Data Sheet

PRIMERGY BX600

Mid-tier 7U blade server system for enterprise datacenters

PRIMERGY blade servers are the perfect choice for today's datacenter solutions, where the key demand is a reliable and innovative platform for performance and connectivity. Blade servers provide high performance and maximum redundancy with minimum rack space, power consumption and cabling effort. PRIMERGY blade servers are designed for a broad range of application areas, from Web server or terminal server farms with lower performance demands all the way to high performance database or application server configurations. And if your business changes, PRIMERGY blade servers can grow easily to match new demands. They can even change their software configuration during operation if the load profiles vary. And they can be combined with all other rack-mounted devices without limits. PRIMERGY blade servers are characterized by flexibility, allowing dynamic software reconfiguration and full control with a redundant single point of administration. The extensive software support for control, management and deployment minimizes administrative costs and frees you from time-consuming tasks to focus on your business. Our build-to-order process ensures that only fully built and pre-tested solutions are delivered to the customer, tailored to your requirements and ready to grow with your business needs.

PRIMERGY BX600

The PRIMERGY BX600 blade server is a highly scalable 19inch rack server system that occupies 7 height units (U) and has a modular infrastructure for accommodating highly compact server units (server blades).

Due to their high performance PRIMERGY BX600 blade servers are qualified for sophisticated tasks in datacenter environments, such as database or application servers, web servers or communication servers with heavy load profiles. The broad range of processor configurations enables the PRIMERGY BX600 to meet many requirements in typical datacenter applications.

Key Features

- Up to 10 hot-plug server blades per chassis with 1-2 64-bit Intel® Xeon[™] processors or up to 5 server blades with 2-4 Xeon[™] MP processors per server blade for state-of-the-art performance.
- Redundant switch blades and / or Pass-Thru blades and two redundant management blades for highly flexible network integration and reliable management.
- One or two Ultra320 SCSI hard disks per server blade in RAID 0 or 1 configuration for data security.
- Two Gigabit Ethernet interfaces per dual server blade, 2x2 Gigabit Ethernet interfaces per 4-way server blade for efficient and stable communication paths.
- Optional two (dual server blade) or 2x2 (4-way server blade) Fibre Channel interfaces, optional PCI slot module (instead of a hard disk) for LAN controller on dual processor server blades.
- Tried-and-tested, easy-to-use server management software (locally/remotely) for careless and convenient operation.



Benefits

- Less space and power consumption compared to conventional rack server farms reduce operation costs.
- Redundant and hot-plug blades ensures trouble-free operation and minimum server down times.
- The integrated KVM switch realizes a single point of control for all blades, reducing external equipment costs.
- A set of powerful server management tools reduces administration and maintenance efforts.
- Solutions for automated operating system deployment and load balancing adapt the server configurations to the current load profile, giving optimized response times.
- All server blades may be mixed in one chassis, protecting investments and offering high growth rates.



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PRIMERGY BX600 - Blade server chassis			
Chassis	7U ch	assis for 19-inch racks -44.45 mm)	
Rack	PRIM	ECENTER racks	
installation kits for	Fujits	u and Rittal racks	
Midplane	Conne infrast midpla	ection of the server blades with the tructure components via SerDes ane	
Switch blade	1x ho	t-plug (rear), max. 2 (redundant)	
Management blade	2x ho	t-plug (rear), max. 2 (redundant)	
External SCSI module	1x on backu	the rear, for connecting external p devices (e.g. PRIMERGY SX10)	
KVM switch	1x on	1x on the rear	
Fans	2x hot-plug cages, each with 2 fans (redundant); additionally 3 fans per power supply		
FC pass-thru blade	module Optional, hot-plug (rear), max. 2		
Free bays	1		
Front	10x fc	r hot-plug server blades	
Rear	2x for hot-plug Gbit Ethernet switch blades 2x for Fibre Channel Pass Thru blades		
	modu	les	
External interfa	ces (r	ear)	
Per management blade	1x RS-232-C, 1x LAN RJ45,		
Per switch blade	3x Gbit Ethernet LAN, RJ45		
Per FC pass- thru blade	10x Fibre Channel with GBIC/SFP modules		
SCSI module	2x SCSI VHDI68 connections (useable by		
KVM switch	1x ke	yboard (PS/2), 1x mouse (PS/2), 1x	
module VGA (15-pin)		(15-pin)	
Cables (standard)			
For server blade	s 1 \	x special cable with 2 USB and 1 /GA connections	
For KVM switch blade	1 \	x special cable with 2 PS/2 and 1 /GA connections	
Power supply P		Power supply cable for internal rack connections	
Power supply			
2 – 4 redundant hot-plug power supply modules, each with 1200 W (if the number of dual server blades is greater than 5 or 3 in case of 4-way server blade.			
the 3rd and 4th p	ower	supply modules are required)	
Rated mains vol	tage	100-240 V / 50-60 Hz	
max. active pow	er	3600 W (230V); 2250 W (110V)	
max. apparent p	ower	3712 VA (230V); 2629 VA (110V)	
max. mains curr	ent	11 A (110V); 6.5 A (230V)	
max. heat dissipation		12960 kJ/h (12284 BTU)	

Ambient temperature	10°C to 35°C
Air flow rate: Low fan speed Mid fan speed High fan speed	ca. 500 m ³ /h ca. 700 m ³ /h ca. 800 m ³ /h
Sound pressure level LpA _m	~ 59 dB(A) (acc. to ISO 9296) with standard configuration
Dimensions	307 x 446 x 735 mm (H x W x D)
Rack installation Rack cable depth	7 height units (U), 100 mm (1000 mm Rack recommended)
Weight/power consum	nption
Rack installation kit	Inclusive (ca. 8.5kg)
Weight	max. 130 kg (with all components) , thereof 42 kg chassis and KVM/ SCSI + 2 mgmt. blades (Please note that the max. load per rack is 1000kg)
Power consumption typical	493 W, system unit configured completely
Compliance with Norn	n and Standards
Product safety	
Global / Europe	I EC 6950 / EN 60950 / UL 60950 / CSA 60950
Electro magnetic con	npatibility
Global	CFR 47, Part 15, Subpart B, Class A (USA) ICES 003 (Canada) EN 55022 class A EN61000-3-2 EN 61000-3-3 EN 55024 Immission VCCI classA AS/NZ 3548 class A (Australia / New Zealand) CNS 13438 (Taiwan)
Approvals	
Product safety	
Global / Europe	
USA / Canada	IUIUS /ULC

Temperatures/Sound/dimensions

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.

GS

Germany

Management blade	
Number per BX600	Max. 2 (hot-plug, redundant)
LAN	1x 10 Mbit/s Ethernet (RJ45)
COM port	1x RS-232-C (serial)
RS232C und I2C	Connection to every server blade via the SerDes midplane
Power supply	At all times with stand-by power
Weight	~ 1 kg

Switch blade (Gbit Ethernet), pluggable on the rearNumber per BX600Max. 4 hot-plug switch blades;
10/100/1000TX (layer 2)LAN channels
per switch blade10x downlink per SerDes
midplane
3x external uplink (3 RJ45 ports)Weight~ 0.9 kg

FC blade (Fibre Channel Pass Thru), pluggable on the rear Number per BX600 Max. 2 hot-plug FC blades; 2 Gbit Fibre Channel Pass Thru FC ports per FC blade 10x connection blocks for Gbic/SFP modules GBIC/SFP modules MMF, pluggable in the FC ports, connection with LC connector cable Weight ~ 0.8 kg (w/o GBIC/SFP module)

Gbit Ethernet LAN Pass-Thru blade, pluggable on the rear (when released)	
Number per BX600	Max. 4 hot-plug Gbit Ethernet LAN Pass-Thru blades
LAN ports per Pass-Thru blade	10x RJ45 connection blocks for copper cabling
Port type	1000 Base-T Full-duplex only
Weight	~ 0,8 kg

PRIMERGY BX620 - D	PRIMERGY BX620 - Dual processor server blade		
Туре	Dual processor server blades		
Number per BX600	Up to 10 hot-plug server blades		
System board	D1690		
Processors	1 – 2 Intel® Xeon™		
Clock rate, SLC, TLC	2.80 GHz, 512 Kbyte, 3.06 GHz, 512 Kbyte, 1 Mbyte, 3.20 GHz, 512 Kbyte, 1 and 2 Mbyte		
Front-side bus	533 MHz		
Chipset	ServerWorks GC LE		
Main memory	512 Mbytes to max. 12 Gbytes		
PC2100 registered 2-way interleaved ECC DDR-SDRAM, 3 memory banks with modules of 512 Mbytes that can be ordered, 1 / 2 / 4 Gbytes configurable, Memory Scrubbing, hot-spare memory and ChipKill [™] support			
Flash EPROM	BIOS update per USB floppy disk, USB CD-ROM or via LAN		
Interfaces			
2x Gigabit LAN ports via midplane at switch blade; 1x VGA and 2x USB at the front via special cable; connection to the KVM switch via the midplane; optional 2x 2 Gbit Fibre Channel via midplane at Fibre Channel Pass-thru blade			
Onboard controllers			
SCSI (Adaptec 7902W)	2-channel Ultra320 SCSI with HostRAID support (RAID levels 0 and 1) (HostRAID only released for Windows 2000 / 2003 and Linux, not		
	available in VMware)		
Graphics	available in VMware) ATI Rage XL, 8 Mbytes		
Graphics LAN (Broadcom 5703 compatible)	available in VMware) ATI Rage XL, 8 Mbytes 2x 10/100/1000 Mbit/s Ethernet		
Graphics LAN (Broadcom 5703 compatible) Server management	available in VMware) ATI Rage XL, 8 Mbytes 2x 10/100/1000 Mbit/s Ethernet Baseboard management controller (BMC)		
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Optional PCI slot module in the hard disk bay (dual processor server blade only)			
Number per server blade	Max. 1 (occupies lower hard disk bay)		
Slot	1x PCI-X 64-bit, 100 MHz, for released half-length and full- height PCI cards		
Connection	Via appropriate connections of the PCI card used at the front of the server blade. See configurator for released controllers.		
Weight	~ 310 g		
Optional Fibre Channel module (FC module)			
QLA2342 comp	atible, QLogic chip ISP2312 onboard		
Number per dual server blac	Max. 1 (2 Gbit/s FC module); Connection via mid-plane to Gbit Fibre Channel Pass Thru blade and GBIC/SFP connection module		
Supported Stora Subsystems	age Connection to S80, FibreCAT CX x00, AX100, Symmetrics and FC4700; Cluster configuration with MSCS, PRIMECLUSTER with the corresponding release		
Configuration	Either FC I/O module or GbE LAN I/O modules can be installed for one BX600 system unit.		
FC ports (intern	al) 2-channel 2 Gbit/s		
Weight	~ 60 g		
Optional Gigat	it Ethernet LAN module (LAN module)		
Number per dual server blac	Max. 1; Connection via mid-plane to Gbit switch blade or Gbit Ethernet LAN Pass-Thru blade		
Form factor: Core Chip: PCI Interface: I/O Interface:	Board dimension: 120 x 90 (mm) Intel 82546GB PCI-X 64bit 100MHz Dual 10/100/1000Base-TX Ethernet Interface (Ser Des interface)		
Configuration	Either GbE LAN I/O module or FC I/O modules can be installed for one BX600 system unit.		
LAN ports (inter	nal) 2-channel 1 Gbit/s each		
Weight	~ 60 g		
Supported ope	rating systems		
Microsoft: Windows 2000 Server, Advanced Server, Windows Server 2003 Standard, Enterprise, Web Edition VMware: ESX Server 2.1, Virtual SMP, Vmotion, VirtualCenter, Virtual Infrastructure Node Red Hat: EL2.1, EL3 SUSE: Linux ES-8, ES 0, 286: 0.0, 0.1			
Server management software			
Standard	PRIMERGY ServerView Suite		
Optional	PRIMERGY RemoteDeploy, PRIMERGY RemoteView		

PRIMERGY BX620 S2	2 - Dual processor server blade
Туре	Dual processor server blades
Number per BX600	Up to 10 hot-plug server blades
System board	D2000
Processors	1 – 2 64-bit Intel® Xeon™
Clock rate, SLC	2.8 GHz, 1 Mbyte 3.0 GHz, 1 Mbyte 3.2 GHz, 1 Mbyte 3.6 GHz, 1 Mbyte 3.6 GHz, 2 Mbyte
Front-side bus	800 MHz
Chipset	Intel 7520
Main memory	1 Gbyte to max. 12 Gbytes
C2-3200 registered 2 SDRAM, 3 memory ba configurable, Memory ChipKill™ support	-way interleaved ECC DDR2 400 nks with modules of 1 / 2 / 4 Gbytes Scrubbing, hot-spare memory and
Flash EPROM	BIOS update per USB floppy disk, USB CD-ROM or via LAN
Interfaces	
2x Gigabit LAN ports v 1x VGA and 2x USB a connection to the KVM optional 2x 2 Gbit Fibre Channel Pass-thru bla optional 2x Gigabit LAI blade or LAN Pass-Th	ia midplane at switch blade; t the front via special cable; l switch via the midplane; e channels via midplane at Fibre de; N channels via midplane at switch ru blade
Onboard controllers	
SCSI (LSI 1020)	1-channel Ultra320 SCSI (RAID levels 0 and 1)
Graphics	ATI Radeon 7000-M, 16 Mbytes
LAN (Intel Anvik2)	2x 10/100/1000 Mbit/s Ethernet
Server management	Baseboard management controller

Server management	Baseboard management controller (BMC)	
Hard disk drives		
Туре	1-inch Ultra320 SCSI hard disks (hot-plug)	
Capacities	36 / 73 / 146 / 300 Gbytes (10,000 rpm), 18 / 36 / 73 Gbytes (15,000 rpm)	
Dimensions/Weight		
Dimensions (W x H x D) in mm	286 x 43 x 470 (520 with connectors and handles), occupies one server blade slot in system unit	
Weight	~ 7 kg (max. configuration)	
Power requirements/heat dissipation		
Power requirements	~ 300 W typical (fully equipped)	
Heat dissipation	Min. ~ 750 kJ/h, max. ~ 1000 kJ/h	

Optional PCI slot module in the hard disk bay (dual processor server blade only)			
Number per server blade	Max. 1 (occupies lower hard disk bay)		
Slot	1x PCI-X 64-bit, 100 MHz, for released half-length and full- height PCI cards		
Connection	Via appropriate connections of the PCI card used at the front of the server blade. See configurator for released controllers.		
Weight	~ 310 g		
Optional Fibre Channel module (FC module)			
QLA2342 compatible,	QLogic chip ISP2312 onboard		
Number per server blade	Max. 1 (2 Gbit/s FC module); Connection via mid-plane to Gbit Fibre Channel Pass Thru blade and GBIC/SFP connection module		
Supported Storage Subsystems	Connection to S80, FibreCAT CX x00, AX100, Symmetrics and FC4700; Cluster configuration with MSCS, PRIMECLUSTER with the corresponding release		
Configuration	Either FC I/O module or GbE LAN I/O modules can be installed for one BX600 system unit.		
FC ports (internal)	2-channel 2 Gbit/s each		
Weight	~ 60 g		
Optional Gigabit Ethe	rnet LAN module (LAN module)		
Number per dual server blade	Max. 1; Connection via mid-plane to Gbit switch blade or Gbit Ethernet LAN Pass-Thru blade		
Form factor: Core Chip: PCI Interface: I/O Interface:	Board dimension: 120 x 90 (mm) Intel 82546GB PCI-X 64bit 100MHz Dual 10/100/1000Base-TX Ethernet Interface (Ser Des interface)		
Configuration	Either GbE LAN I/O module or FC I/O modules can be installed for one BX600 system unit.		
LAN ports (internal)	2-channel 1 Gbit/s each		
Weight	~ 60 g		

Supported operating systems

0	
SUSE: Linux ES-8, ES-9 x86	
Red Hat: EL3 for x86 / EM64T	
VMware: ESX Server 2.5	
Windows Server 2003 Enterprise/Standard/Web Edition	
Microsoft: Windows 2000 Server/Advanced Server,	

Server management software		
Standard	PRIMERGY ServerView Suite	
Optional	PRIMERGY RemoteDeploy, PRIMERGY RemoteView	

PRIMREGY BX660 - 4	-way server blade	
Туре	4-way server blades	
Number per BX600	Up to 5 hot-plug server blades	
System board	D1652	
Processors	2 – 4 Intel® Xeon™ MP	
Clock rate,	2.2 GHz, 512 Kbyte, 2 Mbyte	
SLC, TLC	2.7 GHz, 512 Kbyte, 2 Mbyte,	
	3.0 GHz, 512 Kbyte, 4 Mbyte	
Front-side bus	400 MHz	
Chipset	ServerWorks GC LE	
Main memory	1 Gbytes to max. 16 Gbytes	
PC2100 registered 2-way interleaved ECC DDR-SDRAM, 4 memory banks with modules of 1 / 2 / 4 Gbytes configurable, Memory Scrubbing and hot-spare memory and ChipKill [™] support.		
Flash EPROM	BIOS update per USB floppy disk, USB CD-ROM or via LAN	
Interfaces		
2x 2 Gigabit LAN ports	via midplane at switch blade;	
1x VGA and 2 x USB a	It the front via special cable;	
connection to the KVM	switch via the midplane; t Fibre Chappels via midplane at	
Fibre Channel Pass-th	ru blade	
Onboard controllers		
SCSI	2-channel Ultra320 SCSI with	
(Adaptec 7902W)	HostRAID support (RAID levels 0 and 1) (HostRAID only released for Windows 2000 / 2003 and Linux, not	
	VMware)	
Graphics	ATI Rage XL, 8 Mbytes	
LAN (Broadcom 5703 compatible)	4 x 10/100/1000 Mbit/s Ethernet	
Server management	Baseboard management controller (BMC)	
Hard disk drives		
Туре	1-inch Ultra320 SCSI hard disks (hot-plug)	
Capacities	36 / 73 / 146 / 300 Gbytes (10,000 rpm), 18 / 36 / 73 Gbytes (15 000 rpm)	
Dimensions/Weight		
Dimensions (W x H x	286 x 85 x 470 (520 with connectors	
D) in mm	and handles), occupies 2 server blade slots in system unit	
Weight	~ 10.3 kg (max. configuration)	
Power requirements/	heat dissipation	
Power requirements	470 W typical (fully equipped)	
Heat dissipation		

Optional Fibre Channel module (FC module)	
QLA2342 compatible, QLogic chip ISP2312 onboard	
Number per 4-way server blade	Max. 2 (2 Gbit/s FC module); Connection via mid-plane to Gbit Fibre Channel Pass Thru blade and GBIC/SFP connection module
Supported Storage Subsystems	Connection to S80, FibreCAT CX x00, AX100, Symmetrics and FC4700; Cluster configuration with MSCS, PRIMECLUSTER with the corresponding release
Configuration in combination with dual server blades	Either FC I/O module or GbE LAN I/O modules can be installed for one BX600 system unit.
FC ports (internal)	2-channel 2 Gbit/s
Weight	~ 60 g

Supported operating systems Microsoft: Windows 2000 Server, Advanced Server Microsoft: Windows Server 2003 Standard, Enterprise Edition Red Hat: EL2.1, EL3 SUSE: Linux ES-8, ES-9 x86 Server management software Standard PRIMERGY ServerView Suite Optional PRIMERGY RemoteDeploy, PRIMERGY RemoteView

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