Data Sheet
FUJITSU PLAN EP QL45212 2x10/25GbE SFP28

Dual-port Dual-rate 10/25Gbit/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 QL45212 2x10/25GbE SFP28

The Fujitsu PLAN EP QL45212 is based on Cavium's QLogic® FastLinQ™ QL45212HLCU (Dual port) Network Interface Card. This Intelligent Ethernet Adapter uses QLogic's seventh generation technology to deliver true 10/25Gb per second (10/25Gbps) Ethernet performance per port. Integrated, advanced networking eliminates I/O bottlenecks and conserves CPU cycles. 25Gb Ethernet (25GbE) 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. The 25GbE results in a single switch lane connection similar to existing 10GbE technology–but it delivers 2.5 times greater bandwidth.

Compared to 40GbE solutions, 25GbE technology provides superior switch port density by requiring just a single switch lane compared to the 40GbE with four lanes. Fujitsu PLAN EP QL45212 Dual-Port 10/25GbE Network Interface Cards deliver advanced Ethernet solutions designed for Fujitsu Server PRIMERGY and PRIMEQUEST systems with Microsoft Windows Server 2016 operating system such as Fujitsu PRIMEFLEX Storage Spaces Direct. PRIMEFLEX Storage Spaces Direct solutions are designed to meet requirements from leading enterprise and cloud providers.

Features & Benefits

Main Features	Benefits
■ Certified for Microsoft SDDC (Software Defined Data Center) PREMIUM and STANDARD Logo Qualifiers for Storage Spaces Direct	■ Designed for Fujitsu's PRIMEFLEX for Storage Spaces Direct Solutions
■ Windows Server 2016 Support	■ Designed and released for qualifying PRIMERGY and PRIMEQUEST servers supporting Windows Server 2016. Other operating systems are not supported.
■ Remote Direct Memory Access - RDMA	■ Build the most powerful scale-out storage systems with RoCE and RoCE V2 RDMA technologies (Windows SMB Direct and Storage Spaces Direct (S2D)). iWARP is not supported.
■ Dual Port at line rates 10 and 25 Gbps	■ Supports 10 Gbps line rate with either SFP+ optical transceivers and optical fibers or 10G Direct Attached Copper cables. Supports 25 Gbps line rate with 25G Direct Attached Copper and 100G/4x25G Splitter DAC cables. SFP28 optical transceivers are not supported, since the PLAN EP QL45212 requires Non-FEC switches - which do not exist in Fujitsu's portfolio.
■ UEFI	■ Latest Unified Extensible Firmware Interface support, and Secure Boot for Windows Server 2016. Legacy PXE boot is implemented but not supported by Fujitsu.

Technical details

Technical details

Controller Silicon	Cavium QLogic FastLinQ(TM) QL45212 10/25 Dual-Port Gigabit Ethernet Controller
Controller type	Ethernet Ctrl.
Connector type	SFP28
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)	10 Gbit/s; 25 Gbit/s
Auto Negotiation support	Yes
Bus interface	PCIe 3.0 x8
Bus type	PCIe 3.0
Bus transfer rate	8GT/s
Bus width	x8
Network protocol and standards compatibility	IEEE 802.1q VLAN IEEE 802.1Qaz Enhanced Transmission Selection (ETS) IEEE 802.1Qbb Priority Flow Control (PFC) IEEE 802.3x Flow Control IPv4, IPv6 and mixed IPv4/IPv6 network protocols
HW Virtualization	SR-IOV: up to 240 virtual functions, 120 per port, NPAR: up to 16 physical functions, 8 per port
Interrupt Levels	MSI-X
WoL	No
Virtualization	Server Virtualization - Windows Server 2016 Hyper-V Virtual Machine Queue (VMQ) and Virtual Machine Multi-Queue (VMMQ) - SR-IOV Network Virtualization Offload - VXLAN - NVGRE
Teaming	Windows Server 2016 Teaming Driver
Flow Control	IEEE 802.3-2012 and Ethernet flow control
Additional features	Microsoft SDDC PREMIUM and STANDARD Logo Qualifiers for Storage Spaces Direct
Offloading	- TCP Stateless Offloads (include checksum, TSO, TSS, RSS, and RSC) - TX/RX IP, TCP & UDP checksum offload (IPv4, IPv6) capabilities
Data transfer rate up to	25 Gbit/s

Order code	Product Name	Height of bracket	Number of ports	Related product
S26361-F5622-E202	QLogic FastLinQ QL45212 Dual-Port 2x25Gb SFP28 PCIe	Low Profile (LP)	2	PRIMERGY Server
S26361-F5622-E2	QLogic FastLinQ QL45212 Dual-Port 2x25Gb SFP28 PCIe	Full Height (FH)	2	PRIMERGY Server
S26361-F5622-L502	QLogic FastLinQ QL45212 Dual-Port 2x25Gb SFP28 PCIe	Full Height / Low Profile	2	PRIMERGY Server

Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
Interface Module notes	Only Fujitsu certified modules and cables are supported Order codes starting with "S26361-F3873" are Brocade branded cables, required for connections to Brocade switches		

Supported Interface Modules / Cables Order code	Application	Type / mode	Connector / cable Length
Description optional cable	10Gbit/s optical transceiver module for MMF (S26361-F3986-E3, -L3 and MC-0JXE51, MCX0JXE51): - OM1 (Multi Mode Fiber 62.5/125µm, 200 MHz*km) up to 33m - OM2 (Multi Mode Fiber 50.0/125µm, 500 MHz*km) up to 82m - OM3 (Multi Mode Fiber 50.0/125µm, 2000 MHz*km) up to 300m - OM4 (Multi Mode Fiber 50.0/125µm, 4700 MHz*km) up to 400m 10Gbit/s optical transceiver module for SMF (S26361-F3986-E4, -L4): - OS1 (Single Mode Fiber 9µm) up to 10kn: 10Gbit/s active twinax cable: - Amphenol 2m, 5m, 10m (S26361-F3989-L102, -L105, -L110) - Brocade 1m, 3m, 5m (S26361-F3873-L501, -L503, -L505) - Cisco 7m, 10m (S26361-F4571-E107, -L107, -E110, -L110) 10Gbit/s passive twinax cable: - Cisco 1m, 3m, 5m (S26361-F4571-E101, -L101, -E103, -L103, -E105, -L105) 25G Direct Attach Copper DAC - Cisco 100GBase QSFP to 4xSFP25G Passive Copper Splitter Cable 1m, 2m, 3m (Cisco P/N: QSFP-4SFP25G-CU1M, QSFP-4SFP25G-CU2M, QSFP-4SFP25G-CU3M)		

Environment	
Power consumption	Dual Port SFP+ 10GBase-SR typ. 16 W, max. 18 W Dual Port SFP+ 10GBase-LR typ. 16 W, max. 18 W Dual Port SFP+ 10G Twinax typ. 16 W, max. 18 W Dual Port SFP28 25G DAC typ. 16 W, max. 18 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 QL45212 2x10/25GbE SFP28, 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 PLAN EP QL45212 2x10/25GbE SFP28, 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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