IEEE 802.1Qbb Priority Flow Control (PFC) IEEE 802.3ad LACP IEEE 802.3ae 10Gbit Ethernet IEEE 802.ap based auto-negotiation and KR startup IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3ba 40Gbit Ethernet IEEE 802.3x Flow Control IEEE 1588 Precision Time Protocol IPv4, IPv6 and mixed IPv4/IPv6 network protocols
HW Virtualization	SR-IOV: Up to 256 Virtual Functions
Interrupt Levels	MSI-X
WoL	No
Virtualization	Hardware-based I/O Server Virtualization - SR-IOV - Multi-function per port - Address translation and protection - Multiple queues per virtual machine - Enhanced QoS for vNICs - VMware NetQueue support Overlay Networks - Stateless offloads for overlay networks and tunneling protocols - Hardware offload encapsulation and decapsulation of overlay networks Network Virtualization Offload - NVGRE - VXLAN™ CPU Offloads - RDMA over Converged Ethernet (RoCE) - TCP/UDP/IP stateless offload - LSO, LRO, checksum offload - RSS (can be done on encapsulated packet), TSS, HDS, VLAN insertion / stripping, Receive flow steering - Intelligent interrupt coalescence™

Technical details

Offloading	CPU Offloads - RDMA over Converged Ethernet (RoCE) - TCP/UDP/IP stateless offload - LSO, LRO, checksum offload - RSS (can be done on encapsulated packet), TSS, HDS, VLAN insertion / stripping, Receive flow steering - Intelligent interrupt coalescence
-------------------	---

Data transfer rate up to	40 Gbit/s
---------------------------------	-----------

Order code	Product Name	Height of bracket	Number of ports	Related product
MC-OJFE41	Mellanox ConnectX4-EN MCX416A-BCAT 40GbE Dual-Port QSFP PCIe	Low Profile (LP)	2	PRIMEQUEST Server
MCXOJFE41	Mellanox ConnectX4-EN MCX416A-BCAT 40GbE Dual-Port QSFP PCIe	Low Profile (LP)#Full Height (FH)	2	PRIMEQUEST Server
S26361-F4053-E202	Mellanox ConnectX4-EN MCX416A-BCAT 40GbE Dual-Port QSFP PCIe	Low Profile (LP)	2	PRIMERGY Server
S26361-F4053-E2	Mellanox ConnectX4-EN MCX416A-BCAT 40GbE Dual-Port QSFP PCIe	Low Profile (LP)	2	PRIMERGY Server
S26361-F4053-L502	Mellanox ConnectX4-EN MCX416A-BCAT 40GbE Dual-Port QSFP PCIe	Low Profile (LP)#Full Height (FH)	2	PRIMERGY Server

Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
MC-OJFE51	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 30m
MC-OJFE61	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
MC-OJFEC1	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
MCXOJFE51	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 30m
MCXOJFE61	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
MCXOJFEC1	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
S26361-F4053-E701	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 30m
S26361-F4053-E702	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
S26361-F4053-E703	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
S26361-F4053-L701	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 30m
S26361-F4053-L702	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m
S26361-F4053-L703	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	up to 150m

Environment

Power consumption	Dual-Port QSFP with passive DAC 40G cables: 10.66W Dual-Port QSFP with active AOC 40G cables: 12.16W Dual-Port QSFP with QSFP optical transceivers: 12.16 W
Temperature (operating)	0 - 55 °C
Storage temperature	-40 - 65 °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 PLAN EP MCX4-EN 40GbE QSFP , 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 PLAN EP MCX4-EN 40GbE QSFP , please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
<http://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>



Copyrights

All rights reserved, including intellectual property rights. Designations may be trademarks and/or copyrights of the respective owner, the use of which by third parties for their own purposes may infringe the rights of such owner. For further information see <http://www.fujitsu.com/fts/resources/navigation/terms-of-use.html>
Copyright 2019 FUJITSU LIMITED

Disclaimer

Technical data is subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

Contact

Fujitsu Limited
Website: www.fujitsu.com/primergy
2019-08-01 WW-EN

All rights reserved, including intellectual property rights. Designations may be trademarks and/or copyrights of the respective owner, the use of which by third parties for their own purposes may infringe the rights of such owner. For further information see <http://www.fujitsu.com/fts/resources/navigation/terms-of-use.html>
Copyright 2019 FUJITSU LIMITED