The Enhanced Dynamic Cube

Fujitsu PRIMERGY BX Blade Servers provide a faster, simpler and lower-cost way to build and run an IT infrastructure in your midsize organization, branch office or large data center. The PRIMERGY BX system family is designed so that the chassis components can be used throughout the family. Server, storage and connection blades can be added or replaced without any additional cabling or administration effort. PRIMERGY Blade Servers provide maximum performance and maximum redundancy, but with only minimum space requirements and low power consumption. Business agility is achieved through simple, modular design and a large number of useful features that help reduce deployment time to hours or even only minutes. You can use thousands of applications and a large number of certified operating systems, and you can arrange your own individual combinations of virtual machines, storage and server blades together with a wide-ranging selection of internal and external connections, such as Ethernet, Fibre Channel, SAS and InfiniBand. And as business requirements change, the Fujitsu PRIMERGY Blade Servers can be adapted to meet individual needs in a suitable manner.

PRIMERGY BX900 S2

The Fujitsu PRIMERGY BX900 S2 is the accelerated dynamic server infrastructure in a single cube. This blade server can be dynamically adapted to various IT requirements and provides significant economic advantages for a large and growing number of applications. The PRIMERGY BX900 has space for up to 18 server and storage blades in a 10U chassis. Thus it’s the leader in its class for density in a compact form factor. Fujitsu’s patented Cool-safe™ cooling concept, combined with power supply units certified with 80Plus Platinum and holistic power management, reduce your costs and ensure a more efficient use of energy and cooling capacity. Centralized management of physical and virtualized environments and comprehensive I/O virtualization capabilities, combined with a fully redundant system design, supports business agility. Furthermore the PRIMERGY BX900 S2 provides future-proof connectivity enhancements with support of high speed InfiniBand (FDR InfiniBand) with 56 Gb/s bandwidth. Server blades, equipped with CPUs from the Intel® Xeon® processor 5600 series and next generation Intel® Xeon® processor E5 family, offers scalable performance to meet highest requirements of extensive virtualization/consolidation scenarios for business critical applications on the one hand, and demanding high performance computing applications on the other hand. Packed with advanced features, up to 24 high-speed DIMM slots and flexible 10Gb Converged Network Adapter on board, the new PRIMERGY server blades provides the highest memory modules density in a dual-socket blade and allows doing more with a two-processor server than ever before.
Features and Benefits

<table>
<thead>
<tr>
<th>Main Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dynamic Power &amp; Cooling</strong></td>
<td>Save energy costs as never before - guaranteed</td>
</tr>
<tr>
<td>Using our Cool-safe™ cooling concept, combined with 94% efficient power supplies and the enhanced ServerView power management software, it ensures maximum dynamic power &amp; cooling. Combined with the 94% PSUs, the holistic power management enables for most accurate control of predefined maximum chassis power consumption.</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic Virtualization</strong></td>
<td>Easily deploy more or larger virtual and physical machines than ever before and in this way increase your IT performance and consolidation ratio.</td>
</tr>
<tr>
<td>Equipped with server blades that are utilizing either CPUs out of the Intel® Xeon® processor 5600 and 7500 series or even the latest Intel® Xeon® processor E5 family, very large memory capacities and extended I/O performance, the PRIMERGY BX900 S2 is once again the optimal system for any virtualization scenario on the one hand, and for resource and performance hungry applications on the other hand.</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic High Availability</strong></td>
<td>Best availability, most effective server protection and the agility to adapt to changing requirements.</td>
</tr>
<tr>
<td>Due to its fully redundant design (management blades, connection blades, fans, PSUs), and in combination with ServerView Resource Orchestrator (ROR), the PRIMERGY BX900 S2 can completely protect itself against any possible failure; at the same time it excels with the fastest automatic recovery, and with a flexible allocation of its available resources to services, according to requirements.</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic Scalability</strong></td>
<td>Complete investment protection and flexible growth scenarios.</td>
</tr>
<tr>
<td>With space for up to 18 server and/or storage Blades, 8 connection blades, 6 power supply units and 2 management blades in a 10U high chassis, the PRIMERGY BX900 S2 incorporates the highest density. Combined with chassis interconnectivity and switch blade stacking, the system allows highly flexible scaling and simplified management.</td>
<td></td>
</tr>
<tr>
<td><strong>New Performance level</strong></td>
<td>Get the most out of your investment by operating at highest efficiency</td>
</tr>
<tr>
<td>PRIMERGY BX900 S2 supports high speed Infiniband (FDR Infiniband) with 56 Gb/s bandwidth per port at a new level of payload efficiency: the encoding algorithm of 64b/66b instead of 8b/10b with QDR Infiniband results in a more than 70% enhanced ratio of net to gross data rate.</td>
<td></td>
</tr>
</tbody>
</table>
## Technical details

### PRIMERGY BX900 S2

**Housing types**
- Rack

**Enclosure**
- **System unit type**: 10 U chassis for 19-inch rack
- **Front bays**: 18 half height or 9 full height bays for server or storage blades
- **Midplane**: High speed midplane with 4 redundant fabrics
- **Rear bays**: 8 x for Connection Blades (2 Connection Blades per fabric) / 6 x for PSU modules

**Management Blades**
- 1x hot-plug Management Blade as standard, redundant Management Blade as option

**Fan configuration**
- Up to 6 hot plug, redundant fan modules [3 as minimum]

**Fan notes**
- 2 fan units per module, 2 x 2 fans per unit, modules either part of PSU modules or independent components

**Power supply configuration**
- Up to 6x hot-plug power supply module, 3x as minimum
  - (4th to 6th power supply module necessary for redundancy, and depending on system configuration)

**Operating panel**
- **Operating buttons**: On/off switch / ID button
- **Status LEDs**: Power (amber / green) / System status (orange) / Identification (blue)

**Service display**
- ServerView Local Service Display for Blade (LSB)

### Management Blade

**Type of Unit**
- BX900 MMB S1

**LAN / Ethernet (RJ-45)**
- 2 x 1Gb Ethernet

**Service LAN (RJ45)**
- Dedicated Service LAN port for MMB (1Gb Ethernet)

**Serial 1 (9-pin)**
- 1 x RS-232-C

**USB ports**
- 2 x (at rear side of the system)

### Dimensions / Weight

**Dimensions (W x D x H)**
- 482.6 mm (Bezel) / 445mm (Body) x 778 x 438

**Height Unit Rack**
- 10 U

**19" rackmount**
- Yes

**Weight**
- Up to 191 kg

**Weight notes**
- Fully assembled
  - Actual weight may vary depending on configuration

**Rack integration kit**
- Included

### Electrical values

**Max. input of single power supply**
- 3200 W / 1600 W (240 V / 100 V)

**Rated voltage range**
- 100 V - 240 V

**Rated frequency range**
- 47 Hz - 63 Hz

**Rated current max.**
- 65A / 29A (100 V / 240 V)

**Electrical value notes**
- Active power max. value depends on system configuration.
  - For details see System Architect with its power configuration tool.
  - Power plug: IEC320 C20
  - Suitable power supply cables have to be ordered separately.

### Environmental

**Operating ambient temperature**
- 5 - 35°C

**Operating relative humidity**
- 10 - 85 % (non condensing)

**Operating environment**
- FT5 04230 – Guideline for Data Center (installation locations)

**Operating environment Link**
Environmental

Noise emission  Measured according to ISO 7779 and declared according to ISO 9296

Sound pressure (LpAm)  up to 64 dB(A) (operating)

Sound power (LWAd; 1B = 10dB)  86dB (operating)

Compliance

Germany  GS

Europe  CE Class A *

USA/Canada  CSAc/us  ULc/us  FCC Class A

Global  CB  RoHS  WEEE

Japan  VCCI Class A + JIS 61000-3-2

Australia/New Zealand  C-Tick

Taiwan  BSMI

Compliance notes  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://sp.ts.fujitsu.com/sites/certificates/

Server and Storage Blades pluggable into system unit front side

<table>
<thead>
<tr>
<th>Product Model name</th>
<th>Product Type</th>
<th>Processor quantity support</th>
<th>Max. number per BX unit</th>
<th>Memory slots total</th>
<th>Supported capacity RAM (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMERGY BX920 S2</td>
<td>Dual Socket Server Blade (Intel)</td>
<td>1 - 2</td>
<td>18</td>
<td>9</td>
<td>288 GB</td>
</tr>
<tr>
<td>PRIMERGY BX920 S3</td>
<td>Dual Socket Server Blade (Intel)</td>
<td>1 - 2</td>
<td>18</td>
<td>12</td>
<td>384 GB</td>
</tr>
<tr>
<td>PRIMERGY BX922 S2</td>
<td>Dual Socket Server Blade (Intel)</td>
<td>1 - 2</td>
<td>18</td>
<td>12</td>
<td>192 GB</td>
</tr>
<tr>
<td>PRIMERGY BX924 S2</td>
<td>Dual Socket Server Blade (Intel)</td>
<td>2</td>
<td>18</td>
<td>18</td>
<td>384 GB</td>
</tr>
<tr>
<td>PRIMERGY BX924 S3</td>
<td>Dual Socket Server Blade (Intel)</td>
<td>1 - 2</td>
<td>18</td>
<td>24</td>
<td>768 GB</td>
</tr>
<tr>
<td>PRIMERGY BX960 S1</td>
<td>Quad Socket Server Blade (Intel)</td>
<td>2 or 4</td>
<td>9</td>
<td>32</td>
<td>512 GB</td>
</tr>
<tr>
<td>PRIMERGY SX910 S1</td>
<td>Storage Blade Tape</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>PRIMERGY SX940 S1</td>
<td>Storage Blade Disk</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>PRIMERGY SX960 S1</td>
<td>Storage Blade Disk</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>PRIMERGY SX980 S1</td>
<td>Storage Blade Disk</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Connection Blades (CB) pluggable into system unit rear side

<table>
<thead>
<tr>
<th>Connection type</th>
<th>Down-link ports</th>
<th>Up-link ports</th>
<th>Max. number per BX unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eth Pass Thru 10Gb/18</td>
<td>18 x 1/10 Gb Eth</td>
<td>18 x 1/10 Gb (SFP/SFP+/Twinax)</td>
<td>6 (CB Slot 1/2 3/4 5/6)</td>
</tr>
<tr>
<td>Eth Switch/IBP 10Gb 18/8</td>
<td>18 x 10 Gb Eth</td>
<td>8 x 10 Gb (SFP+)</td>
<td>6 (CB Slot 1/2 3/4 5/6)</td>
</tr>
<tr>
<td>Eth Switch/IBP 1Gb 18/6</td>
<td>18 x 1 Gb Eth</td>
<td>6 x 1 Gb (RJ45)</td>
<td>8 (CB Slot 1/2 3/4 5/6 7/8)</td>
</tr>
<tr>
<td>Eth Switch/IBP 1Gb 36/12</td>
<td>36 x 1 Gb Eth</td>
<td>8 x 1 Gb (RJ45), 4 x 1 Gb (SFP)</td>
<td>8 (CB Slot 1/2 3/4 5/6 7/8)</td>
</tr>
</tbody>
</table>
### Connection Blades (CB) pluggable into system unit rear side

<table>
<thead>
<tr>
<th>Connection type</th>
<th>Down-link ports</th>
<th>Up-link ports</th>
<th>Max. number per BX unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eth Switch/IBP 1Gb 36/8+2</td>
<td>36 x 1 Gb Eth</td>
<td>8 x 1 Gb (RJ45) , 2 x 10 Gb (SFP+)</td>
<td>8 (CB Slot 1/2 3/4 5/6 7/8)</td>
</tr>
<tr>
<td>FC Pass Thru 8Gb 18/18</td>
<td>18 x 8 Gb FC</td>
<td>18 x 4/8 Gb (SFP/SFP+)</td>
<td>4 (CB Slot 3/4 5/6)</td>
</tr>
<tr>
<td>FC Switch 8Gb Brocade 14 Port</td>
<td>18 x 8 Gb FC</td>
<td>8 x 4/8 Gb (SFP/SFP+)</td>
<td>4 (CB Slot 3/4 5/6)</td>
</tr>
<tr>
<td>FC Switch 8Gb Brocade 26 Port</td>
<td>18 x 8 Gb FC</td>
<td>8 x 4/8 Gb (SFP/SFP+)</td>
<td>4 (CB Slot 3/4 5/6)</td>
</tr>
<tr>
<td>FC Switch 8Gb Brocade 26 Port Enterprise</td>
<td>18 x 8 Gb FC</td>
<td>8 x 4/8 Gb (SFP/SFP+)</td>
<td>4 (CB Slot 3/4 5/6)</td>
</tr>
<tr>
<td>IB Switch 40Gb 18/18</td>
<td>18 x 40 Gb IB</td>
<td>18 x 40 Gb (QSFP)</td>
<td>3 (CB Slot 3/4 5/6 7/8)</td>
</tr>
<tr>
<td>IB Switch 56Gb 18/18</td>
<td>18 x 56 Gb IB</td>
<td>18 x 56 Gb (QSFP)</td>
<td>3 (CB Slot 3/4 5/6 7/8)</td>
</tr>
<tr>
<td>SAS Switch 6Gb 18/6</td>
<td>18 x 6 Gb SAS</td>
<td>6 x 6 Gb SAS</td>
<td>1 (CB Slot 5)</td>
</tr>
</tbody>
</table>

### Warranty

<table>
<thead>
<tr>
<th>Warranty</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Warranty</td>
<td>3 years</td>
</tr>
<tr>
<td>Service level</td>
<td>On-site Service (depending on country)</td>
</tr>
<tr>
<td>Maintenance and Support Services - the perfect extension</td>
<td>7x24, Onsite Response Time: 4h - For locations outside of EMEA please contact your local Fujitsu partner.</td>
</tr>
</tbody>
</table>

**Spare Parts availability**: 5 years

**Service Weblink**: [http://www.fujitsu.com/fts/services](http://www.fujitsu.com/fts/services)
More information

Fujitsu platform solutions
In addition to Fujitsu PRIMERGY BX900 S2, 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.

Computing Products
www.fujitsu.com/global/services/computing/

Software
www.fujitsu.com/software/

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 resolve issues of environmental energy efficiency through IT. Please find further information at http://www.fujitsu.com/global/about/environment/

More information
Learn more about Fujitsu PRIMERGY BX900 S2, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
http://www.fujitsu.com/

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