# Data Sheet
# FUJITSU PLAN EP QL41132 2X 10G SFP+

Dual-port 10Gbit/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 QL41132 2X 10G SFP+

The Fujitsu PLAN EP QL41132 2X 10G SFP+ PCIe adapter is based on Marvell's® FastLinQ™ QL41132 HLCU Dual Port RDMA Ethernet Network Interface Adapter. This intelligent Ethernet Network adapter uses Marvell's eights generation technology to deliver true 10Gb per second (10Gbps) Ethernet performance per port. Integrated, advanced networking eliminates I/O bottlenecks and conserves CPU cycles.

Compared to other 10GbE solutions, NPAR technology unique to this adapter provides switch-independent network partitioning. Fujitsu PLAN EP QL41132 Dual-Port 10GbE Network Interface Adapters deliver advanced Ethernet solutions designed for FUJITSU Server PRIMERGY systems with general purpose operating systems.

| Main Features | Benefits |
|---|---|
| Scalable performance<br>■ Industry's most powerful 10G Ethernet network adapter with both iWARP and RoCE RDMA | ■ Delivers full line-rate 10GbE performance across both ports.10G/1G Autonegotiation. Boosts host CPU efficiency with hardware offloads for GRE, NVGRE, and VXLAN tunnels. NPAR is unique to this adapter and allows network partitioning |
| Flexible technology support<br>■ Universal RDMA— iWARP and RoCE Remote Direct Memory Access | ■ Delivers choice and flexibility with concurrent support for RoCE v2 and iWARP technologies; Recommended as a discrete PCIe adapter for scale-up of Fujitsu's default DynamicLoM iWARP adapter capabilities |
| Efficient networking<br>■ Intelligent Hardware Offload Adapter with iSCSI - iBFT. | ■ Increase VM density and accelerate multitenant networks with full offload for tunneling protocols; iSCSI Boot will be commercially supported once the server UEFI is implemented |
| Connectivity<br>■ NPAR and General Purpose Operating System Support | ■ Enables provisioning of 10GbE ports for greater deployment flexibility through switch-independent NIC partitioning, Microsoft Windows Server, VMware ESXi, SLES, and RHEL |
| Simplified Management<br>■ Designed for UEFI | ■ Works best on UEFI (Unified Extensible Firmware Interface) PRIMERGY and PRIMEQUEST servers; Supports legacy boot as well, however Fujitsu's ServerView Update Tools and iRMC network inventory are not supported on legacy |

# Technical details

| Technical details | |
|---|---|
| Controller Silicon | Marvell(R) FastLinQ(TM) QL41132 10G Dual-Port Gigabit Ethernet Controller |
| Controller type | Ethernet Ctrl. |
| Connector type | SFP+ |
| 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; 1 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<br>IEEE 802.1Qaz Enhanced Transmission Selection (ETS)<br>IEEE 802.1Qbb Priority Flow Control (PFC)<br>IEEE 802.3x Flow Control<br>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 |

## Technical details

| | |
|---|---|
| Virtualization | Server Virtualization<br>- Windows Server 2016 Hyper-V Virtual Machine Queue (VMQ) and Virtual Machine Multi-Queue (VMMQ)<br>- SR-IOV<br>Network Virtualization Offload<br>- VXLAN<br>- 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 e.g., Storage Spaces Direct |
| Offloading | - TCP Stateless Offloads (include checksum, TSO, TSS, RSS, and RSC)<br>- TX/RX IP, TCP & UDP checksum offload (IPv4, IPv6) capabilities |
| Data transfer rate up to | 10 Gbit/s |

| Order code | Product Name | Height of bracket | Number of ports | Related product |
|---|---|---|---|---|
| MC-0JXF41 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Low Profile (LP) | 2 | PRIMEQUEST Server |
| MC-0JXF42 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Full Height (FH) | 2 | PRIMEQUEST Server |
| MCX0JXF41 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Low Profile (LP)#Full Height (FH) | 2 | PRIMEQUEST Server |
| S26361-F4069-E202 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Low Profile (LP) | 2 | PRIMERGY Server |
| S26361-F4069-E2 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Full Height (FH) | 2 | PRIMERGY Server |
| S26361-F4069-L502 | Cavium FastLinQ® QL41132HLCU Intelligent Ethernet Adapter 10G SFP+ Dual-Port | Low Profile (LP)#Full Height (FH) | 2 | PRIMERGY Server |

## Supported Interface Modules / Cables

| Order code | Application | Type / mode | Connector / cable Length |
|---|---|---|---|
| S26361-F3986-E3 | Ethernet 10 Gbit/s | SFP+ / MMF (SWL) | LC-style / up to 400m |
| S26361-F3986-L3 | Ethernet 10 Gbit/s | SFP+ / MMF (SWL) | LC-style / up to 400m |
| S26361-F3986-E4 | Ethernet 10 Gbit/s | SFP+ / SMF (LWL) | LC-style / up to 10km |
| S26361-F3986-L4 | Ethernet 10 Gbit/s | SFP+ / SMF (LWL) | LC-style / up to 10Km |
| S26361-F3986-E5 | Ethernet 10 Gbit/s ; 1 Gbit/s | SFP+ / MMF (SWL) | LC-style / up to 400m |
| S26361-F3986-L5 | Ethernet 10 Gbit/s ; 1 Gbit/s | SFP+ / MMF (SWL) | LC-style / up to 400m |
| S26361-F3986-E6 | Ethernet 10 Gbit/s ; 1 Gbit/s | SFP+ / SMF (LWL) | LC-style / up to 10km |
| S26361-F3986-L6 | Ethernet 10 Gbit/s ; 1 Gbit/s | SFP+ / SMF (LWL) | LC-style / up to 10km |
| S26361-F3989-E600 | Ethernet 10 Gbit/s | SFP+ Twinax Cable / active | SFP+ / 2m or 5m |
| S26361-F3989-L102 | Ethernet 10 Gbit/s | SFP+ Twinax Cable / active | SFP+ / 2m |
| S26361-F3989-L105 | Ethernet 10 Gbit/s | SFP+ Twinax Cable / active | SFP+ / 5m |
| S26361-F3989-L110 | Ethernet 10 Gbit/s | SFP+ Twinax Cable / active | SFP+ / 10m |

| 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):<br>- OM1 (Multi Mode Fiber 62.5/125µm, 200 MHz*km) up to 33m<br>- OM2 (Multi Mode Fiber 50.0/125µm, 500 MHz*km) up to 82m<br>- OM3 (Multi Mode Fiber 50.0/125µm, 2000 MHz*km) up to 300m<br>- OM4 (Multi Mode Fiber 50.0/125µm, 4700 MHz*km) up to 400m<br>10Gbit/s optical transceiver module for SMF (S26361-F3986-E4, -L4):<br>- OS1 (Single Mode Fiber 9µm) up to 10kn:<br>10Gbit/s active twinax cable:<br>- Amphenol 2m, 5m, 10m (S26361-F3989-L102, -L105, -L110)<br>- Brocade 1m, 3m, 5m (S26361-F3873-L501, -L503, -L505)<br>- Cisco 7m, 10m (S26361-F4571-E107, -L107, -E110, -L110)<br>10Gbit/s passive twinax cable:<br>- Cisco 1m, 3m, 5m (S26361-F4571-E101, -L101, -E103, -L103, -E105, -L105) | | |

| Environment | |
|---|---|
| Power consumption | Dual Port SFP+ 10GBase-SR typ. 16 W, max. 18 W<br>Dual Port SFP+ 10GBase-LR typ. 16 W, max. 18 W<br>Dual Port SFP+ 10G Twinax 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 QL41132 2X 10G SFP+, 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 QL41132 2X 10G SFP+, 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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