Data Sheet
FUJITSU Server PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2

Next generation blade system interconnect

FUJITSU Server PRIMERGY will give you the servers you need to power any workload and changing business requirements. As business processes expand so does the need for applications. Each has its own resource footprint, so you need a way to optimize your computing to better serve your users. PRIMERGY systems will help you match your computing capabilities to your business priorities with our complete portfolio of expandable PRIMERGY tower servers for remote and branch offices, versatile rack-mount servers, compact and scalable blade systems, as well as hyper-converged scale-out servers. They convince by business proven quality with a wide range of innovations, highest efficiency cutting operational cost and complexity, provide more agility in daily operations, and integrate seamlessly to let help you concentrate on core business functions.

FUJITSU Server PRIMERGY BX blade systems are the perfect platform to build a converged infrastructure designed to reduce IT costs, time and efforts. PRIMERGY Blade Servers utilizes a modular architecture and contain in addition to the compute power, all required infrastructure and network components, storage capacity as well as management modules that helps companies to simplify their infrastructure, achieve significant cost reductions and increase flexibility.

PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2

The PRIMERGY BX Ethernet Switch 18/8+2 is the next generation blade switching technology with DCB functionalities for data center environments, that delivers a high-performance, low-latency 10/40Gbit/s Ethernet solutions for FUJITSU Server PRIMERGY Blade systems. PRIMERGY BX Ethernet Switch 18/8+2 provides a converged fabric solution that supports Ethernet, Fibre Channel over Ethernet and iSCSI protocols that enables connectivity for FCoE or iSCSI storage solutions. The Connection Blade helps to overcome demands for network consolidation and provides 18x 10Gbit/s downlink ports, as well as 2x 40Gbit/s, plus 8x 10Gbit/s DCB capable uplink ports allowing to combine storage and network traffic on a single network. The Connection Blade supports of L2 switch mode, EHM and IBP mode.



Features & Benefits

Main Features	Benefits
10/40Gbit/s Ethernet solution	
■ 10/40 Gbit/s Ethernet Switch, Intelligent Blade Panel (IBP) or End Host Mode (EHM)	■ IBP/ EHM mode avoid protocol compatibility issues (e.g. Cisco compatibility) and offer a large number of add-on functions compared to standard switch mode
Flexible connectivity	
■ The PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2 can be installed in 6 connection bays of PRIMERGY BX900 S2 (Fabrics 1, 2 and 3) and up to 4 bays of the PRIMERGY BX400 S1	■ Designed for seamless integration into existing LAN and storage environments
High-performance, low-latency solution	
■ - 8 x 1/10 Gbit/s SFP/SFP+ uplink port ■ - 2 x 40 Gbit/s QSFP+ uplink ports ■ - low latency of 500ns	■ Operational with today's wide spread 1 Gbit/s Ethernet backbones and also with the growing number of 10 Gbit/s and 40 Gbit/s ones ■ Converged fabric solution that simplifies management and helps reduce Capex and Opex for data center environments

Technical details

PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2	
Connection type	Ethernet Connection Blade Layer 2+, 10/40 Gbit/s Ethernet Switch, Intelligent Blade Panel (IBP) or End Host Mode (EHM)
Supported system units	PRIMERGY BX400 S1, PRIMERGY BX900 S2
Max. number per BX unit	4 in PRIMERGY BX400 S1, 6 in PRIMERGY BX900 S2
Supported Server Blades	PRIMERGY BX9xx Server Blades w. 1 Gbit/s CNA on Board PRIMERGY BX9xx S3/S4 Server Blades w. 10 Gbit/s CNA on Board PRIMERGY BX25xx Server Blades w. 10Gbit/s CNA on Board
Supported Mezzanine Cards	PRIMERGY BX CNA Mezz Card 10 Gbit/s 2 port (MC-CNA112E)

Interfaces	
Down-link ports	18 x 1/10 Gbit/s Eth
Up-link ports	8 x 1/10 Gbit/s Eth (SFP/SFP+) 2 x 40 Gbit/s Eth (QSFP+)
Management ports	internal 10/100Mbit/s Ethernet to each MMB internal serial port (RS232) to MMB

Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
S26361-F3986-E1	Ethernet 1 Gbit/s	SFP / 1000BASE-T	RJ45 / up to 100m
S26361-F3986-E2	Ethernet 1 Gbit/s	SFP / MMF (SWL)	LC-style / up to 300m
S26361-F3986-E3	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-E40	Ethernet 40 Gbit/s	QSFP+ / MMF (SWL)	MTO / up to 100m
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
S26361-F4571-E500	Ethernet 10 Gbit/s	SFP+ Twinax Cable / passive	SFP+ / 3m or 5m
S26361-F4571-L101	Ethernet 10 Gbit/s	SFP+ Twinax Cable / passive	SFP+ / 1m
S26361-F4571-L103	Ethernet 10 Gbit/s	SFP+ Twinax Cable / passive	SFP+ / 3m
S26361-F4571-L105	Ethernet 10 Gbit/s	SFP+ Twinax Cable / passive	SFP+ / 5m
S26361-F4571-L107	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 7m
S26361-F4571-L110	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 10m
S26361-F3873-E500	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 3m or 5m
S26361-F3873-L501	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 1m
S26361-F3873-L503	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 3m
S26361-F3873-L505	Ethernet 10 Gbit/s	SFP+ Twinax Cable / active	SFP+ / 5m
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

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
Order codes starting with "S26361-F4571" are Cisco branded cables, required for connections to Cisco switches
Original Brocade and Cisco 10Gb twinax cables are also certified.
Original Cisco 40Gb twinax cables are also certified.

Technical specifications

Layer 2 feature	Flow control: IEEE802.3x for full duplex mode Jumbo frames up to 9216 Byte Link Aggregation VLAN IGMP snooping v1/v2/v3 IGMP/ MLD up to 400 multicast group address registered Broadcast and Multicast Storm protection Link State / Port Down Relay (Force downlink port down, if uplink port is down) Port Backup LLDP Forward Wakeup On LAN (WOL) packets to the unauthenticated ports Port Mirror, synchronous RX and TX mirror (not for IBP) Spanning Tree (not for IBP/EHM)
Quality of service	IEEE 802.1p based CoS (Class of Service) IP TOS/Precedence/DSCP based CoS Differentiated Service (DiffServ)
Link aggregation	up to 10 channel groups for uplink and downlink ports up to 10 members per channel group on a device IEEE 802.3ad Link Aggregation (LACP and static mode) Load balance for both unicast and multicast traffics Intelligent load balancing for channel groups; MAC based and IP based
Spanning tree	for Switch mode - IEEE 802.1D (STP) - IEEE 802.1W (RSTP) - IEEE 802.1S (MSTP) - BPDU filtering support (for EHM and IBP STP is not needed)
DCB features	IEEE 802.1Qbb: Priority-based Flow Control (PFC) IEEE 802.1Qaz: Enhanced Transmission Selection (ETS) up to 3 Priority Groups (PG) are supported (PFC supported with 1PG)
IBP features	18 uplinkset 18 portgroup 1000 VLAN group 18 Service LAN 1000 Service VLAN
FCoE features	Fibre Channel over Ethernet (FCoE*) FIP & FCoE packets are all forwarded when DCB is configured * FCoE frames as defined by T11 Committee
Network protocol and standards compatibility	IEEE 802.3ae 10Gbit Ethernet IEEE 802.3ba 40Gbit Ethernet IEEE 802.3x Flow Control IEEE 802.3ad LACP IEEE 802.1v Protocol VLAN, Port VLAN IEEE 802.1q VLAN IEEE 802.1p Class of Service IEEE 802.1ab LLDP IEEE 802.1x Port Based Network Access Control IEEE 802.3ac Frame extension for VLAN Tagging IEEE 802.1Qbb Priority Flow Control (PFC) IEEE 802.1Qau Congestion Notification IEEE 802.1Qaz Enhanced Transmission Selection (ETS)
Performance	Non blocking wire speed of L2 switching performance; 570Mpps (packets per sec) in total Low latency less than 450ns (First bit-in to First bit-out) Cut-through and Store-and-Forward forwarding selectable System memory with 512MB SDRAM Flash memory with 128MB 130K MAC address entries

Technical specifications

VLAN	VLAN features in Switch- and End Host Mode: IEEE 802.1Q VLAN Up to 1000 VLANs, out of 4K VLAN IDs Port-based VLAN Protocol-based VLAN Support for both tagged and untagged ports Independent VLAN learning Double VLAN tagging (Q-in-Q tagging)
Management	1 console interface for MMB internal management Firmware upload/download via (T)FTP Configuration data upload/download via (T)FTP Dual firmware images 3x Configuration data (incl. factory default) SSH/SSL/TLS keys download via (T)FTP Message/event/error logs IPv6 for management IP address DHCP Client support Ping function SNTP (Simple Network Time Protocol) v1 to v4 LLDP (Link Layer Discovery Protocol); IEEE 802.1ab SSH v2 switch management SSL v3/TLS v1 (RFC2246) switch management CLI (Command Line Interface) switch management Support Web switch management SNMP v1/v2/v3 switch management Private Enterprise MIB RMON groups 1, 2, 3 and 9
Security	User/Password Protection L2/L3/L4 Access Control List (ACL)+D18 Port-based Network Access Control; IEEE 802.1x RADIUS TACACS+ SSL v3/TLS v1 (RFC2246) SSH v2 Web Authentication MAC address Authentication Configurable User Interface Timeout Period Support for Auto-logout Denial of Service (DoS) Enhancements
User interface	Command Line Interface (CLI) via console, SSH or telnet remote login Web-based management via web browser SNMP v1/v2c/v3.

Dimensions / Weight

Dimensions (W x D x H)	192.6 x 267.9 x 27.9 mm
Weight	1.5 K g

Environmental compliance	
Temperature note	see corresponding PRIMERGY BX System Unit
Maximum altitude	see corresponding PRIMERGY BX System Unit
Operating environment	FTS 04230 – Guideline for Data Center (installation specification)
Operating environment link	http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe

Electrical values

Active power (max. configuration)	50 W
Heat emission (max. configuration)	180.0 kJ/h (170.6 BTU/h)

Compliance

Germany	GS
Europe	CE Class A *
USA/Canada	ULc/us FCC Class A

Compliance	
Global	CB RoHS WEEE
Japan	VCCI:V3 Class A + JIS 61000-3-2
Australia/New Zealand	C-Tick
Taiwan	BSMI
Compliance notes	In combination with corresponding PRIMERGY BX system unit
Compliance link	http://globalsp.ts.fujitsu.com/sites/certificates

More information

Fujitsu OPTIMIZATION Services

In addition to Fujitsu PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Portfolio
Built 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 offerings. This allows customers to select from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

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More information

Learn more about Fujitsu PRIMERGY BX Ethernet Switch 10/40Gbit/s 18/8+2, 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



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Contact
FUJITSU LIMITED

Website: www.fujitsu.com
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