

Data Sheet

FUJITSU Server PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/12

Connects 2 channels of each server blade with any number of external 1 Gbit/s Ethernet networks

FUJITSU Server PRIMERGY systems provide the most powerful and flexible data center solutions for companies of all sizes, across all industries and for any type of workload. This includes expandable PRIMERGY tower servers for remote and branch offices, versatile rack-mount servers, compact and scalable blade systems, as well as density-optimized scale-out servers. They convince by business proven quality with a wide range of innovations, highest efficiency cutting operational cost and complexity, and provide more agility in daily operations in order to turn IT faster into a business advantage.

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 36/12

The PRIMERGY Ethernet Switch/IBP 36/12 is an integrated 1 Gbit/s Connection Blade for use in the PRIMERGY BX400 and BX900 chassis. It can be installed in all Connection Blade bays (4x in BX400, 8x in BX900) and provides 36 downlink ports each with 1 Gbit/s to the midplane to connect with the Server Blades. The module contains 12 uplink ports each 1 Gbit/s; 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. Using the so-called Management VLAN grouping feature, a separate VLAN-based management access can be assigned to each Server Blade.



Features & Benefits

Main Features	Benefits
Independent of external Ethernet switches <ul style="list-style-type: none">■ Integrated switch and Intelligent Blade Panel for PRIMERGY BX400 and BX900 Blade Servers.	<ul style="list-style-type: none">■ Variable usage in one of the up to 8 connection slots on the rear of a system unit.■ Effortless switching between the pure switch and the IBP functionality allows flexible use depending on demands.■ High scalability due to a large number of external connections.■ The IBP mode avoids protocol compatibility problems (e. g. Cisco compatibility) and offers extended functions in comparison to the standard switch mode■ The IBP mode avoids protocol compatibility problems (e. g. Cisco compatibility) and offers extended functions in comparison to the standard switch mode
Flexible and easy to adapt <ul style="list-style-type: none">■ Unites switch and IBP functionality.	
Comprehensive connection options <ul style="list-style-type: none">■ 8 x 1Gbit/s (RJ45) uplink ports + 4 x 1Gbit/s (SFP) uplink ports.	
Compatible and functional <ul style="list-style-type: none">■ When used in IBP mode: Uplink Sets, Port Grouping, Standard Port Group, VLAN Port Group, Service LAN Group, Service VLAN Group.	
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Technical details

PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/12

Connection type	LAN Connection Blade Layer 2+, 1 Gbit/s 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	all PRIMERGY BX9xx and BX25xx Server Blades
Supported Server Blade I/O Solutions	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 Server Blades w. 10 Gbit/s CNA on Board PRIMERGY BX9xx S4 Server Blades w. 10 Gbit/s CNA on Board PRIMERGY BX25xx M1 Server Blades w. 10Gbit/s CNA on Board 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 Gbit/s Eth (RJ45) 4 x 1 Gbit/s Eth (SFP)

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
Interface Module notes	Only Fujitsu certified modules and cables are supported		

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
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 (static) - Load balancing with configurable rule (MAC-based and IP-based)

Technical specifications

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 802.3ad 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 802.3x 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: 96-Gbps Forwarding modes: Store-and-forward Switch latency: average 8 us for 64-byte frames System memory: 256MB Flash size: 64MB Support up to 8K 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
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

Technical specifications

Management	<p>1 console interface for MMB internal management</p> <p>Software upload/download via FTP or TFTP</p> <p>Configuration upload/download via FTP or TFTP</p> <p>Dual firmware images</p> <p>Up to 11 configuration files including factory default</p> <p>SSH/SSL/TLS keys download via FTP or TFTP</p> <p>Message/event/error/trap logs</p> <p>BOOTP and DHCP v4/v6 for IP address assignment</p> <p>IPv6 for management IP address</p> <p>DHCP/DHCPv6 Client support</p> <p>Ping function</p> <p>Traceroute function for IPv4 and IPv6</p> <p>SNTP (Simple Network Time Protocol) version 4</p> <p>CDP (Cisco Discovery Protocol) version 2 (not for IBP mode)</p> <p>LLDP (Link Layer Discovery Protocol)</p> <p>SSH v1/v2 switch management</p> <p>SSL v3/TLS v1 switch management</p> <p>CLI (Command Line Interface) switch management</p> <p>Support Web switch management</p> <p>SNMP v1, v2c, and v3 switch management</p> <p>Private Enterprise MIB</p> <p>RMON groups 1, 2, 3, and 9</p> <p>sFlow (RFC 3176)</p>
Security	<p>User name and password</p> <p>IP address filter</p> <p>Remote Authentication Dial In User Service (RADIUS) client</p> <p>Terminal Access Controller Access Control System (TACACS+) client</p> <p>Secure Sockets Layer (SSL) version 3 and Transport Layer Security (TLS) version 1</p> <p>Secure Shell (SSH) version 1 and version 2</p> <p>IEEE 802.1x port access control</p> <p>Port Security</p>
User interface	<p>Command Line Interface (CLI)</p> <p>Web-based management</p> <p>SNMP v1/v2c/v3.</p>
Dimensions / Weight	
Dimensions (W x D x H)	192.6 x 267.9 x 27.9 mm
Weight	1.35 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	126.0 kJ/h (119.4 BTU/h)
Compliance	
Germany	GS
Europe	CE Class A *
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

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

<http://globalsp.ts.fujitsu.com/sites/certificates>

More information

Fujitsu OPTIMIZATION Services

In addition to Fujitsu PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/12, 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 PRIMERGY BX Ethernet Switch/IBP 1Gbit/s 36/12, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website. www.fujitsu.com/fts

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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