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Data Sheet

FUJITSU Server PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 (Cisco Nexus B22F)

Extend the Nexus architecture to the Fujitsu server edge



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 FEX 10Gbit/s 16/8 (Cisco Nexus B22F)

The PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 is a Connection Blade for Fujitsu PRIMERGY Blade Servers and is an element of Fujitsu's DynamicFabric approach to create a highly-flexible and optimized network infrastructure. The Connection Blade is part of the Cisco Fabric Extender (FEX) portfolio, which provides a scalable unified server access platform supporting up to 10Gbit/s Ethernet over both fiber and copper and data center bridging protocols. The PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 provides an extension of the Cisco Nexus switch fabric to the Fujitsu server edge. It behaves like a remote line card for a parent Cisco Nexus switch over up to eight 10Gbit/s Ethernet uplinks, together forming a distributed modular system. This architecture simplifies data center access operations and architecture by combining the management simplicity of a single high-density access switch with the cabling simplicity of integrated Connection Blades and top-of-rack (ToR) access switches. Low-cost uplink connections up to 10 meters can be made with copper Twinax cable, and longer connections up to 100 meters can use optional Fabric Extender Transceivers. Standard 10Gbit/s SFP+ optics are also supported.

It can be installed in four connection bays of PRIMERGY BX400 and in four connection bays of PRIMERGY BX900 and offers 16 downlinks to the server blades, allowing customers a choice of Ethernet, Fibre Channel over Ethernet (FCoE), or iSCSI connections.



Features & Benefits

Main Features	Benefits
<p>Performance</p> <ul style="list-style-type: none">■ Sixteen 10Gbit/s downlinks: Each Ethernet downlink supports Ethernet, Fibre Channel over Ethernet (FCoE), Datacenter Bridging (DCB), and iSCSI.■ Eight 10Gbit/s uplinks: Each Fabric uplink carries Ethernet, Fibre Channel over Ethernet (FCoE) and iSCSI traffic.■ Up to 24 PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 can be managed by a single Cisco Nexus switch. <p>Simplified operations</p> <ul style="list-style-type: none">■ Management by the parent Nexus switch eliminates multiple provisioning, programming and testing points.■ All security and traffic policies are managed by the Nexus switch eliminating security and traffic handling errors. Policies are uniformly applied across the entire domain.■ Supporting technologies like virtual Port-Channel (vPC) and Cisco FabricPath eliminate reliance on the Spanning Tree Protocol, enabling a large multipath, loop free topology. <p>Increased business benefits</p> <ul style="list-style-type: none">■ PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 can pass Ethernet and Fibre Channel over Ethernet (FCoE) traffic over the same set of uplinks onto the Cisco Nexus fabric, reducing the total number of uplinks required.■ In combination with new server blades (BX920 S3 and BX924 S3), no additional mezzanine card is required, since all I/O traffic can be handled via the onboard dual-channel 10 Gbit/s Ethernet CNA.	<ul style="list-style-type: none">■ Ideal suited for customers using Cisco Nexus and looking to extend the Nexus architecture to the Fujitsu PRIMERGY BX Blade Server.■ Single point of network management: All network device configurations are managed on the Cisco Nexus parent switch, and configuration information is downloaded to the Connection Blade using in-band communication.■ Standardizing on the Cisco Nexus switches for both blade and rack servers allows data centers to support the same switch features across the entire access layer with a single point of management.■ Increased network bandwidth and resiliency, which is needed for delivering mission-critical applications running on multiple server links.■ Reduce operating expenses and capital expenditures by consolidation, cabling reduction, investment protection through feature inheritance from the parent switch, and the capability to add functions without the need for a major equipment upgrade of server-attached infrastructure.

Technical details

PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 (Cisco Nexus B22F)

Connection type	LAN Connection Blade Cisco Nexus B22 Series Blade Fabric Extender
Supported system units	PRIMERGY BX400 S1, PRIMERGY BX900 S1, PRIMERGY BX900 S2
Max. number per BX unit	4 in PRIMERGY BX400 S1, 4 in PRIMERGY BX900 S1/S2
Supported Server Blades	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	16 x 10 Gbit/s Eth
Up-link ports	8 x 10 Gbit/s Eth (SFP+)

Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
S26361-F4571-E201	Ethernet 10 Gbit/s	SFP+ / MMF (SWL)	LC-style / up to 300m
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
Interface Module notes	Only certified modules and cables are supported		

Technical specifications

Layer 2 feature	<ul style="list-style-type: none"> - Layer 2 VLAN trunks - IEEE 802.1Q VLAN encapsulation - Cisco EtherChannel technology on uplinks - PortChannel on server ports - Advanced PortChannel hashing - Jumbo frames on all ports (up to 9216 bytes) - Pause frames (priority flow control [PFC] and IEEE 802.3x) - Private VLANs (promiscuous only on uplinks) - Local multicast replication - Data Center Bridging (DCB)
Quality of service	<ul style="list-style-type: none"> - Layer 2 IEEE 802.1p (class of service [CoS]) - 8 hardware queues per port - Per-port QoS configuration - Local policing - CoS trust - Configurable tail-drop threshold - Egress strict-priority queuing - Egress port-based scheduling: Weighted Round Robin (WRR)
Network protocol and standards compatibility	<ul style="list-style-type: none"> IEEE 802.1p Class of Service IEEE 802.1q VLAN IEEE 802.3ae 10Gbit Ethernet IEEE 802.3ap 10GBASE-KR SFF 8431 SFP+ SFF 8461
Performance	Fabric Speed: 80 Gbit/s in each direction (160-Gbit/s full duplex)

Technical specifications

Interoperability	<p>Cisco Nexus parent switch model:</p> <ul style="list-style-type: none"> - Cisco Nexus 5010 / 5020 Switch - Cisco Nexus 5548P Switch - Cisco Nexus 5548UP Switch - Cisco Nexus 5596UP Switch - Cisco Nexus 6001 / 6004 Switch <p>Up to 24 fabric extenders per Cisco Nexus 5548P, 5548UP, 5596UP, 6001 and 6004 switch (16 fabric extenders for Layer 3 configurations)</p> <p>Up to 12 fabric extenders per Cisco Nexus 5010 and 5020 switch</p> <p>NX-OS minimum version: 5.2(1)N1(1)</p>
Management	<ul style="list-style-type: none"> - Fabric extender management using in-band management - Syslog - Simple Network Management Protocol Versions 1, 2, and 3 (SNMP v1, v2, and v3) - Enhanced SNMP MIB support - XML (NETCONF) support - Remote monitoring (RMON) - Cisco Discovery Protocol Versions 1 and 2 - Cisco Switched Port Analyzer (SPAN) source on server ports - Power-on self-test (POST) - Cisco Generic Online Diagnostics (GOLD): Ethernet - Comprehensive bootup diagnostic tests - CiscoWorks - Cisco Data Center Network Manager (DCNM); the Cisco Nexus B22 Series is managed through the parent Cisco Nexus switch using Cisco DCNM and standard SNMP, XML interfaces, and the command-line interface (CLI)
Security	Local classification (256 access control list [ACL] entries)

Dimensions / Weight

Dimensions (W x D x H)	192.6 x 267.9 x 27.9 mm
Weight	1.3 K g

Environment

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 (min. configuration)	56 W
Active power (max. configuration)	70 W
Heat emission (max. configuration)	252.0 kJ/h (238.8 BTU/h)

Compliance

Germany	GS
Europe	CE 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.
Compliance link	http://globalsp.ts.fujitsu.com/sites/certificates

More information

Fujitsu OPTIMIZATION Services

In addition to Fujitsu PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 (Cisco Nexus B22F), 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/services/computing/

Software

www.fujitsu.com/software/

More information

Learn more about Fujitsu PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 (Cisco Nexus B22F), 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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