

# PRIMERGY CX1000 S1

## System configurator and order-information guide

December 2012

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Back to back of 4x CX1000 S1 in a block



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#### Storage

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Change report

**PRIMERGY Server**

# Instructions

This document contains basic product and configuration information that will enable you to configure your system via System-Architect.

**Only the tool "System-Architect" will ensure a fast and proper configuration of your PRIMERGY server or your complete PRIMERGY Rack system.**

**Note for configuration:**

**In System-Architect: only 38 equal configured CX120 or CX122 cloud server blades are allowed**

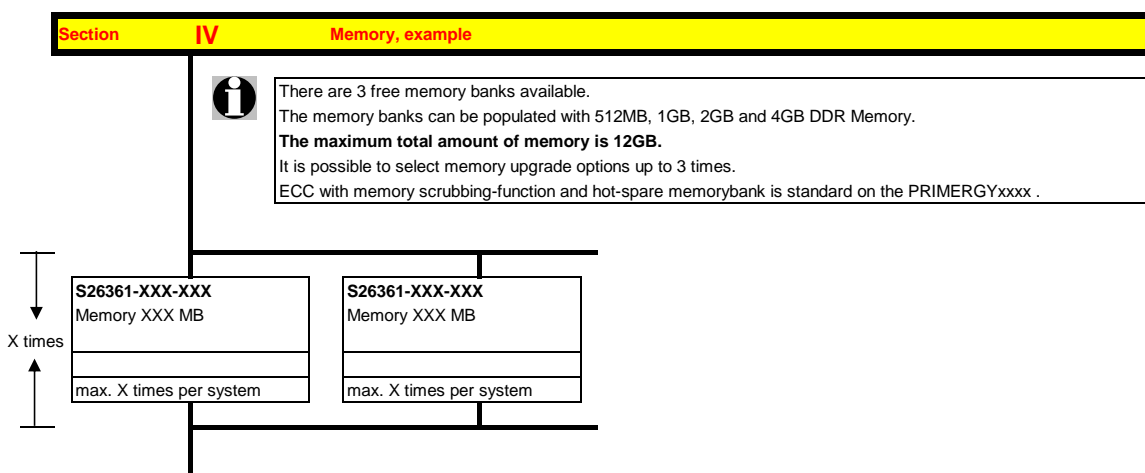
**Please pay attention to the naming conventions:**

- CX1000 S1** System unit 1st generation
- CX120 S1** Cloud server blade 1st generation
- CX122 S1** Cloud server blade 2st generation

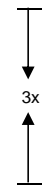
You can configure your individual PRIMERGY server in order to adjust your specific requirements.

The System configurator is divided into several chapters that are identical to the current price list and PC-/ System-Architect.

Please follow the lines. If there is a junction, you can choose which way or component you would like to take. Go through the configurator by following the lines from the top to the bottom.



In one chapter you can only select as many components (here 3x) as the arrow indicates.



Please note that there are information symbols which indicate necessary information.



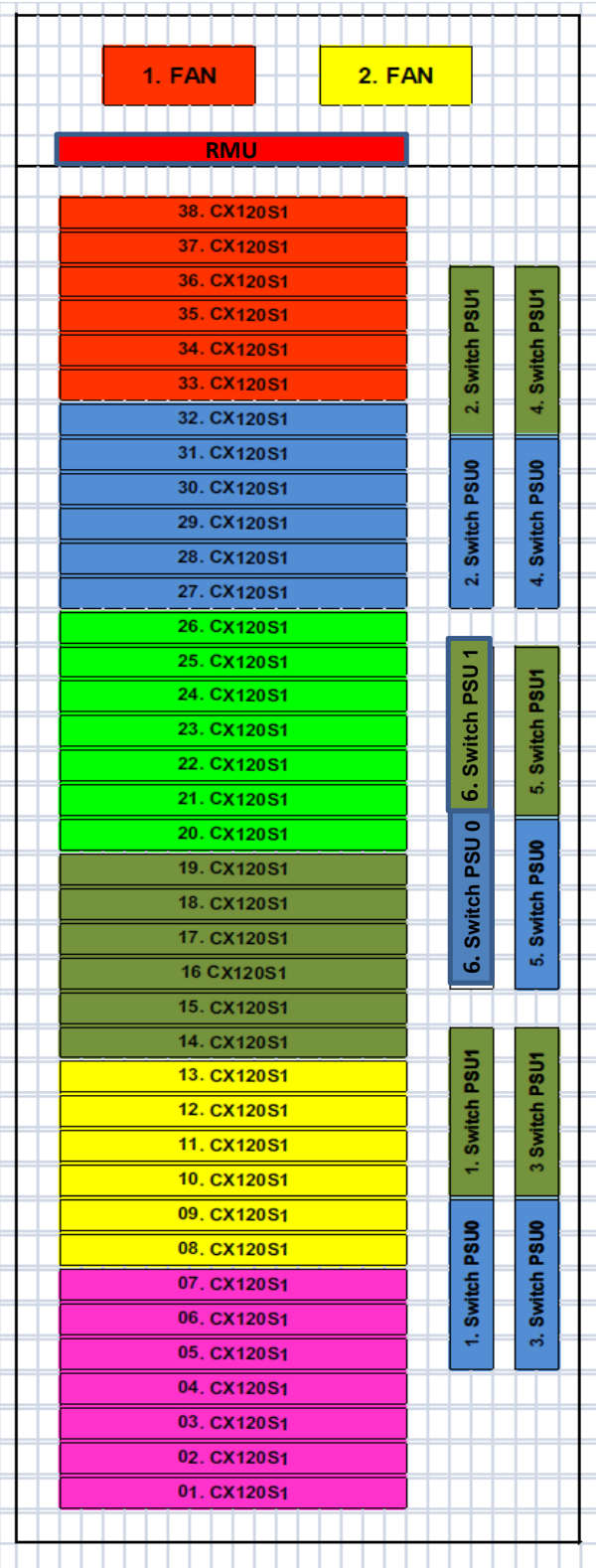
**For further information see:**

[http://ts.fujitsu.com/products/standard\\_servers/index.html](http://ts.fujitsu.com/products/standard_servers/index.html) (internet)

[https://partners.ts.fujitsu.com/com/order-supply/configurators/primergy\\_config/current/Pages/default.a](https://partners.ts.fujitsu.com/com/order-supply/configurators/primergy_config/current/Pages/default.a) (extranet)

Prices and availability see price list and PC-/ System-Architect  
 Subject to change and errors excepted

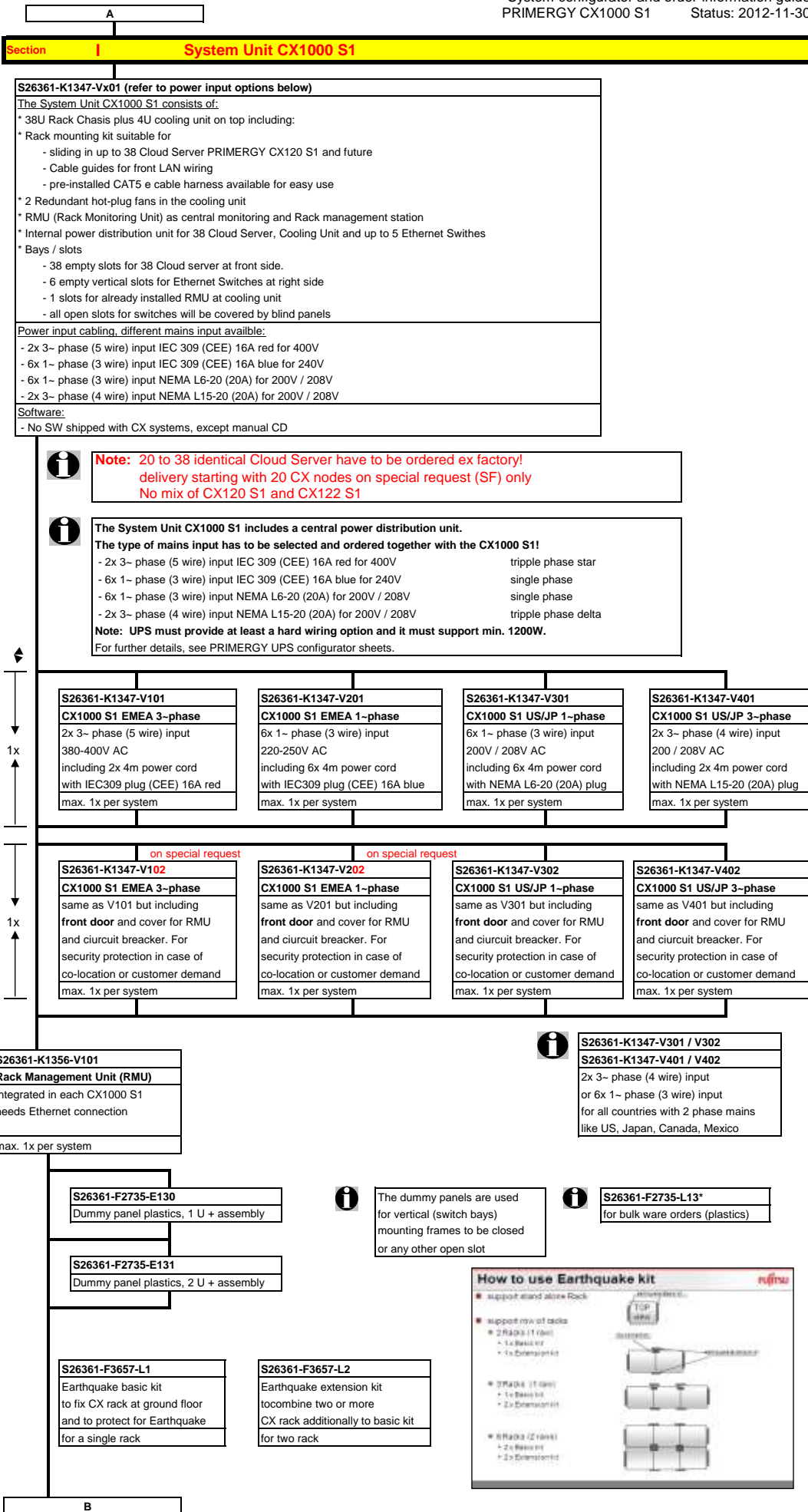
Power distribution plan. Each color related to one power phase. This is true for every power configuration.

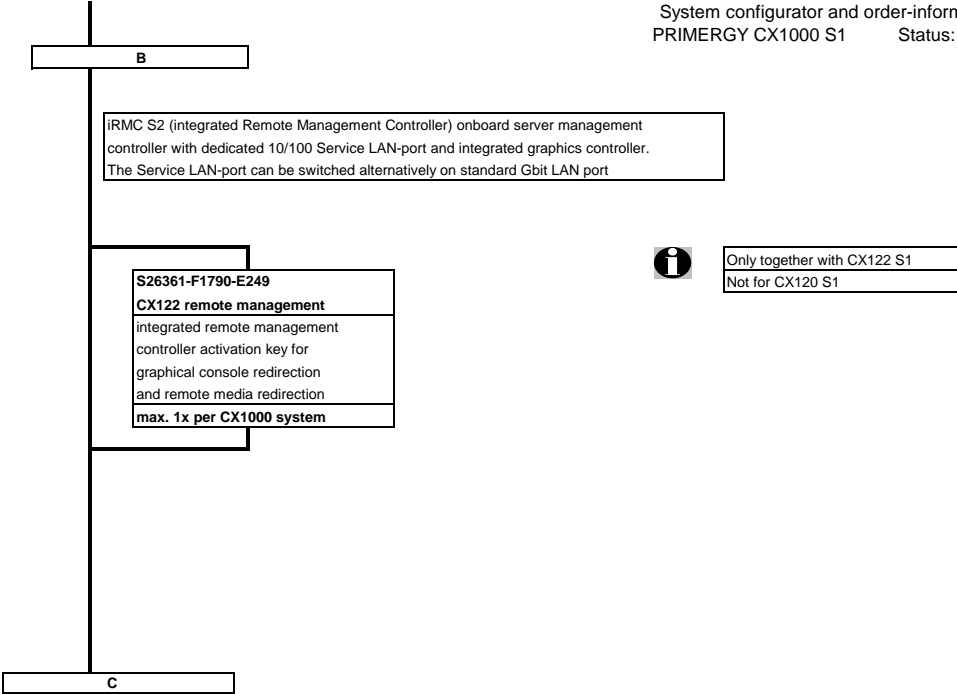


5 IP Switches



6 IP Switches





C

**Section II CX1000 S1 LAN Cabling & Switches**

**S26361-K1347-V101**  
**The System Unit CX1000 S1 LAN Cabling and Ethernet Switch offerings:**

**\* 38U Rack Chassis offers 6 empty vertical 1U slots for Ethernet Switches at right side**

- Ethernet Switches are provided by Fujitsu Storage division and are configurable via System Architect
- Default Switch is Brocade FCX648S (LAN Switch 48P IP1G, slots 4xSFP,Mod10G2)
- Any other Switch integrated into CX1000 S1 will be guaranteed for environmental compatibility only.
- refer to offering from Storage division

As default switch we will offer Brocade FCX648S switches but customers switches are possible as well.  
 For that they must be not deeper than 650mm, 19" formfactor, max. 2U.height and shall offer minimal 40 port and max. power consumption of 150 Watt allowed, vertical mounting possible and supported by switch vendor etc.. to ensure physical mounting and fitting into Ben Nevis. In the side mounting space one can mount either 5x 1U switches or 2x 2U switches.

**\* LAN CAT 5e cabling ex factory**

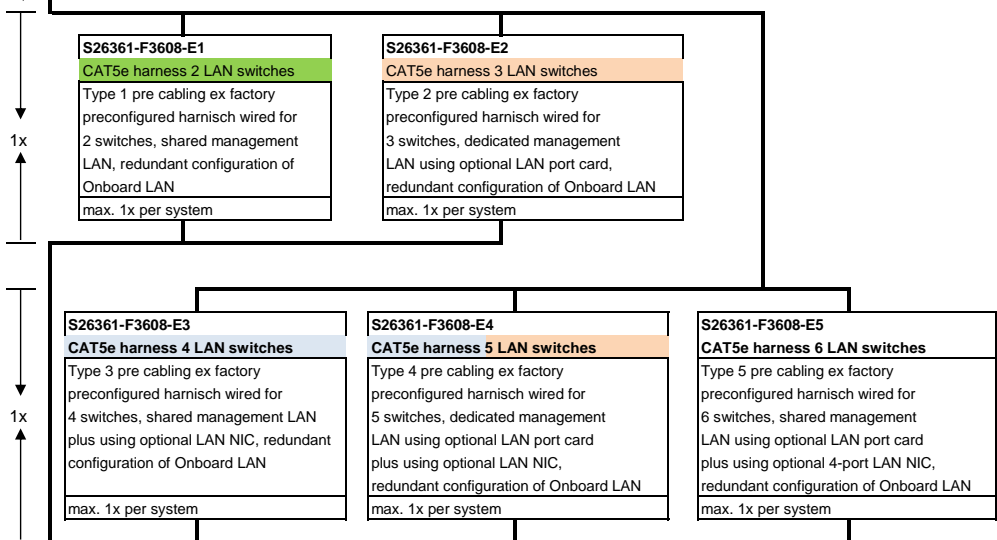
- Cable guides for front LAN wiring are part of delivery
- pre-installed CAT5 e cable harnesses available for easy use
- uplinks can be routed through roof or from bottom front side
- all cables are marked and different colours for each switch are available

Switch 1 (MoBo-LAN1) CAT5e SFTP:	Green Port 0
Switch 2 (MoBo-LAN2) CAT5e SFTP:	Blue Port 1
Switch 3 (AddOn-LAN1) CAT5e SFTP:	Yellow Optional NIC Port 0
Switch 4 (AddOn-LAN2) CAT5e SFTP:	Grey Optional NIC Port 1
Switch 5 (ServiceLAN) CAT5e SFTP:	Black RMM3 / iRMC (in case of 6 LAN switches optional NIC Port3)
Switch 6 (AddOn-LAN4) CAT5e SFTP:	Red Optional NIC Port 4

Labeling of cables accordingly to: **For Brocade FCX648S the first Switch Port is #5**

Connection From	To		
From SWitch1 Port1 to SerVer1 Port1	SW1P1	SV1P1	
From SWitch2 Port1 to SerVer1 Port2	SW2P1	SV1P2	
From SWitch1 Port2 to SerVer2 Port1	SW1P2	SV2P1	
From SWitch2 Port2 to SerVer2 Port2	SW2P2	SV2P2	
From SWitch1 Port3 to SerVer3 Port1	SW1P3	SV3P1	
From SWitch2 Port3 to SerVer3 Port2	SW2P3	SV3P2	

- Note:** Ethernet Switches are to be ordered in System Architect additionally.  
 Recommended is a Brocade FCX648S switch or integration on project basis via customizing (CUZ) processes  
 Order Number Brocade Switch is: **D:FCSW-648S**, refer chapter switches
- Harness / pre cabling for different standard Switch configurations can be ordered ex factory.**  
**In this case all cables will be wired and labeled accordingly.**
  - Type 1:** For two switches, shared management LAN and redundant configuration
  - Type 2:** For three switches, dedicated management LAN and redundant configuration
  - Type 3:** For four switches, shared management LAN, plus additional LAN NIC and redundant configuration
  - Type 4:** For five switches, dedicated management LAN, plus additional LAN NIC and redundant configuration
  - Type 5:** For six switches, shared management LAN, plus additional LAN NIC and redundant configuration**All configurations are for 1GB Ethernet. Dedicated LAN card and additional LAN NIC have to be ordered additionally. All cables are CAT 5e.**



**S26361-F3677-E1**  
 Bracket kit f. switches in CX1000S1 for assembly of switches w/ own railkit  
 max. 1x per system

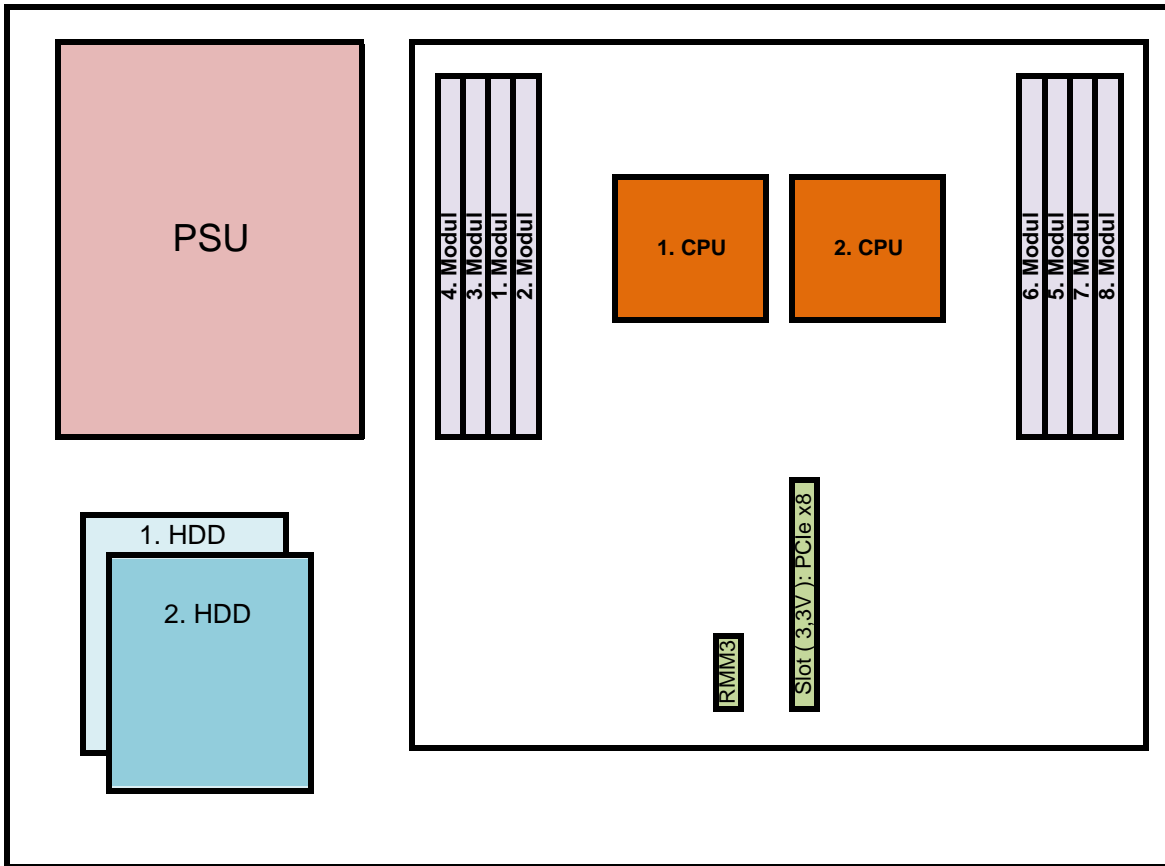


Case 5: System board with shared LAN and Quad Port LAN card  
 P1 = Onboard LAN - Port1  
 P2 = Onboard LAN - Port2  
**SL = Onboard Service LAN not used**  
 P3 = AddOnCard LAN - PortA  
 P4 = AddOnCard LAN - PortB  
 P5 = AddOnCard LAN - PortC  
 P6 = AddOnCard LAN - PortD

D

## Configuration diagram PRIMERGY CX120

### Top View



Start PRIMERGY CX120 S1


**Section III SW Configurator 32 bit**

**with OEM-Software**  
for PRIMERGY Server


**VMware-Software**  
- VMWare Infrastructure 4

**without OEM-Software**  
for PRIMERGY Server

OEM-SW is bound to HW and is not allowed to be ordered separately.  
Exception: VMware SW

 For all SW products please refer to the corresponding software configurator accessible via the Extranet under Configuration & Tools, -All configurations, -Software, URL see below.

**Linux - Software \*\*)**  
- Red Hat EL (OEM): LO  
- Red Hat EL (Support): LS

 Details eg. version numbers are published in the separate SW-Configurator

**They find single software configurators and release lists (OS-matrix / system management / security) under following addresses:**

**for internal users:** <http://sp.ts.fujitsu.com/dmsp/docs/osrel.xlsx>  
**for partners:** <https://partners.ts.fujitsu.com/com/products/servers/primergy/Pages/default.aspx>

Continue with PRIMERGY  
HW configurator



Start PRIMERGY CX120 S1


**Section IV SW Configurator 64 bit**

No OEM-Software  
for CX120 S1

without OEM-Software  
for PRIMERGY Server


**VMware-Software**  
- VMWare Infrastructure 4

OEM-SW is bound to HW and  
is not allowed to be ordered  
separately.  
Exception: VMware SW

 For all SW products please refer to the corresponding software configurator accessible via the Extranet under "Configuration & Tools, -All configurations, -Software, URL see below.

only EM64T	<b>Microsoft - Software: W</b>
	- Windows Server 2008 R2, Standard x64 Edition Enterprise x64 Edition

only EM64T	<b>Linux - Software *) **</b>
	- Red Hat EL (OEM): LO - Red Hat EL (Support): LS

 Details eg. version numbers are published in the separate SW-Configurator

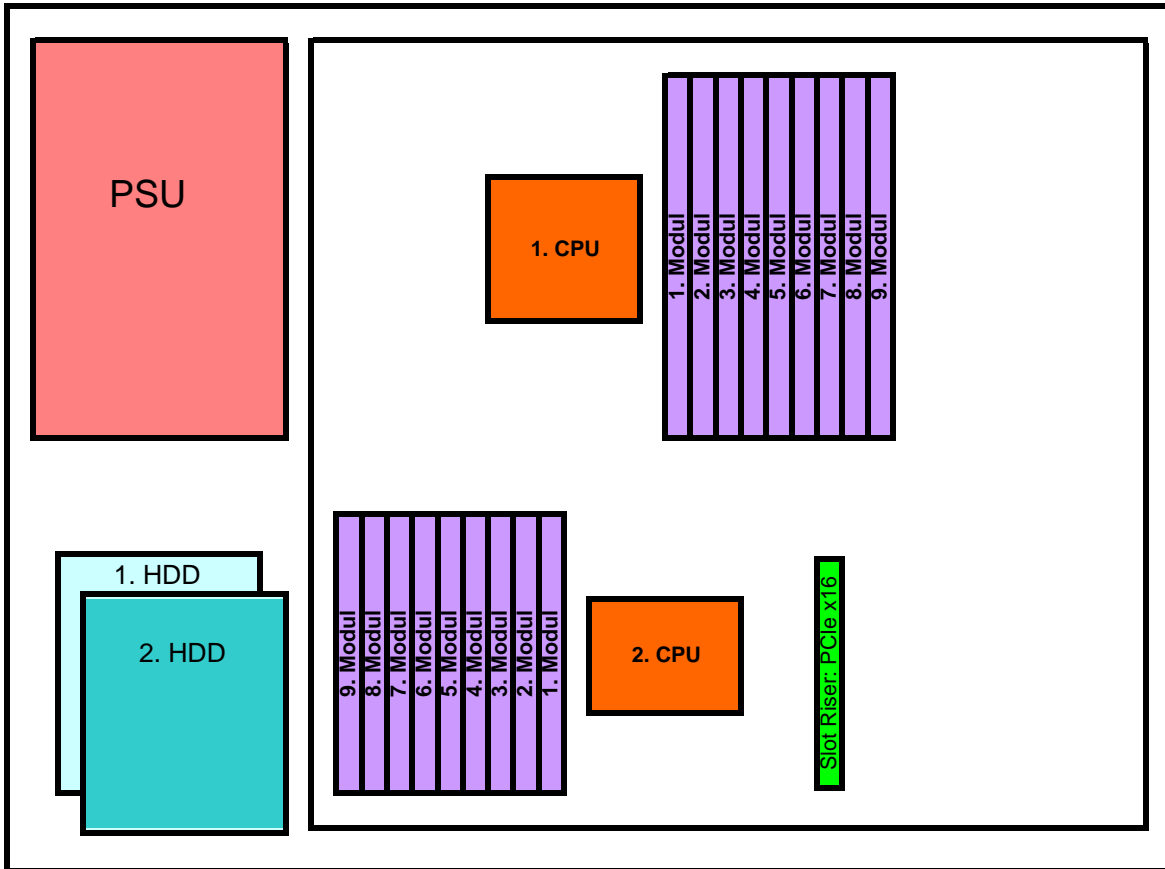
**You'll find single software configurators and release lists (OS-matrix / system management / security) under following addresses:**

for internal users: <http://sp.ts.fujitsu.com/dmsp/docs/osrel.xlsx>  
 for partners: <https://partners.ts.fujitsu.com/com/products/servers/primergy/Pages/default.aspx>

Continue with PRIMERGY  
HW configurator

## Configuration diagram PRIMERGY CX122

### Top View



Start PRIMERGY CX122 S1

**Section X SW Configurator 32 bit**

**with OEM-Software**  
for PRIMERGY Server

**VMware-Software**  
- VMWare Infrastructure 4

**without OEM-Software**  
for PRIMERGY Server

OEM-SW is bound to HW and is not allowed to be ordered separately.  
Exception: VMware SW

**i** For all SW products please refer to the corresponding software configurator accessible via the Extranet under Configuration & Tools, -All configurations, -Software, URL see below.

**PRIMECLUSTER \*)**  
- Clustering  
- Load Balancing

- Open Enterprise Server \*\*\*)  
- Red Hat EL (OEM): LO  
- Red Hat EL (Support): LS

**Manageability Software: V\*\*)**  
- IRMC advanced Pack

**i** Details eg. version numbers are published in the separate SW-Configurator

**i** \*\*\*\*) Supply over distribution or procurement from FSC VP BC Software

**They find single software configurators and release lists (OS-matrix / system management / security) under following addresses:**

**for internal users:** <http://sp.ts.fujitsu.com/dmsp/docs/osrel.xlsx>  
**for partners:** <https://partners.ts.fujitsu.com/com/products/servers/primergy/Pages/default.aspx>

**Continue with PRIMERGY HW configurator**

Start PRIMERGY CX122 S1


**Section XI SW Configurator 64 bit**

**with OEM-Software**  
for PRIMERGY Server

**without OEM-Software**  
for PRIMERGY Server

**VMware-Software**  
- VMWare Infrastructure 4


OEM-SW is bound to HW and is not allowed to be ordered separately.  
Exception: VMware SW

 For all SW products please refer to the corresponding software configurator accessible via the Extranet under "Configuration & Tools, -All configurations, -Software, URL see below.

**Microsoft - Windows Server: W**  
- Windows Server 2008 R2 Standard, Enterprise

**Linux - Software \*) \*\***  
- Red Hat EL (Support): LS

**only EM64T** **Manageability Software: V\*\***  
- IRMC advanced Pack

 Details eg. version numbers are published in the separate SW-Configurator

**You'll find single software configurators and release lists (OS-matrix / system management / security) under following addresses:**

**for internal users:** <http://sp.ts.fujitsu.com/dmsp/docs/osrel.xlsx>  
**for partners:** <https://partners.ts.fujitsu.com/com/products/servers/primergy/Pages/default.aspx>

**Continue with PRIMERGY HW configurator**

Section **XII** Basic unit**System unit consisting of:****\* 1U Housing including**

- Power supply unit with **one 400W PSU** module and automatic power connection at rear (80% plus Gold PSU)

**\* Fans**

- No FAN's in System Unit and Power supply needed

**\* Drives / Bays**

- **2x 2.5" SATA option**  
HDD are fixed mounted, RAID 0,1 possible  
supporting SATA 2

**\* iSCSI boot from BIOS level supported****Systemboard D2899 with:****\* Up to two Xeon Quad-Core or Turbo Quad Core CPU's ( Nehalem- or Westmere-EP, LGA 1366 socket ) with serial QPI links ( Quick Path Interconnect ) and three memory channels per CPU**

A CPU package containing always 2 CPUs has to be selected for an orderable basic unit,

**\* Chipset Intel® 5500 (codenamed Tylersburg-24D = Tylersburg-EN)****\* ICH10R Southbridge with onboard SATA-RAID 0/1 support****\* 1 PCIe slot via raiser card**

- 1x PCIe-2 x16 (Low Profile and Full height cards)

**\* 18 memory slots for max. 144GB with 8GB registered DDR3 RAM or max. 12GB with 2GB unbuffered DDR3 RAM available**

- Memory is divided into 9 DIMMs per CPU ( 3 channels per CPU in total 18 DIMM)
- Max. nine registered modules or six unbuffered modules are possible per CPU
- No mix of registered and unbuffered modules is allowed

**\* 2-port SATA controller on-board included in Intel Southbridge ICH10R for SATA Raid0/1, Max. 2 SATA HD's are supported****\* Dual Port 10/100/1000 Gigabit Ethernet Intel LAN controller 82576NS (Kawela) on-board****\* iRMC S2 (integrated Remote Management Controller) on-board server management controller with dedicated 10/100 Service LAN-port and integrated graphics controller.**

The Service LAN-port can be switched alternatively on standard Gbit LAN port 1

**\* Graphics Controller integrated in iRMC S2 (integrated Remote Management Controller):**

1600x1200x16bpp 60Hz, 1280x1024x16bpp 60Hz, 1024x768x32bpp 75Hz, 800x600x32bpp 85Hz, 640x480x32bpp 85Hz  
(1280x1024x24bpp 60Hz only possible if local monitor or remote video redirection is off)

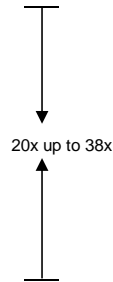
**A**

<b>Interfaces on the front:</b> * 2x RJ-45 GBE LAN connector * 1x RJ-45 10/100 Mbit service LAN * 2x USB 2.0 ( UHCI ) with <b>480MBit/s</b> , no USB wakeup * 1x VGA (15 pins) DB-15
<b>Interfaces internal:</b> * 2x SATA II interface for 2 SATA HD`s (fixed mounted) * 1x USB header 2.0 for UFM usage * 1x IPMB connector * One SSI-EEB compliant front panel header
<b>Cables:</b> 1. SATA cable for up to 2 internal HDDs
<b>Software:</b>

<b>Mounting kits for PRIMERGY CX122 S1</b> - integrated in CX1000 S1 for easy and tool less mounting connected automatically to power input
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<b>Base unit without CPU and Memory</b>	<b>S26361-K1378-V101</b>
Version for use in CX1000 S1 only	
1 power efficient power supply module	
Rack-mounting kit included in CX1000 S1	
For an orderable basic unit two CPU, eight memory modules has to be selected	

**i** Note: minimal 20 CX nodes per CX1000 has to be ordered ex factory  
 Max. are 38 CX nodes



<b>S26361-F1647-E122</b>
SINGLE PACKED CX Server node
for ordering "loose" shipments of CX Server nodes
includes packages for each server
to fill up CX1000 with additional CX server nodes
1x per CX122 in case of loose delivery

**B**

B

**Section XIII Processor**



There are 2 processor LGA1366 sockets available.  
 Both socket is are always equipped with **CPUs**  
 Max. DDR3 memory speed depends on the memory configuration on one memory channel and the speed of the CPU  
 One DIMM per channel = max. 1333MHz, two DIMMs per channel = max. 1333MHz,  
 with two quad rank DIMMs or each mix with quad rank DIMMs per channel = 800MHz  
 The memory channel with the lowest speed defines the speed of all CPU channels in the system,  
 also for the channels of the second CPU.  
 A multi-processor operating system is required for a dual-processor system.

**One of the following CPU packages (always 2 CPUs per package) have to be selected for an orderable basic unit**

<b>Quad-Core CPU's</b>	
- 1x 64-bit Intel Xeon (4MB shared TLC = Third Level Cache ) 800 MHz DDR3 Bus, 4,80 GT/s QPI Bus and passive heat sink	
<b>Xeon E5506 4C/2.13GHz/4M/4,8GT/s (80W)</b>	<b>S26361-F3644-E213</b>
<b>Quad-Core CPU's</b>	
- 1x 64-bit Intel Xeon (8MB shared TLC = Third Level Cache ) 1066 MHz DDR3 Bus, 4,80 GT/s QPI Bus and passive heat sink	
<b>Xeon E5606 4C/2.13GHz/8M/4,80GT/s (80W)</b>	<b>S26361-F3651-E213</b>
<b>Turbo Quad-Core CPU's</b>	
- 1x 64-bit Intel Xeon (12MB shared TLC = Third Level Cache ); Hyper-Threading (HT); 1066 MHz DDR3 Bus, 5,86 GT/s QPI Bus and passive heat sink	
<b>Xeon E5620 4C/2.40GHz/12M/5,86GT/s (80W)</b>	<b>S26361-F3635-E240</b>
<b>Turbo Six-Core CPU's</b>	
- 1x 64-bit Intel Xeon (12MB shared TLC = Third Level Cache ); Hyper-Threading (HT); 1333 MHz DDR3 Bus, 5,86 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
<b>Xeon E5645 6C/2.40GHz/12M/5,86GT/s (80W)</b>	<b>S26361-F3650-E240</b>
<b>Turbo Six-Core CPU's</b>	
- 1x 64-bit Intel Xeon (12MB shared TLC = Third Level Cache ); Hyper-Threading (HT); 1333 MHz DDR3 Bus, 6,40 GT/s QPI Bus and passive heat sink	
<b>Xeon X5650 6C/2.66GHz/12M/6,40GT/s (95W)</b>	<b>S26361-F3646-E266</b>
<b>Xeon X5670 6C/2.93GHz/12M/6,40GT/s (95W)</b>	<b>S26361-F3646-E293</b>
<b>Xeon X5675 6C/3.06GHz/12M/6,40GT/s (95W)</b>	<b>S26361-F3646-E306</b>
<b>Low Voltage Turbo Quad/Six-Core CPU's with max. DDR3 Bus Speed 1066MHz</b>	
- 1x 64-bit Intel Xeon (12MB shared TLC = Third Level Cache ); Hyper-Threading (HT); 1066 (L5630) / 1333 (L5640) MHz DDR3 Bus, 5,86 GT/s QPI Bus and passive heat sink	
<b>Xeon L5630 4C/2.13GHz/12M/5,86GT/s (40W)</b>	<b>S26361-F3647-E213</b>
<b>Xeon L5640 6C/2.26GHz/12M/5,86GT/s (60W)</b>	<b>S26361-F3624-E226</b>

**Note: Max. DDR3 Bus Speed depends on:**  
 - max. DDR3 Bus Speed from the CPU and  
 - max. DDR3 Memory Speed and  
 - max. memory modules on one memory channel

on special release

C

C

**Section XIV Memory**



- There are 9 memory slots for max. 72GB registered (reg) DDR3 RAM per CPU available with 8GB RDIMMs or max. 6GB unbuffered (ub) DDR3 RAM per CPU available with 2GB LVUDIMMs  
 => max. 144GB registered or 12GB unbuffered RAM for two CPU's possible  
 ( For explanation of following terms refer to section "Memory Configurations"
- The memory area is divided into 3 channels per CPU in a 3 DIMM per channel configuration

Registered and unbuffered memory modules can be selected  
 No mix of registered and unbuffered modules allowed.

With two DIMMs per channel only 1066MHz is possible independent of the module speed.  
 SDDC (Chipkill) is supported only for registered memory modules.

- For each System minimum 6 memory modules has to be configured (one DIMM package)

**Following memory configuration are possible**

- S26361-F3637-E563 6x 2GB LVUDIMM x8 1333MHz PC3L-10600E (on special release) (1x per CX122)
- S26361-F3636-E564 6x 4GB RDIMM single-rank 1333 MHz PC3-10600 rg d ECC memory module (1x; 2x or 3x per CX122)
- S26361-F3636-E565 6x 8GB RDIMM dual-rank 1333 MHz PC3-10600 rg d ECC memory module (1x; 2x or 3x per CX122)

Registered DIMMs	DIMM slots used		
	6	12	18
<b>Memory Package</b>	<b>configured memory capacity /w 2 CPUs</b>		
1 x (6 x 4GB)	24 GB	-	-
2 x (6 x 4GB)	-	48 GB	-
3 x (6 x 4GB)	-	-	72 GB
1 x (6 x 8GB)	48 GB	-	-
2 x (6 x 8GB)	-	96 GB	-
3 x (6 x 8GB)	-	-	144 GB
<b>Unbuffered DIMMs</b>	<b>LV UDIMM capacity /w 2 CPUs</b>		
1 x (6 x 2GB)	12 GB	-	-

**Registered (reg) RDIMMs (1.5V)**

DDR3 1333 MHz PC3-10600 rg ECC memory module	
6x 4GB (1333MHz/SR)	S26361-F3636-E564
6x 8GB (1333MHz/DR)	S26361-F3636-E565
max. 3x per System	



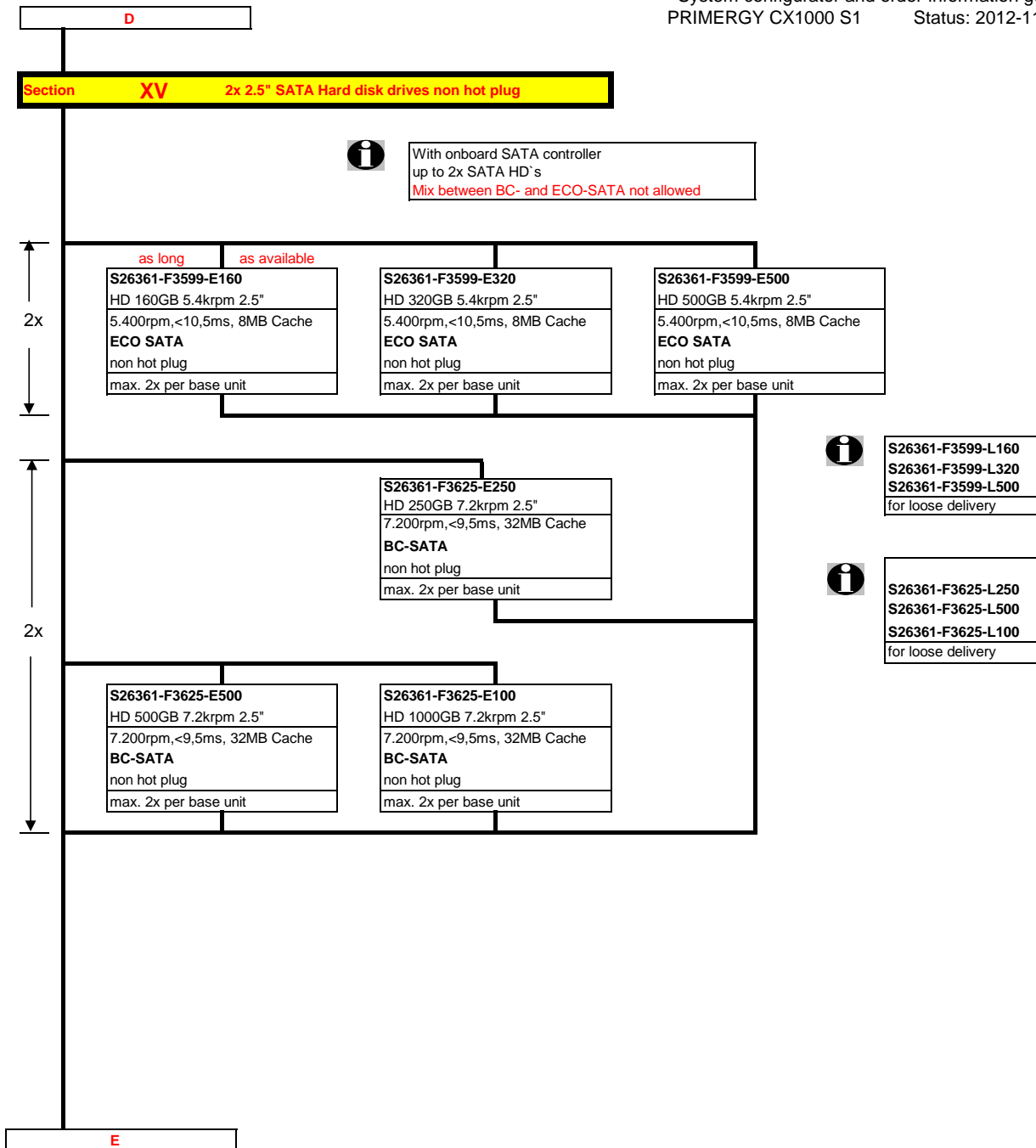
S26361-F3636-L564  
 S26361-F3636-L565  
 S26361-F3637-L563  
 for loose delivery  
 6 DIMMs per package

**Unbuffered (ub) LV UDIMMs (1.35V)**

DDR3 LV 1333 MHz PC3-10600 ub ECC memory module	
6x 2GB	S26361-F3637-E563
<b>on special release only</b>	
<b>No Chipkill</b>	
max. 1x per System	

D





E

**Section XVI Communication / Network / CNA / IB**

**2x 1Gbit on-board LAN Controller**

Gigabit Ethernet Controller on-board  
 Dual Port Gbit LAN controller  
 Intel 82576NS (Kawela) \*  
 ext: for RJ 45-connector  
 SW: AFT, VLAN, Fast Channel



**Teaming: Failover, Load Balancing**

The Intel LAN Controllers 1000TX and 1000SX can be used with the on-board controller in Teaming Mode.

\* Supporting iSCSI boot (also diskless) by system BIOS and native iSCSI initiators

RMC S2 (integrated Remote Management Controller) onboard server management controller with dedicated 10/100 Service LAN-port and integrated graphics controller. The Service LAN-port can be switched alternatively on standard Gbit LAN port

**S26361-F1790-E249**

**CX122 remote management**

integrated remote management controller activation key for graphical console redirection and remote media redirection  
 max. 1x per CX1000 system



Requires additional LAN Switch  
 Type 2 or Type 4 cabling shall be ordered



to be ordered 1x at CX1000 level for activating 38x CX122 ex factory only key is for one CX rack with CX122 nodes no loose delivery on rack level

1 slots PCIe x16 available via riser card

**A) 2-Port Copper PCIe Adapter 1000TX**

**S26361-F3610-E2**

(Kawela dual)  
 Gigabit Ethernet Controller Dual 1000TX  
 Eth Ctrl 2x1Gbit PCIe x4 KN Cu  
 Intel Kawela based 2 port Server Adapter  
 PCIe x4  
 ext: for RJ45-plug, Cat 5  
 max. 1x per system



A riser card is part of the basic configuration



Requires 2 additional LAN Switches  
 Type 3 or Type 4 cabling shall be ordered

**S26361-F3610-L502**

for loose delivery

**B) 4-Port Copper PCIe Adapter 1000TX**

**S26361-F3611-E1**

(Barton Hills Quad)  
 Gigabit Ethernet Controller Quad 1000TX  
 Eth Ctrl 4x1Gbit PCIe x4 BH Cu  
 Intel Barton Hills based 4 Port Server Ad.  
 PCIe x4  
 ext: for RJ45-plug, Cat 5  
 max. 1x per system



Requires 2 additional LAN Switches  
 Type 3 or Type 4 cabling shall be ordered

**S26361-F3611-L501**

for loose delivery

**C) 10 Gigabit Ethernet Contr. dual port SFP+**

**S26361-F3629-E2**

(D2755)  
 10 Gigabit Ethernet Contr. dual port SFP+  
 Eth Ctrl 2x10Gbit PCIe x8 D2755 SFP+  
 Intel Niantic based dual port 10Gb NIC  
 PCIe x8, Low Profile, Full Height Bracket  
 ext: 2x SFP+ cage  
 max. 1x per system



The controller is delivered without SFP+ modules for optical cables, these must be ordered separately. Without SFP+ modules copper twinax cables are supported.

The adapter is also available as loose delivery with FH and LP bracket included: S26361-F3629-L502

2  
4  
4  
4



The SFP+ Module is also available as loose delivery S26361-F3986-L3  
 Instead SFP+ Modules, SFP+ twinax cables from the switch vendors may be used

**S26361-F3986-E3**

SFP+ Module MMF 10GbE LC  
 SFP+ module for 10 Gbit Ethernet FO cabling  
 ext:LC-connector  
 max. 2x per adapter

F

F

**C) 10 Gbit/s CNA dual port SFP+**

<b>S26361-F3592-E202</b>
10Gbit/s CNA
Emulex
OCe10102
2 channel 10Gbit/sec CNA
SFP+ Cage
PCIe x8, 170mm
max. 1x per system

**S26361-F3592-L2**  
for loose delivery

**i** All controllers for the connection of external storage systems are delivered without cables. For the configuration of external cabling see the configurator for external storage systems.

<b>S26361-F3592-E108</b>
SFP+ Module MMF 10GbE LC
SFP+ module for 10 Gbit
Ethernet FO cabling
ext:LC-connector
max. 2x per adapter

**i** The SFP+ Module is also available as loose delivery S26361-F3592-L108. Instead SFP+ Modules, SFP+ twinax cables from the switch vendors may be used.

**D) InfiniBand HCA's**

<b>S26361-F4475-E102</b>
IB HCA 40Gb 1 port QDR
IB HCA 1x 40Gb
PCIe 2.0 (5,0GT/s)
PCIe x8, low profile
ext: 1x QSFP-connector
max. 1x per system

**S26361-F4475-L102**  
for loose delivery

**i** There is no IB Switch on offer for CX1000 S1. Any IB cabling or Switch needs to be installed in an separate Rack. Cabling possibilities to external IB Switch are described in the PRIMECENTER Rack Configurator. Nevertheless an IB switch can be released on special project release.

**i** Low Profile PCIe form factor with exchangeable Full Height (FH) or Low Profile (LP) bracket

<b>S26361-F3996-E500</b>
InfiniBand Cu Cable 40Gb customized
QSFP, 1m and 3m
max. 1x per adapter

**i** If additional length of copper cable or optical cable are needed, then they must be ordered from the cable vendor directly. Copper cable are also available for loose delivery as S26361-F3996-L101, QSFP, 40Gb, 1m S26361-F3996-L103, QSFP, 40Gb, 3m

<b>S26361-F4475-E202</b>
IB HCA 40Gb 2 port QDR
IB HCA 2x 40Gb
PCIe 2.0 (5,0GT/s)
PCIe x8, low profile
ext: 2x QSFP-connector
max. 1x per system

**S26361-F4475-L202**  
for loose delivery

**i** Low Profile PCIe form factor with exchangeable Full Height (FH) or Low Profile (LP) bracket

<b>S26361-F3996-E500</b>
InfiniBand Cu Cable 40Gb customized
QSFP, 1m and 3m
max. 2x per adapter

**i** If additional length of copper cable or optical cable are needed, then they must be ordered from the cable vendor directly. Copper cable are also available for loose delivery as S26361-F3996-L101, QSFP, 40Gb, 1m S26361-F3996-L103, QSFP, 40Gb, 3m

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Section **XVII** External USB devices



If installation is done locally, make sure you have USB stick available for driver installation.

Following USB Components are available		
1) USB DVD SM / Blu-Ray	as soon as available	
External SuperMulti Drive		S26361-F103-L119
External Blu-Ray Drive		S26361-F103-L120
2) USB Keyboard:		S26381-K340-V120
KBPC PX D, professional keyboard		
3) USB Mouse:		S26381-K430-L100
Laser Moue USB/PS2 Combo		
4) USB Sticks:		
MyUSBS A910 8GB, MLC Flash		S26391-F6048-L208
MyUSBS A910 16GB, MLC Flash		S26391-F6048-L216

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**Section XVIII Network Switches**

**i** Switches to be configured via System Architect.

**i** Integration of 3rd party switches possible:  
 As default switch we will offer Brocade FCX648S switches but customers switches are possible as well.  
 For that they must be not deeper than 650mm, 19" formfactor, max. 2U.heigh and shall offer minimal 40 port and max. power consumption of 150 Watt allowed, vertical mounting possible and supported by switch vendor etc.. to ensure physical mounting and fitting into Ben Nevis. In the side mounting space one can mount either 6x 1U switches or 3x 2U switches.

<b>D:FCSW-648S</b>
FCX648S
IP L2/L3 switch (BROCADE) with 19"-RMK (US/EIA???) with 44 downlink ports IP 1G Cu RJ45 with 4 uplink ports either 1G Cu /SFP slot with 1 slot for IP10G Module (2 XFP ports) with 1 PSU (2 possible) with 1 fan unit with 1 stack cable 0,5m all SW included

<b>D:FCSW-648S-PSU</b>
RPS13
2nd PSU for redundancy

<b>10G</b> <i>max 2x</i>	<b>D:FCSW-MODUL10G2</b>
	FCX-2XG 2x10GbE XFP Modul IP 10G mit 2 XFP slots, no XFP

<b>D:FCSFP-BLS10-03</b>
10G-XFP-SR
XFP MMF 300m, requires OM3 cabling

<b>D:FCSFP-BLS10-15</b>
10G-XFP-CX4
XFP CX4 Copper 15m, requires CX4 cabling

**i** the number of copper ports is reduced by the number of SFP port used

<b>1G</b> <i>max 4x</i>	<b>D:FCSFP-BL-S1-05</b>
	E1MG-SX SFP IP1G MMF 500m, requires OM3 cabling

**i** The first Switch port used for cabling to the servers is always Switch port #5.  
 To eliminate any interference with use of 1GB SFP ports

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## Change Report

Date	Order number	Changes
2011-11-21	S26361-K1348-V101	CX120 S1 is EOL now all volumes sold out
2011-11-21	S26361-F3599-E160	as long as available, latest Begin of 2012
2011-10-01	S26361-F3625-E250	new BC SATA HD - now available
2011-08-03	S26361-F3629-E2	Add 10GbE Modular LAN for CX122, delete former EOL 10GbE Ctr.
2011-08-03	S26361-F3625-E100	Added for CX120
2011-08-03		reworked IB part for CX120 & CX122
2011-08-03	S26361-F3677-E1	added bracket kit switches
2011-06-08	S26361-F3652-E240	Added CPU Xeon E5620 within CX120 S1
2011-06-08	S26361-F3646-E266	Added CPU Xeon X5650 within CX122 S1
2011-05-03	S26361-F3610-E2/L502	Formal change from E2 / L501
2011-03-15		Correction colour codes for RMU and LAN Switch 6 power wiring
2011-01-27	S26361-F3646-E306	Correction on CPU order codes for CX122 S1
2011-01-26		insert option 20 to 38 CX nodes allowed per CX1000
2011-01-26	S26361-F3610-E1	added for CX120 as successor
2011-01-10		Westmere-EP Refresh CPUs added for CX120 S1 & CX122 S1
2010-11-16		Added Frontdoor, Earthquake kit, 6. LAN Switch cabling etc.
2010-11-01		New Serverblade CX122 S1 - as soon as available
2010-07-22	S26361-F3598-E515/E514	add 8GB / 4GB Memory configuration son special request
2010-07-21	S26361-F4475-E202	IB Card added to configurator
2010-06-16	S26361-F3623-E266	XEON X5650 CPU on special release added
2010-06-11	S26361-F2735-E130 / E131	Dummy pannels added for covering open switch bays
2010-03-30	S26361-F1647-E120	Server demounting fee
2010-03-01		First release