

# Data Sheet

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

Extend the Nexus architecture to the Fujitsu server edge

### 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><b>Performance</b></p> <ul style="list-style-type: none"><li>■ Sixteen 10Gbit/s downlinks: Each Ethernet downlink supports Ethernet, Fibre Channel over Ethernet (FCoE), Datacenter Bridging (DCB), and iSCSI.</li><li>■ Eight 10Gbit/s uplinks: Each Fabric uplink carries Ethernet, Fibre Channel over Ethernet (FCoE) and iSCSI traffic.</li><li>■ Up to 24 PRIMERGY BX Ethernet FEX 10Gbit/s 16/8 can be managed by a single Cisco Nexus switch.</li></ul> <p><b>Simplified operations</b></p> <ul style="list-style-type: none"><li>■ Management by the parent Nexus switch eliminates multiple provisioning, programming and testing points.</li><li>■ 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.</li><li>■ Supporting technologies like virtual Port-Channel (vPC) and Cisco FabricPath eliminate reliance on the Spanning Tree Protocol, enabling a large multipath, loop free topology.</li></ul> <p><b>Increased business benefits</b></p> <ul style="list-style-type: none"><li>■ 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.</li><li>■ 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.</li></ul>	<ul style="list-style-type: none"><li>■ Ideal suited for customers using Cisco Nexus and looking to extend the Nexus architecture to the Fujitsu PRIMERGY BX Blade Server.</li><li>■ 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.</li><li>■ 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.</li><li>■ Increased network bandwidth and resiliency, which is needed for delivering mission-critical applications running on multiple server links.</li><li>■ 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.</li></ul>

# Technical details

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

<b>Connection type</b>	LAN Connection Blade Cisco Nexus B22 Series Blade Fabric Extender
<b>Supported system units</b>	PRIMERGY BX400 S1, PRIMERGY BX900 S1, PRIMERGY BX900 S2
<b>Max. number per BX unit</b>	4 in PRIMERGY BX400 S1, 4 in PRIMERGY BX900 S1/S2
<b>Supported Server Blades</b>	PRIMERGY BX9xx S3/S4 Server Blades w. 10 Gbit/s CNA on Board PRIMERGY BX25xx Server Blades w. 10Gbit/s CNA on Board
<b>Supported Mezzanine Cards</b>	PRIMERGY BX CNA Mezz Card 10 Gbit/s 2 port (MC-CNA112E)

### Interfaces

<b>Down-link ports</b>	16 x 10 Gbit/s Eth
<b>Up-link ports</b>	8 x 10 Gbit/s Eth (SFP+)

### Supported Interface Modules / Cables

Order code	Application	Type / mode	Connector / cable Length
Interface Module notes	Only certified modules and cables are supported		

### Technical specifications

<b>Layer 2 feature</b>	<ul style="list-style-type: none"> <li>- Layer 2 VLAN trunks</li> <li>- IEEE 802.1Q VLAN encapsulation</li> <li>- Cisco EtherChannel technology on uplinks</li> <li>- PortChannel on server ports</li> <li>- Advanced PortChannel hashing</li> <li>- Jumbo frames on all ports (up to 9216 bytes)</li> <li>- Pause frames (priority flow control [PFC] and IEEE 802.3x)</li> <li>- Private VLANs (promiscuous only on uplinks)</li> <li>- Local multicast replication</li> <li>- Data Center Bridging (DCB)</li> </ul>
<b>Quality of service</b>	<ul style="list-style-type: none"> <li>- Layer 2 IEEE 802.1p (class of service [CoS])</li> <li>- 8 hardware queues per port</li> <li>- Per-port QoS configuration</li> <li>- Local policing</li> <li>- CoS trust</li> <li>- Configurable tail-drop threshold</li> <li>- Egress strict-priority queuing</li> <li>- Egress port-based scheduling: Weighted Round Robin (WRR)</li> </ul>
<b>Network protocol and standards compatibility</b>	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
<b>Performance</b>	Fabric Speed: 80 Gbit/s in each direction (160-Gbit/s full duplex)
<b>Interoperability</b>	Cisco Nexus parent switch model: <ul style="list-style-type: none"> <li>- Cisco Nexus 5010 / 5020 Switch</li> <li>- Cisco Nexus 5548P Switch</li> <li>- Cisco Nexus 5548UP Switch</li> <li>- Cisco Nexus 5596UP Switch</li> <li>- Cisco Nexus 6001 / 6004 Switch</li> </ul> Up to 24 fabric extenders per Cisco Nexus 5548P, 5548UP, 5596UP, 6001 and 6004 switch (16 fabric extenders for Layer 3 configurations) Up to 12 fabric extenders per Cisco Nexus 5010 and 5020 switch NX-OS minimum version: 5.2(1)N1(1)

**Technical specifications**

<b>Management</b>	<ul style="list-style-type: none"> <li>- Fabric extender management using in-band management</li> <li>- Syslog</li> <li>- Simple Network Management Protocol Versions 1, 2, and 3 (SNMP v1, v2, and v3)</li> <li>- Enhanced SNMP MIB support</li> <li>- XML (NETCONF) support</li> <li>- Remote monitoring (RMON)</li> <li>- Cisco Discovery Protocol Versions 1 and 2</li> <li>- Cisco Switched Port Analyzer (SPAN) source on server ports</li> <li>- Power-on self-test (POST)</li> <li>- Cisco Generic Online Diagnostics (GOLD): Ethernet</li> <li>- Comprehensive bootup diagnostic tests</li> <li>- CiscoWorks</li> <li>- 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)</li> </ul>
<b>Security</b>	Local classification (256 access control list [ACL] entries)
<b>Dimensions / Weight</b>	
<b>Dimensions (W x D x H)</b>	192.6 x 267.9 x 27.9 mm
<b>Weight</b>	1.3 K g
<b>Environment</b>	
<b>Temperature note</b>	see corresponding PRIMERGY BX System Unit
<b>Maximum altitude</b>	see corresponding PRIMERGY BX System Unit
<b>Electrical values</b>	
<b>Active power (min. configuration)</b>	56 W
<b>Active power (max. configuration)</b>	70 W
<b>Heat emission (max. configuration)</b>	252.0 kJ/h (238.8 BTU/h)
<b>Compliance</b>	
<b>Germany</b>	GS
<b>Europe</b>	CE Class A *
<b>Global</b>	CB RoHS WEEE
<b>Japan</b>	VCCI:V3 Class A + JIS 61000-3-2
<b>Australia/New Zealand</b>	C-Tick
<b>Taiwan</b>	BSMI
<b>Compliance notes</b>	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.
<b>Compliance link</b>	<a href="https://sp.ts.fujitsu.com/sites/certificates">https://sp.ts.fujitsu.com/sites/certificates</a>

## More information

### Fujitsu platform solutions

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.

#### Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

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### 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://ts.fujitsu.com/Primergy>

### Fujitsu green policy innovation

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