FUJITSU

Data sheet
FUJITSU Integrated System PRIMEFLEX Cluster-in-a-box
based on PRIMERGY CX400

PRIMEFLEX Cluster-in-a-box
Your fast track to hyper-converged continuous operation

FUJITSU Integrated System PRIMEFLEX

Building datacenter infrastructures for a certain use case can be complex, error-prone and time-consuming. Moreover it requires a deep knowledge of all components involved and their dependencies to each other. Therefore, a do-it-yourself approach entails many risks for businesses.

These risks can be avoided by using integrated systems. FUJITSU Integrated System PRIMEFLEX is a pre-defined, pre-integrated and pre-tested combination of servers, storage, network connectivity and software. While management software is mandatory, software for virtualization, automation and orchestration, as well as databases and applications may be optionally included.

PRIMEFLEX encompasses factory-installed solutions which are ready-to-run and reference architectures which can be easily adjusted to customer-specific requirements. Along with its reference architectures, Fujitsu makes detailed configuration and installation descriptions available as a standard. Optional deployment and integration services ensure a smooth integration into the on-site environment. To ensure simplified operation and maintenance of PRIMEFLEX solutions, Fujitsu provides support on solution level, and further datacenter services including managed services and hosting.

PRIMEFLEX Cluster-in-a-box based on PRIMERGY CX400

With PRIMEFLEX Cluster-in-a-box you receive a hyper-converged solution including pre-installed Microsoft Windows Server and pre-configured as a high availability cluster. It offers you an optimum combination of server, storage, and networking components in one compact 2U rack enclosure. The economic design provides continuous availability at an attractive price. PRIMEFLEX Cluster-in-a-box based on PRIMERGY CX400 is availabale as Windows Server (physical) installation or as a complete Microsoft Hyper-V virtualized server environment. Just turn it on, spend some minutes with our self adopted configuration wizard and you are ready-to-work.

- 1x PRIMERGY CX400
- 2x 1.600W Power Supply Units
- configurable SAS HDDs/SSDs
- 2x PRIMERGY CX2550 M2 Server, each with
  - 2x Intel® Xeon® E5-26xx v4 processor (configurable)
  - Configurable main memory (16GB – 2048GB DDR4)
  - Dual port SAS HBA
  - 128 GB SSD boot medium (SATADOM)
  - Microsoft Windows Server 2016 or Windows Server 2012 R2 OEM, Datacenter **or** Standard

Windows Server

Simplified configuration
To get your indiviual PRIMEFLEX Cluster-in-a-box please use the following order codes to obtain the tailored solution by adding the necessary options:
1x CZK:1530V400-CLB43
2x CZK:1568V200-CLB44

Green IT

Pre-Installed

intel XEON inside

Features and benefits

MAIN FEATURES	BENEFITS
PRIMEFLEX Cluster-in-a-box	
■ Integrated availability mechanisms with failover clustering and redundant hardware components	■ Business continuity
■ Simplified configuration	■ Easy to buy
■ Pre-tested configuration	■ No implementation risk
■ Pre-configured, pre-installed configuration	■ Ready-to-work a few minutes after receipt
Based on PRIMERGY CX400	
■ Hyper-converged platform	■ No separate disk storage system and SAN needed
■ One enclosure for two servers with shared power and cooling plus storage	■ Up to 80% less space than traditional IT infrastructures, all components are optimized to each other
■ No sharing of fabrics, I/O or management components	■ Lowered complexity vs. blade servers
■ Expandable chassis (up to 18 disks)	■ Prepared for growth
Microsoft Windows Server	
■ Microsoft Windows Server	■ Enterprise-grade platform to cost-effectively optimize your business
■ SAS Storage Spaces Storage Spaces, which is a new feature from Windows Server 2012 can be used in Windows Server 2016 too.	■ 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 ■ Efficient use of storage resources
■ Server virtualization with Hyper-V	■ 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 ■ Reduce the impact of virtual infrastructer's failure by VM Compute Resiliency and VM storage Resiliency
Additionally, when Datacenter edition of Microsoft Windows Server **is used**	
■ Unlimited number of licensed Windows Server virtual machines on each server	■ Your Windows Server operating system flatrate

PRIMEFLEX Cluster-in-a-box components		based on PRIMERGY CX400 M1
Housing		
	System	1x PRIMERGY CX400 M1 (Cib Edition)
	Form factor	Rack (2U)
	Power Supplies	2x PRIMERGY Power Supplies 1600W
		2x Power Cord 10A IEC 320 C19 -> C14
	HDD (configurable)	18x 2.5" SAS disk slots
		Local, shared data drives: SAS only
		At least 3 HDDs are required, and one more HDD is required for hot spare configuration. All SSD configuration is not allowed.
		SSD SAS, 12Gbit/s, 2.5" 400GB, Enterprise Performance
		SSD SAS, 12Gbit/s, 2.5" 800GB, Enterprise Performance
		SSD SAS, 12Gbit/s, 2.5" 1.6TB, Enterprise Performance
		HDD SAS, 12 Gbit/s, 2.5" 600GB, 10000rpm, 128MB Cache, 512e
		HDD SAS, 12 Gbit/s, 2,5" 900GB 10000rpm, 128MB Cache, 512e
		HDD SAS, 12 Gbit/s, 2.5" 1.2TB 10000rpm, 128MB Cache, 512e
		HDD SAS, 12 Gbit/s, 2.5" 1.8TB 10000rpm, 128MB Cache, 512e
		HDD SAS, 12 Gbit/s, 2.5" 300GB, 10000rpm, 128MB Cache, 512n
		HDD SAS, 12 Gbit/s, 2.5" 600GB, 10000rpm, 128MB Cache, 512n
		HDD SAS, 12 Gbit/s, 2.5" 900GB, 10000rpm, 128MB Cache, 512n
		HDD SAS, 12 Gbit/s, 2.5" 1.2TB, 10000rpm, 128MB Cache, 512n
		HDD SAS, 12 Gbit/s, 2.5" 1TB, 7200rpm, 128MB Cache, 512e
		HDD SAS, 12 Gbit/s, 2.5" 2TB, 7200rpm, 128MB Cache, 512e
Cluster Server Node 1 / 2, each with		
Hardware		1x PRIMERGY CX2550 M2
	CPU (configurable)	2x Intel® Xeon® processor E5-2600v4 product family
		Intel® Xeon® processor E5-2603v4
		Intel® Xeon® processor E5-2643v4
		Intel® Xeon® processor E5-2609v4
		Intel® Xeon® processor E5-2620v4
		Intel® Xeon® processor E5-2630v4
		Intel® Xeon® processor E5-2640v4
		Intel® Xeon® processor E5-2650v4
		Intel® Xeon® processor E5-2660v4
		Intel® Xeon® processor E5-2680v4
		Intel® Xeon® processor E5-2690v4
		Intel® Xeon® processor E5-2623v4
		Intel® Xeon® processor E5-2637v4
		Intel® Xeon® processor E5-2683v4
		Intel® Xeon® processor E5-2697Av4
		Intel® Xeon® processor E5-2695v4
		Intel® Xeon® processor E5-2697v4
		Intel® Xeon® processor E5-2697v4
		Intel® Xeon® processor E5-2699v4
		Intel® Xeon® processor E5-2699Av4
		Intel® Xeon® processor E5-2667v4
		Intel® Xeon® processor E5-2630Lv4
		Intel® Xeon® processor E5-2650Lv4
	Memory (configurable)	16GB – 2048GB – 16 slots/4 channels
		8GB (1x8GB) 1Rx4 DDR4-2400 R ECC
		16GB (1x16GB) 2Rx4 DDR4-2400 R ECC
		32GB (1x32GB) 2Rx4 DDR4-2400 R ECC
		16GB (1x16GB) 2Rx8 DDR4-2400 R ECC
		64GB (1x64GB) 4Rx4 DDR4-2400 LR ECC
		128GB (1x128GB) 8Rx4 DDR4-2400 LR ECC

     http://www.fujitsu.com/global/products/computing/integrated-systems/cluster-in-a-box.html

	LAN onboard	1x 1 Gbit/s dual port Ethernet
	Mezzanine Cards	1x 1 Gbit/s quad port Ethernet (Base-T) or
		1x 10 Gbit/s dual port Ethernet (10Base-T)or
		1x 10 Gbit/s dual port Ethernet (Fiber Optic SFP+)
	SAS	SAS Ctrl., 12 Gbit/s
	Boot Medium	SSD SATA 6G 128GB DOM (SATADOM)

Operating System		Microsoft Windows Server 2016 or Windows Server 2012 R2 OEM, Standard **or** Datacenter
		Always Microsoft Cluster Services and the Hyper-V Role are turned on.
		To leverage a physical cluster, the 'Hyper-V Role' has to be switched off after the initial configuration (or any time thereafter) – than the system behaves like a standard (non-virtualized) Windows Server Cluster.
		If the Windows Server Datacenter edition is selected, that license includes unlimited virtual instances.

Software		
	Implementation	Fujitsu Out-Of-the-Box-Experience (OOBE) Wizard
	Management	Fujitsu ServerView Agents for Microsoft Windows Server

Maintenance & Support Service

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

Hardware Installation Specification

Dimensions (W x D x H)		447 x 774.7 x 87.3 mm
Weight		38 kg
Power	Voltage	100 V –240 V
	Frequency	47 Hz -63 Hz
	Current	24.2 A with two PSU (12.1A per PSU)
	Electric value notes	~1.300 VA
Environmental Conditions	Temperature (Operating)	5℃ –40℃
	Altitude	3000 m
	Operating temperature note	DIN IEC 721-3-3 class 3K2
	Operating relative humidity	10 -85% (non condensing)
	Maximum altitude	3000 m
	Operating environment	FTS 04230 –Guideline for Data Center (installation specification)
	Noise emission	According to ISO09296
	Sound power (LWAd; 1 B = 10dB)	5.2B (idle) / 5.3B (operation)

Distribution, Implementation, Documentation, Support

User Interface	English (Default), German, French, Italian, Japanese and Spanish
Implementation	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.
User Skills	Knowledge of Microsoft Windows Server and Active Directory is presumed. Implementation requires basic knowledge and can be done by server administrators.
Documentation	User manuals are part of the Recovery DVD media or can be downloaded from http://manuals.ts.fujitsu.com
Conditions	The software products are supplied under conditions described in Fujitsu's current license agreement and the End User License Terms for Windows Server 2016 / 2012 R2 OEM, Datacenter or Standard.
Optional Software Assurance	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. MPSA and Open). SA

	and Microsoft Volume Licenses have to be sourced from authorized Microsoft Licensing Solutions Partner (LSP).
	Fujitsu is authorized Microsoft Licensing Solutions Partner (LSP) - formerly known as Large Account Reseller (LAR) in a number of territories around the world. Fujitsu Technology Solutions GmbH is authorized Microsoft LSP for the region European Union (EU) and the European Free Trade countries (EFTA). For further assistance please contact VolumeLicensing@ts.fujitsu.com.
Warranty	Standard Warranty

Specifications of additionally required prerequisites

	With PRIMEFLEX Cluster-in-a-box an existing Active Directory is not mandatory, but strongly recommended. The **Microsoft Windows Server** editions used in these configurations, allow you to create a new virtual domain controller and to generate an own Active Directory.
	Microsoft Active Directory, a feature of **Microsoft Windows Server 2016 or Windows Server 2012 R2** in general is a prerequisite. Microsoft Active Directory has to be in place at your network – either as existing one or newly generated as described above.
	Additionally, DHCP (Dynamic Host Configuration Protocol) has to be enabled on your network. Your PRIMEFLEX Cluster-in-a-box is configured to automatically obtain an IP address from the DHCP server.

Ordering & Delivery

	This PRIMEFLEX 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:1530V400-CLB43
	2x CZK:1568V200-CLB44

Licensing

Right to use	Windows server 2012 R2 is licensed per server system based on the number of processors, **whereas** Windows server 2016 is licensed per server system based on the number of cores
	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.
	Microsoft Windows Server Datacenter and Standard requires CALs, although not included. CALs are required for every user or device accessing a server.
	Licensing details:
	https://www.microsoft.com/en-us/cloud-platform/windows-server
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.
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 will be shipped pre-activated when sold with Microsoft Windows Server directly ex-factory (OEM).

http://www.fujitsu.com/global/products/computing/integrated-systems/cluster-in-a-box.html

More information

Fujitsu platform solutions

In addition to PRIMEFLEX 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/
- PRIMERGY: Industrial standard server
- SPARC Enterprise: UNIX server
- PRIMEQUEST: Mission-critical x86 server
- ETERNUS: Storage system

Software

www.fujitsu.com/software/

More information

Learn more about PRIMEFLEX Cluster-in-a-box, please contact your Fujitsu business partner, Fujitsu sales representative, or visit our website. http://www.fujitsu.com/global/products/computing/integrated-systems/cluster-in-a-box.html

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/

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