

# Data sheet

## Fujitsu Cluster-in-a-box based on PRIMERGY BX400-C (configurable)

Cluster-in-a-box  
your fast track to continuous operation

### Introduction

Maintaining the continuity of your services is fundamental to staying in business. Your IT supports and drives your business. It enables you to comply with regulations, improves your business processes and allows you to respond faster to new demands. Extended downtime would cause a direct and measurable impact on your business, as well as that of your partners and suppliers. This clearly leads to the need of a high available IT. But building such IT environments is still a complex task. Servers, storage, network and software have to be combined in the right configuration and installation. Instead of inventing the wheel again why not benefit from the knowledge gained in many similar projects? We understand the importance of keeping IT operations running and the need for a simple way to setup the appropriate IT environment.

### Fujitsu Cluster-in-a-box based on PRIMERGY BX400-C (configurable)

With Fujitsu Cluster-in-a-box you receive a "small and entire data center" including pre-installed Microsoft Windows Server 2012 R2 and pre-configured as a high availability cluster. It offers you an optimum combination of server, storage, and networking components in one compact enclosure. Two server nodes, shared storage, redundant network switches and power supplies are pre-packaged and pre-connected within a single box.

The modular design provides more flexibility than other server solutions and offers easy scalability to protect your investment. Fujitsu Cluster-in-a-box based on PRIMERGY BX400-C is available as Windows Server (physical) installation or as a complete Microsoft Hyper-V virtualized server environment. The later one allows you to leverage all advantages of server virtualization. In either case: just turn Cluster-in-a-box on, spend some minutes with our self adopted configuration wizard and you are ready-to-work. Designed for midmarket organizations and branch offices, Fujitsu Cluster-in-a-box offers continuous availability at reasonable costs to protect important data and business-critical services.

- 1x PRIMERGY BX400 Blade Server incl. redundant management
- 4x 1600W/1100W Power Supply Units
- 2x PRIMERGY CB Ethernet Switch/IBP 1Gb 36/8+2 or IBP 10Gb 18/8
- 2x PRIMERGY CB SAS Switch 6 Gbit/s 18/6
- 1x PRIMERGY SX980 S2 Storage Blade with configurable SAS HDDs
- 2x PRIMERGY BX920 S4, each with
  - 2x Intel® Xeon® E5-2400v2 processor (configurable)
  - configurable main memory
  - 4x 1Gb Ethernet Mezz Card or 2x 10Gb CNA Mezz Card
  - 1x 6 Gbit/s dual port SAS HBA
  - 2x 300GB SAS HDDs
  - 1x Microsoft Windows Server 2012 R2 OEM Datacenter or Standard (2 CPU)



 Windows Server

### Simplified configuration

Fujitsu Cluster-in-a-box is pre-configured, pre-installed and pre-tested to provide you with continuous availability some minutes after you receive it. Just use the following order codes to obtain the tailored solution by adding the necessary options:

- 1x CZK:1335V201-CLB27
- 2x CZK:1450V100-CLB28
- 1x CZK:1383V220-CLB29
- 2x S26361-K1391-V300
- 2x S26361-K1304-V101 or
- 2x S26361-K1304-V200



# Features and benefits

## MAIN FEATURES

### Fujitsu Cluster-in-a-box

- Integrated availability mechanisms with failover clustering and redundant hardware components
- Simplified configuration
- Pre-tested configuration
- Pre-configured, pre-installed configuration

### Based on PRIMERGY BX400

- Smart enclosure equipped with all necessary components of a data center: server, storage and network
- Fully-featured blade system
- Entire management of all components with Fujitsu ServerView
- Purely based on industry standards

### And Microsoft Windows Server 2012 R2

- Windows Server 2012 R2
- Storage Spaces

### Additionally, when Datacenter edition of Windows Server 2012 R2 is used

- Server virtualization with Hyper-V
- Unlimited number of licensed Windows Server virtual machines on each server

## BENEFITS

- Business continuity with nearly no downtimes
- Easy to buy
- No implementation risk
- Ready-to-work a few minutes after receipt
- Up to 70% less space than traditional servers
- All components are optimized to each other
- Reduced complexity and significantly reduced costs for cabling and deployment of network connections
- Easy scalability of server and storage resources to protect your investments
- Easy management of your IT
- Seamless integration
- Enterprise-grade platform to cost-effectively optimize your business
- Option to use SSDs as I/O cache for every data access
- Use SSD and HDD in combination as tiered storage space incl. automated storage tiering
- Cost-effective and reliable usage of storage
- Server consolidation and much better utilized servers
- Less energy consumption
- Old services can be used on new hardware
- Flexible usage of shared resources
- New services are available in minutes, not months
- Many automation options to avoid human errors
- Your Windows Server operating system flatrate

# Technical details

## Fujitsu Cluster-in-a-box components

## based on PRIMERGY BX400 S1

### Blade Server

<b>System</b>	1x PRIMERGY BX400 S1
<b>Form factor</b>	Rack (6U) <b>or</b> Florstand Housing
<b>Power Supplies</b>	4x PRIMERGY Power Supplies 1600W/1100W 4x Power cords 16A IEC320 C19->CEE 7/7
<b>Drive</b>	1x DVD-RW

### Management Blade

<b>Hardware</b>	2x PRIMERGY Management Blade
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### Networking

#### Ethernet

<b>Ethernet Switch</b>	2x PRIMERGY CB Ethernet Switch/IBP 1Gb 36/8+2 <b>or</b> 2x PRIMERGY CB Ethernet Switch/IBP 10Gb 18/8
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#### SAS

<b>SAS Switch</b>	2x PRIMERGY CB SAS Switch 6Gb 18/6
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### Storage

<b>JBOD (configurable)</b>	1x PRIMERGY SX980 S2 ( <b>min. 3 HDD</b> ) 10x 2.5" SAS disk slots, local shared data drives: SAS only SSD SAS, 12 Gb/s, 800 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise SSD SAS, 12 Gb/s, 400 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise SSD SAS, 12 Gb/s, 200 GB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise SSD SAS, 12 Gb/s, 1.6 TB, Mainstream Endurance, hot-plug, 2.5-inch, enterprise SSD SAS, 6 Gb/s, 400 GB, MLC, hot-plug, 2.5-inch, enterprise SSD SAS, 6 Gb/s, 200 GB, MLC, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 900 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 600 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 500 GB, 7,200 rpm, hot-plug, 2.5-inch, business critical HDD SAS, 6 Gb/s, 450 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 300 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 300 GB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 146 GB, 15,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 1 TB, 10,000 rpm, hot-plug, 2.5-inch, enterprise HDD SAS, 6 Gb/s, 1 TB, 7,200 rpm, hot-plug, 2.5-inch, business critical
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### Cluster Server Node 1 / 2, each with

#### Hardware

<b>CPU (configurable)</b>	1x PRIMERGY BX920 S4 Dual Server Blade 2x Intel® Xeon® processor E5-2400v2 processor family Intel® Xeon® processor E5-2403v2 Intel® Xeon® processor E5-2407v2 Intel® Xeon® processor E5-2420v2 Intel® Xeon® processor E5-2430Lv2 Intel® Xeon® processor E5-2430v2 Intel® Xeon® processor E5-2440v2 Intel® Xeon® processor E5-2450Lv2 Intel® Xeon® processor E5-2450v2 Intel® Xeon® processor E5-2470v2
<b>Memory (configurable)</b>	8GB – 768GB – 12 slots/3 channels 4 GB (1 module 4 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM 8 GB (1 module 8 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM 16 GB (1 module 16 GB) DDR3 LV, registered, ECC, 1,600 MHz, PC3-12800, DIMM 32 GB (1 module 32 GB) DDR3 LR, registered, ECC, 1,600 MHz, PC3-12800, DIMM 64 GB (1 module 64 GB) DDR3 LR, registered, ECC, 1,333 MHz, PC3-10600, DIMM

<b>CNA onboard Mezzanine Cards</b>	1x 10 Gb/s dual port Converged Network Adapter 1x 1 Gb/s quad port Ethernet or 1x 10 Gb/s dual port Ethernet
<b>SAS Disk</b>	1x 6 Gb/s dual port SAS HBA SAS RAID HDD Module w/o cache (for local disks) 2x local 2.5" 300GB SAS Disks
<b>Operating System</b>	1x Windows Server 2012 R2 Standard or Datacenter (2CPU) OEM Cluster Services - turned on If the Windows Server Datacenter edition is selected, additionally: Hyper-V Role - turned on License includes unlimited virtual instances Four virtual machines of Windows Server 2012 R2 Datacenter are pre-installed and pre-activated
<b>Software</b>	<b>Implementation Management</b> Fujitsu Out-Of-the-Box-Experience (OOBE) Wizard Fujitsu ServerView Agents for Windows Server 2012 R2

### Maintenance & Support Service

Recommended, not included. For details please refer to the Classic 5x9 or 7x24 Fujitsu Support Pack data sheets

### Installation Specification

<b>Dimensions (W x D x H)</b>	366 x 819 x 578 mm
<b>Weight</b>	up to 98 kg
<b>Power</b>	<b>Voltage</b> 100 V – 240 V <b>Frequency</b> 50 Hz - 60 Hz <b>Current</b> 45 A / 22.5 A (100 V – 240 V) <b>Electric value notes</b> For details see Power Configuration Tool.
<b>Environmental Conditions</b>	<b>Temperature (Operating)</b> 5 – 35°C

### Distribution, Implementation, Documentation, Support

<b>User Interface</b>	English (default), German, French, Italian, Japanese, Spanish
<b>Implementation</b>	By the end customers or through Fujitsu partners in accordance with the installation guide, the related characteristic documents, and the Fujitsu Out-of-the-Box-Experience (OOBE) wizard.
<b>User Skills</b>	Knowledge of Microsoft Windows Server and Active Directory is presumed. Implementation requires basic knowledge and can be done by server administrators.
<b>Documentation</b>	User manuals are part of the Recovery DVD media or can be downloaded from <a href="http://manuals.ts.fujitsu.com">http://manuals.ts.fujitsu.com</a>
<b>Conditions</b>	The software products are supplied under conditions described in Fujitsu's current license agreement and the End User License Terms for Windows Server 2012 R2 OEM Datacenter or OEM Standard.
<b>Optional Software Assurance</b>	Software Assurance (SA) is Microsoft's maintenance program providing benefits that may include new version rights, additional use rights, spread payments, consulting services, training, support and more. If a customer is interested in SA, it must be acquired within 90 days of OEM/ROK license purchase and is only available via Microsoft's Volume Licensing Programs (e.g. Select Plus and Open). SA and Microsoft Volume Licenses have to be sourced from authorized Microsoft Large Account Resellers (LARs). Fujitsu is authorized Microsoft LAR in a number of territories around the world. Fujitsu Technology Solutions GmbH is authorized Microsoft LAR for the region European Union (EU) and the European Free Trade countries (EFTA). For further assistance please contact <a href="mailto:PM-Team-LAR@ts.fujitsu.com">PM-Team-LAR@ts.fujitsu.com</a> .
<b>Warranty</b>	Standard Warranty

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**Specifications of additionally required prerequisites**

Microsoft Active Directory, a feature of Windows Server 2012 R2 Datacenter or Standard, Windows Server 2012 Datacenter or Standard, Windows Server 2008 R2 SP1 Datacenter, Enterprise, or Standard, or Windows Server 2008 SP2 Datacenter, Enterprise, or Standard is a prerequisite. Microsoft Active Directory has to be in place at your network.

With Cluster-in-a-box using Windows Server 2012 R2 Datacenter, an existing Active Directory is not mandatory, but recommended. The Windows Server 2012 R2 Datacenter edition used in these configurations, allows you to create a new virtual domain controller and to generate an own Active Directory.

Additionally, DHCP (Dynamic Host Configuration Protocol) has to be enabled on your network. Your cluster Cluster-in-a-box is configured to automatically obtain an IP address from the DHCP server.

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**Ordering & Delivery**

This Fujitsu Cluster-in-a-box solution may be obtained from Fujitsu partners, the local Fujitsu sales representative, or regional office. Just use the following order codes for basic configuration and add the mandatory option:

1x CZK:1335V201-CLB27

2x CZK:1450V100-CLB28

1x CZK:1383V220-CLB29

2x S26361-K1391-V300

2x S26361-K1304-V101 or 2x S26361-K1304-V200

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**Licensing**

**Right to use**

The software is licensed per server system based on the number of processors and instances of server software.

The software license is permanently assigned to the FUJITSU Server PRIMERGY with which you acquired the software. That server is the licensed server for that particular license. You may assign other software licenses to the same server, but you may not assign the same license to more than one server.

Windows Server 2012 R2 Datacenter and Standard requires CALs, although not included. CALs are required for every user or device accessing a server. Licensing details:

<http://www.microsoft.com/en-us/server-cloud/windows-server/2012-editions.aspx>

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**End User License Terms**

Delivered with the product, either electronically or printed on paper. By using the software, you accept the license terms. If you do not accept them, do not use the software. Instead, contact Fujitsu to determine our return policy for a refund or credit.

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**Product Activation Notice to End Users – OEM**

Certain Microsoft Products included with this computer may use technological measures for copy protection. Unless the software is activated, you have no right to use the software after the time permitted for activation. This is to prevent its unlicensed use. You are not permitted to bypass or circumvent activation.

Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the Software or reconfigurations of this computer, and may be completed by Internet or telephone (toll charges may apply). The software will remind you to activate it until you do. New PRIMERGY server systems ship pre-activated when sold with Windows Server 2012 R2 directly ex-factory (OEM).

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# More information

## Fujitsu platform solutions

In addition to Fujitsu Cluster-in-a-box, 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 data center 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/](http://www.fujitsu.com/global/services/computing/)

- PRIMERGY: Industrial standard server
- SPARC Enterprise: UNIX server
- PRIMEQUEST: Mission-critical x86 server
- ETERNUS: Storage system

### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

## More information

Learn more about Fujitsu Cluster-in-a-box, please contact your Fujitsu business partner, Fujitsu sales representative, or visit our website.

<http://www.fujitsu.com/fts/products/computing/servers/primergy/solutions/>

## 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:

[www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)



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