Data Sheet
FUJITSU Server PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/8+2

Connects 2 channels of each Server Blade with any type of external 1 and 10 Gb Ethernet networks

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/IBP 1Gbit/s 36/8+2

The PRIMERGY Ethernet Switch/IBP 36/8+2 is an integrated 1 Gb Connection Blade for use in the PRIMERGY BX400 and BX900 chassis. It can be installed in each Connection Blade slot (4x in BX400, 8x in BX900) and provides 36 downlink ports each with 1 Gb to the midplane to connect with the Server Blades. The module contains 8 uplink ports each with 1 Gb plus 2 uplink ports each with 10 Gb; Layer 2+ functionalities are supported.

The Intelligent Blade Panel mode combines the advantages of a switch regarding cable and port consolidation with the Pass-Thru advantage of total (VLAN) transparency without protocol compatibility problems occurring. Server Blade LAN ports may be grouped together with one or more external ports, into independent named port groups. Based on the so-called Management VLAN Grouping each Server Blade can be assigned a separate, VLAN-based management access.

This Connection Blade is prepared for the simple creation of large homogeneous I/O domains by combining (stacking) up to 8 modules within one or more PRIMERGY BX system units.

Features & Benefits

Main Features	Benefits
Independent of external Ethernet switches ■ Combination of switch and Intelligent Blade Panel for PRIMERGY BX400 and BX900 Blade Servers.	■ Variable use in up to 6 installation bays on the rear of a BX system unit.
Flexible and easy to adapt ■ Unites the functions of switch and IBP.	■ Easy switching between the switch and IBP functionality enables flexible use depending on the requirement.
Comprehensive connection options ■ 8 x 1Gb (RJ45) plus 2 x 10 Gb (SFP+) uplink port.	■ Variable link to external networks with both low and extremely high bandwidths; bundling option for several internal 1 Gb on external 10 Gb connections.
Administration made easy ■ Up to 8-way cascading (stacking mode).	■ Top management flexibility due to the standardized view of a group of several similar Connection Blades within one or more Blade Servers; minimizes effects of faulty components, thus increasing the availability of the I/O connections.
Compatible and functional ■ When using in IBP mode: Uplink Sets, Port Grouping, Standard Port Group, VLAN Port Group, Service LAN Group, Service VLAN.	■ Protocol compatibility problems can not occur in IBP mode (e.g. there are a range of supplementary functions in comparison to the standard switch mode.

Technical details

PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/8+2	
Connection type	LAN Connection Blade Layer 2+, 1 Gb Ethernet Switch or Intelligent Blade Panel (IBP)
Supported system units	PRIMERGY BX400 S1, PRIMERGY BX900 S1, PRIMERGY BX900 S2
Max. number per BX unit	4 in PRIMERGY BX400 S1, 8 in PRIMERGY BX900 S1/S2
Supported Server Blades	PRIMERGY BX9xx Server Blade w. 1 Gbit/s LAN on board PRIMERGY BX9xx Server Blade w. 10 Gbit/s LAN 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 Eth Mezz Card 1 Gbit/s 4 port PRIMERGY BX Eth Mezz Card 10 Gbit/s 2 port

Interfaces	
Down-link ports	36 x 1 Gbit/s Eth
Up-link ports	8 x 1 Gb Eth (RJ45) 2 x 10 Gb Eth (SFP+)
Stacking Ports	1 x 10 Gb Eth (CX4) for external stacking connection 1 x 10 Gb Eth for internal stacking connection

Supported Interface Modules / Cables			
Order code	Application	Type / mode	Connector / cable Length
S26361-F3989-E500	Stacking	CX4 / copper	CX4 / up to 3m
S26361-F3989-L305	Stacking	CX4 / copper	CX4 / 0,5m
S26361-F3989-L330	Stacking	CX4 / copper	CX4 / 3m
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-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-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
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		

Technical specifications	

Layer 2 feature	Auto MDI/MDIX on all 10/100/1000BASE-TX ports
	10/100/1000BASE-TX ports auto-sensing, auto-negotiation
	Flow control:
	  - IEEE802.3x for full duplex mode
	  - Back-pressure flow control in half duplex mode
	Jumbo frames up to 9KB
	Link Aggregation
	Port mirror
	Spanning Tree (not for IBP mode)
	VLAN
	IGMP snooping v1/v2/v3
	IGMP querier v1/v2 (not for IBP mode)
	Provide storm control protection
	Link State (force downlink port down, if uplink port is down)
	Port backup
	LLDP

Technical specifications

Quality of service	IEEE 802.1p based CoS (Class of Service) IP TOS/Precedence/DSCP based CoS Layer 2/3/4 Access Control Lists (ACLs) Differentiated Service (DiffServ)
Link aggregation	Support of: - up to 6 groups for uplink ports and 18 groups for downlink ports - up to 8 ports per group Supported Link Aggregation features: - IEEE 802.3ad Link Aggregation (LACP) - Cisco EtherChannel - Load balancing with configurable rule (MAC-based and IP-based)
Spanning tree	only for Switch mode IEEE 802.1D (STP) IEEE 802.1W (RSTP) IEEE 802.1S (MSTP) 32 MSTP instances
Network protocol and standards compatibility for IBP	IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3z 1000BASE-SX IEEE 802.3ab 1000BASE-T IEEE 802.3ae 10GBASE-SR, 10GBASE-LR, 10GBASE-ER, 10GBASE-SW, 10GBASE-LW, 10GBASE-EW IEEE 802.3aq 10GBASE-LRM IEEE 802.3ad LACP IEEE 802.3x Flow Control IEEE 802.1ab LLDP IEEE 802.1p Class of Service
Network protocol and standards compatibility	IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3z 1000BASE-SX IEEE 802.3ab 1000BASE-T IEEE 802.3ae 10GBASE-SR, 10GBASE-LR, 10GBASE-ER, 10GBASE-SW, 10GBASE-LW, 10GBASE-EW IEEE 802.3aq 10GBASE-LRM IEEE 802.3ak 10GBASE-CX4 IEEE 802.3x Flow Control IEEE 802.3ad LACP IEEE 802.1v Protocol VLAN, Port VLAN IEEE 802.1d Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1q VLAN IEEE 802.1ab LLDP IEEE 802.1p Class of Service
Performance	Bandwidth: 152-Gbps Forwarding modes: Store-and-forward Switch latency: average 8 us for 64-byte frames System memory: 512MB Flash size: 64MB Support up to 16K MAC address entries
Port group feature	only for IBP mode 30 uplink-sets 30 port-groups 30 VLAN-groups 10 service-LAN 128 service-VLAN

Technical specifications

VLAN	VLAN features in Switch Mode: IEEE 802.1Q VLAN Up to 1000 VLANs, out of 4K VLAN IDs Port-based VLAN Protocol-based VLAN MAC & IP-Subnet based VLANs GVRP, GARP, GMRP VTP v1/v2 VLAN features in IBP Mode: IEEE 802.1Q VLAN
Management	1 console interface for MMB internal management Software upload/download via FTP or TFTP Configuration upload/download via FTP or TFTP Dual firmware images Up to 11 configuration files including factory default SSH/SSL/TLS keys download via FTP or TFTP Message/event/error/trap logs BOOTP and DHCP v4/v6 for IP address assignment IPv6 for management IP address DHCP/DHCPv6 Client support Ping function Traceroute function for IPv4 and IPv6 SNTP (Simple Network Time Protocol) version 4 CDP (Cisco Discovery Protocol) version 2 (nor for IBP mode) LLDP (Link Layer Discovery Protocol) SSH v1/v2 switch management SSL v3/TLS v1 switch management CLI (Command Line Interface) switch management Support Web switch management SNMP v1, v2c, and v3 switch management Private Enterprise MIB RMON groups 1, 2, 3, and 9 sFlow (RFC 3176)
Security	User name and password IP address filter Remote Authentication Dial In User Service (RADIUS) client Terminal Access Controller Access Control System (TACACS+) client Secure Sockets Layer (SSL) version 3 and Transport Layer Security (TLS) version 1 Secure Shell (SSH) version 1 and version 2 IEEE 802.1x port access control Port Security
User interface	Command Line Interface (CLI) Web-based management SNMP v1/v2c/v3.

Dimensions / Weight

Dimensions (W x D x H)	192.6 x 267.9 x 27.9 mm
Weight	1.36 kg

Environmental compliance

Temperature note	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)	35 W
Heat emission (max. configuration)	126.0 kJ/h (119.4 BTU/h)

Compliance

Germany	GS
Europe	CE Class A *

Compliance

USA/Canada	ULc/us FCC Class A
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 There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request. * Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Compliance link	https://sp.ts.fujitsu.com/sites/certificates

More information

Fujitsu products, solutions & services

In addition to FUJITSU Server PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/8+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.

Computing Products

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

Software

www.fujitsu.com/software/

More information

Learn more about FUJITSU Server PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/8+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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