

PRIMERGY RX200 S8

System configurator and order-information guide

June 2014

Contents

4x 2.5" Hot-plug HDD or SSD



8x 2.5" Hot-plug HDD or SSD



Instructions

Configuration c

Configurator

- 0 System software
- I Basic unit
- II Processor
- III Memory
- IV Graphics
- V Accessible drives
- VI Drive Bay for 4x /8x 2.5" HD Basic Unit
- VII Modular Raid 0/1, Raid5 for 4x 2.5" / 8x 2.5" SAS or SATA HD's.
On-board Controller for 4x 2.5" SATA or SAS HD`s
- VIII 4x or 8x 2.5" SAS / SATA Hard disk drives
- IX External SAS Disk Array, SAS backup drives or SCSI peripheral devices
- X Fibre-Channel controller
- XI Communication/Network
- XII System Management Products (RemoteView)
- XIII Miscellaneous
- XIV Country specific power cord

Change report

PRIMERGY Server

Instructions

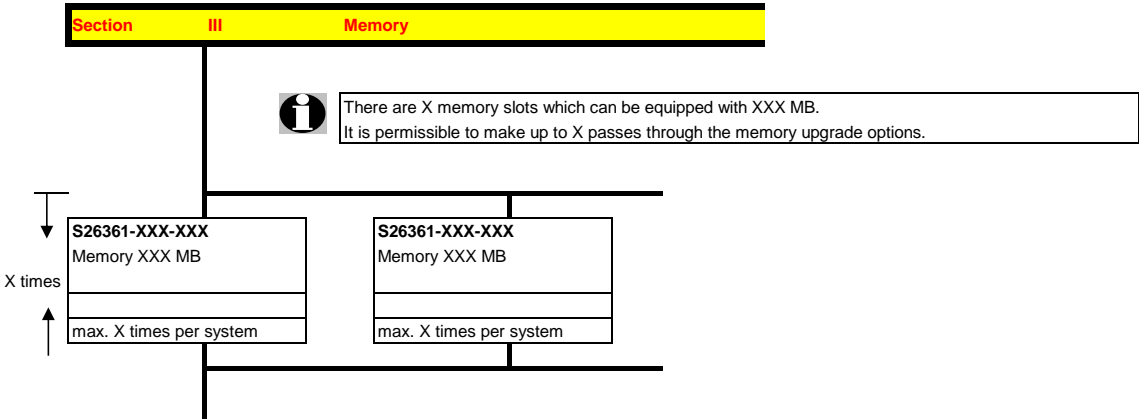
This document contains basic product and configuration information that will enable you to configure your system via PC-/SystemArchitect.

Only these tools will ensure a fast and proper configuration of your PRIMERGY server or your complete PRIMERGY Rack system.

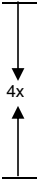
You can configure your individual PRIMERGY server in order to adjust your specific requirements.

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

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 4x) as the arrow indicates.



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



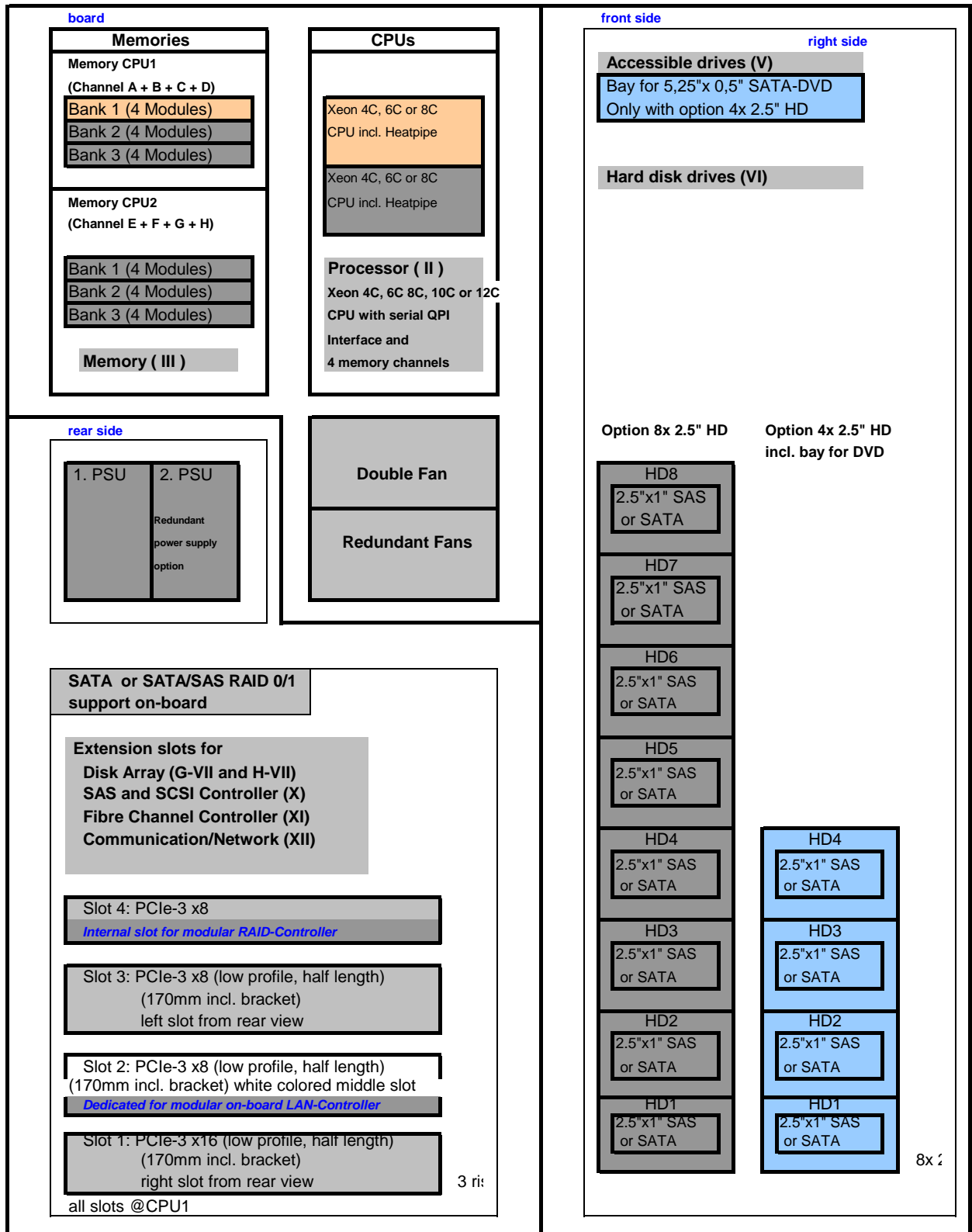
For further information see:

- http://ts.fujitsu.com/products/standard_servers/index.html (internet)
- https://partners.ts.fujitsu.com/com/order-supply/configurators/primergy_config/current/Pages/default.aspx (extranet)

Prices and availability see price list and PC-/SystemArchitect. Subject to change and errors excepted.

Configuration diagram PRIMERGY RX200 S8

System unit (I)



Key: Included in basic unit or = Option

One CPU (first CPU) and one memory (first memory) has to be selected for an orderable basic unit.

Start PRIMERGY RX200 S8

SW Configurator 32 bit

with OEM-Software
for PRIMERGY Server

without OEM-Software
for PRIMERGY Server

VMware-Software
 - VirtualCenter Management Server
 - vSphere products


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

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 **)
 - SuSE Linux ES (OEM): LO
 - Red Hat Enterprise Linux RHEL (OEM): LO


x10sure *)
 x10sure Control Nodes and Compute Nodes
 for PRIMERGY BX600, RX/TX

MultiPath, Duplex Data Manager (DDM)
 for PRIMERGY except all mono PY systems
 No WS2012 support

 Details eg. version numbers are published on the page referred to


Manageability Software: V)**
 - iRMC advanced Pack
 - RemoteView Software
 - RemoteView Service Board
 - RemoteView Diagnosis
 - RemoteDeploy

 *) Pay attention to the x10sure release and ordering information in the Extranet under <https://ts.fujitsu.com/x10sure>

 *) Pay attention to the PRIMECLUSTER release and ordering information in the Extranet under <https://partners.ts.fujitsu.com/com/products/software/cluster%20technology/primecluster/Pages/default.aspx>

 **) Pay attention to release and order information in PRINCE -> Operating System <https://partners.ts.fujitsu.com/com/products/servers/primerq/Pages/default.aspx>

Backup-Software / Application-Software: U
 - ARCserve
 - openSM2

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

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/primerq/Pages/default.aspx>

Continue with PRIMERGY HW configurator

Start PRIMERGY RX200 S8

SW Configurator 64 bit

with OEM-Software for PRIMERGY Server

without OEM-Software for PRIMERGY Server

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.

OEM- SW is bound to HW and is not allowed to be ordered separately.
 Exceptions: VMware SW, Citrix XenServer

VMware-Software
 - VirtualCenter Management Server
 - vSphere products

Citrix XenServer / Essentials for XenServer
 - XenCenter Management Server for any server released for Windows 2000/XP/Vista and Server 2003/2008
 - XenServer and Essentials for XenServer released for RX200S5, RX300S4/S5, RX600S4, BX620S4/S5, BX920S1

Microsoft - Windows Server 2012 CAL Licenses
 - Windows Server 2012 CAL, User or Device
 - Windows Server 2012 RDS CAL, User or Device

Linux - Software *) **)
 only EM64T
 - SuSE Linux ES (OEM): LO
 - Red Hat Enterprise Linux RHEL (OEM): LO

Microsoft - Windows Server 2012 Server
 - Windows Server 2012 Datacenter
 - Windows Server 2012 Standard

Microsoft - Windows Server 2008 R2 Server or Downgrade Kit
 - Windows Server 2008 R2 Datacenter
 - Windows Server 2008 R2 Enterprise
 - Windows Server 2008 R2 Standard

Microsoft - Windows Server 2008 Downgrade Kit
 - Windows Server 2008 Datacenter
 - Windows Server 2008 Enterprise
 - Windows Server 2008 Standard

only EM64T
 MultiPath, Duplex Data Manager (DDM)
 Windows 2008 / 2008 R2
 No WS2012

i Details eg. version numbers are published on the page referred to

only EM64T
Manageability Software: V)**
 - iRMC advanced Pack
 - RemoteView Software
 - RemoteView Service Board
 - RemoteView Diagnosis
 - RemoteDeploy

i *) Pay attention to the PRIMECLUSTER release and ordering information in the Extranet under <https://partners.ts.fujitsu.com/com/products/software/cluster%20technology/primecluster/Pages/default.aspx>

i **) Pay attention to release and order information in PRINCE -> Operating System <https://partners.ts.fujitsu.com/com/products/servers/primergy/Pages/default.aspx>

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

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

Start PRIMERGY RX200 S8

Section | Basic unit



System unit consisting of:

- * **1U Housing without power supply modules**
(PSU has to be configured min 1x)
- * **Fans**
 - Redundant and hot plug system double-fans **4x** for 1 CPU / **6x** for 2 CPU configuration (n+1 redundancy)
- * **SAS Backplanes for 4x or 8x 2.5" HDD**
with cable connection to on-board or modular RAID Controller
- * **Drives / Bays**
 - **4x 2.5" SAS / SATA HDD or 8x 2.5" SAS / SATA HDD option**
 - 1 bay SATA DVD-ROM 0,5" height (option if 4x 2.5" HDD only)
- * **Integrated ServerView Diagnostics Technology (Diagnosis LED's) for indication of internal failed components**


Systemboard D3302 with:

- * **Up to two Xeon DP CPU's (Socket-R)**
with 2 serial QPI links (Quick Path Interconnect) and four memory channels per CPU
First CPU has to be selected for an orderable basic unit,
- * **Chipset Intel® C600 Series (codenamed Patsburg)**
- * **4 PCIe slots**
 - 2x PCIe-3 x8 (Low Profile cards)
 - 1x PCIe-3 x16 (Low Profile cards)
 - 1x PCIe-3 x8 internal for modular RAID controller only
- * **24 memory slots for max. 1.536GB RAM DDR3 available**
 - Memory is divided into 12 DIMMs per CPU (4 channels with 3 slots per channel)
Possible max. configurations are:
24x 64GB LRDIMM (eight rank modules) = 1536GB
16x 16GB RDIMM quad rank modules) = 384GB
16x 8GB UDIMM (dual rank modules) = 128GB (on special Release only)
First Memory (one module) has to be selected for an orderable basic unit per CPU
 - Memory upgrade is possible module wise
 - Memory mirroring is supported with 2 identical modules in channel A+B/C+D CPU 1 or E+F/G+H CPU 2
 - Rank sparing mode is supported with min. 2x 1R/2R or 1x 4R modules for RDIMM or LRDIMM
 - SDDC (Chipkill) is supported for RDIMMs (except x8 organisation) and LRDIMMs,
- * **Dual Port 10/100/1000 x4 PCI Express* Gigabit Ethernet Intel LAN controller Powerville on-board**
- * **iRMC S4 (integrated Remote Management Controller) on-board server management controller with dedicated 10/100/1000 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 S4 (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

A

<p>Interfaces at the rear:</p> <ul style="list-style-type: none"> * 1x VGA (15 pins) * 3x USB 2.0 (UHCI) with 480MBit/s, no USB wakeup * 2x LAN RJ45, 1x Service-LAN RJ45
<p>Interfaces on the front:</p> <ul style="list-style-type: none"> * 2x USB 2.0 (UHCI) with 480MBit/s, no USB wakeup * 1x VGA (15 pins) as an option * 1x Service-LAN RJ45 as an option
<p>Interfaces internal:</p> <ul style="list-style-type: none"> * 1x USB 2.0 (UHCI) with 480MBit/s for dongle functionality (uSSD memory), no USB wakeup * 1x SATA interface for DVD (only usable with 4x 2.5" HDD baseunit + DVD Option) * 4x SATA/SAS interface for 4 SATA/SAS HD's (only usable for 4x 2.5" HDD baseunit) * 2x USB 2.0 ports for internal USB redirection connected to BMC
<p>Software:</p> <ul style="list-style-type: none"> - ServerView Suite Software package incl. ServerStart, ServerBooks, Management Software and Updates - Documentation engl. (multilingual on CD)

 **Note: Rack Mounting kit and Power Cord for RX200S8 is not included in the basic unit and has to be configured separately**

 **Cables included in basic unit**

Connections	Cable	PRIMERGY RX200 S8	
1. SATA DVD			(optional)
2. 4-port SAS cable HDDs			
3. 4-port SAS cable HDDs			(optional)

Key:
 SAS
 SATA

Conditions for SATA cable and one ore two 4-port SAS cables see description "Cables" above

B

B

Rack version for 19" racks with
No PSU included in Base Unit
 For an orderable basic unit one CPU = first CPU,
 one memory = first memory
 one PSU = first PSU as well as

Basic unit with 4x 2,5" HDD + ODD Bay	S26361-K1455-V101
Basic unit with 8x 2,5" HDD bays, no ODD bay	S26361-K1455-V201



Full redundancy cannot be guaranteed for a max. config. with e.g. two 130W CPUs with 450W PSUs. In this case SysArch will generate a warning and PowerSafeguard will throttle CPUs and memory in case of a PSU failure. So, power consumption will be limited to 450W.

as soon as available

S26113-F575-E12 450W PSU module platinum 1st or 2nd PSU for redundancy 94% efficiency (platinum) uses hot plug PSU slot min. 1 / max. 2x per system

S26113-F574-E12 800W PSU module platinum 1st or 2nd PSU for redundancy 94% efficiency (platinum) uses hot plug PSU slot min. 1 / max. 2x per system

S26113-F615-E10* 800W PSU module titanium 1st or 2nd PSU for redundancy 96% efficiency (titanium) uses hot plug PSU slot min. 1 / max. 2x per system
--

*** 110V range not supported**

S26113-F574-E99 * Power Supply Dummy must be ordered if 1x PSU only occupies one bay for hot plug power supply max. 1x per system

For later redundancy upgrade the following kit is available:	
One 450W power supply module hot plug no power cable included!!!	S26113-F575-L12
One 800W power supply module hot plug no power cable included!!!	S26113-F574-L12
One 800W power supply module titanium no power cable included!!!	S26113-F615-L10
Please order appropriate power cord additionally: Powercord for rack, 4m, grey, IEC320 C13->C14 connector Power Cord USA / Canada, 1.8m, grey	
	T26139-Y1968-L10 T26139-Y1742-L10



as soon as available

***For order completeness only**
 Not shown in system architect
 Version > V9.2



Be aware of import restrictions!
 Loose delivery for later
 integration possible for customer.

S26361-F3552-E1 TPM Module Trusted Platform Module on Motherboard Use according to import restrictions max. 1x per system
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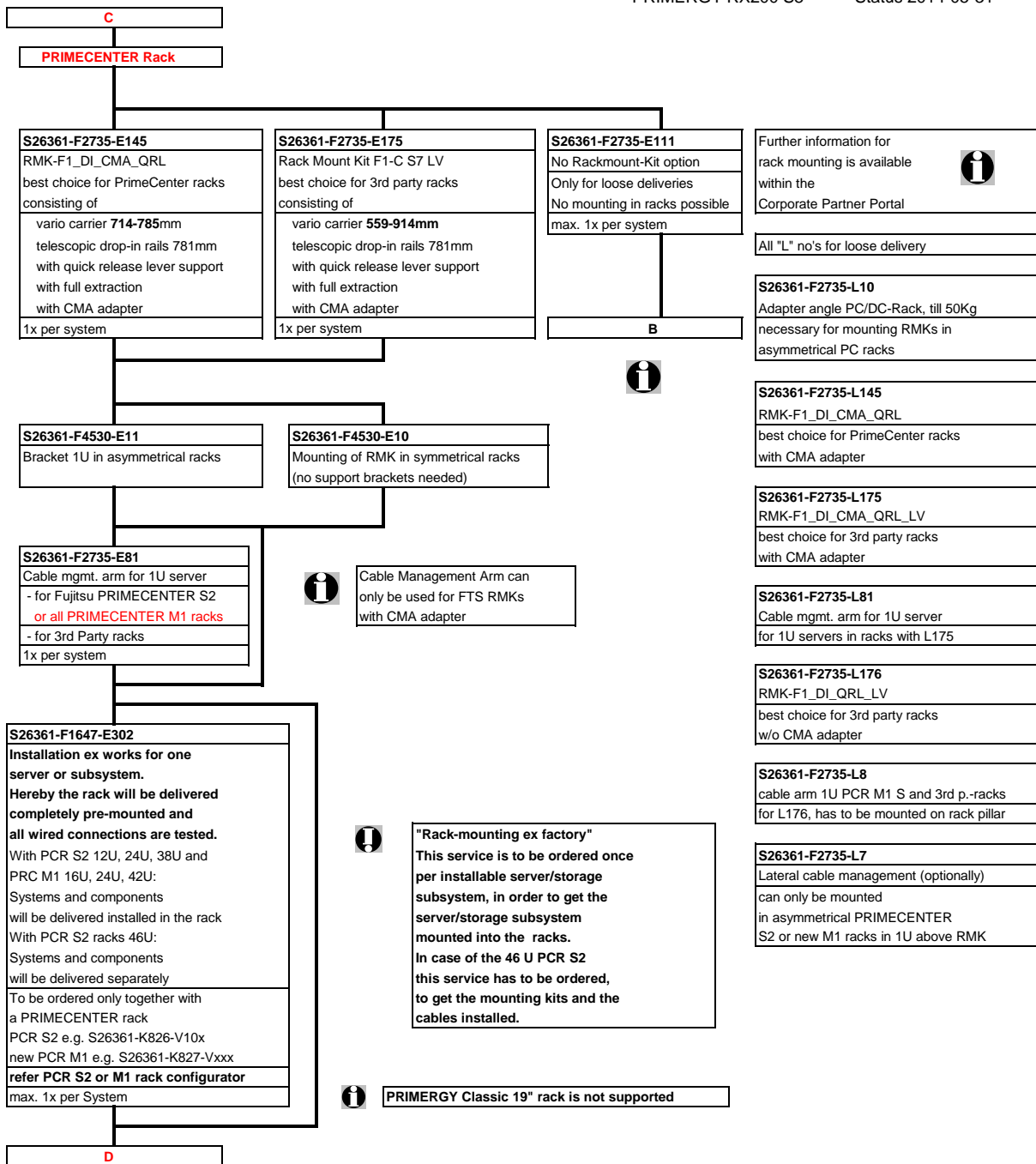
S26361-F3552-L1 TPM Module add-on kit for later integration (loose delivery) Trusted Platform Module on Motherboard Use according to import restrictions max. 1x per system

S26361-F1386-E120 Hot Plug Fan kit (2 double fans) Fan upgrade kit for CPU mandatory, if 2nd CPU or 1st CPU (115W or 130W) or Cool-safe ATD is configured ex factory max. 1x per system
--



For later upgrade to 2nd CPU (bulk delivery) two fans are included in CPU upgrade kit

C



D

Section Processor



There are 2 processor sockets available.
 The first socket is always equipped with the **first CPU** which can be selected via configurator
 It is also possible to upgrade a dual-processor system later on with a **second CPU**
Two processors with different type are not possible
If 1CPU with a TDP >= 115W is used, the hot plug redundant fan kit (S26361-F1386-E120) is required.
If 2CPUs are used, the hot plug redundant fan kit (S26361-F1386-E120) is required.
If Cool-safe Advanced Thermal Design is used, the hot plug redundant fan kit (S26361-F1386-E120) is required.
 A multi-processor operating system is required for a dual-processor system.

Max. two CPU's can be selected per basic unit	
One of following CPU's has to be selected as first CPU for an orderable basic unit	
Optional second CPU has to be the same type like the first CPU	
Basic 4C CPU's	
- 1x 64-bit Intel Xeon (10MB Smart Cache) 1333 MHz DDR3 Bus; 6,40 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2603v2 4C/4T 1.80GHz 10MB 6.40GT/s 1333MHz 80W	S26361-F3800-E180
Xeon E5-2609v2 4C/4T 2.50GHz 10MB 6.40GT/s 1333MHz 80W	S26361-F3800-E250
Standard Turbo 6C/8C CPU's	
- 1x 64-bit Intel Xeon (15/20MB Smart Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus; 7,20 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2620v2 6C/12T 2.10GHz 15MB 7.20GT/s 1600MHz 80W	S26361-F3801-E210
Xeon E5-2630v2 6C/12T 2.60GHz 15MB 7.20GT/s 1600MHz 80W	S26361-F3801-E260
Xeon E5-2640v2 8C/16T 2.00GHz 20MB 7.20GT/s 1600MHz 95W	S26361-F3801-E200
Advanced Turbo+ 8C/10C CPU's	
- 1x 64-bit Intel Xeon (20/25MB Smart Cache); Hyper-Threading (HT); 1866 MHz DDR3 Bus; 8,00 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2650v2 8C/16T 2.60GHz 20MB 8.00GT/s 1866MHz 95W	S26361-F3802-E260
Xeon E5-2660v2 10C/20T 2.20GHz 25MB 8.00GT/s 1866MHz 95W	S26361-F3802-E220
Xeon E5-2670v2 10C/20T 2.50GHz 25MB 8.00GT/s 1866MHz 115W	S26361-F3802-E250
Xeon E5-2680v2 10C/20T 2.80GHz 25MB 8.00GT/s 1866MHz 115W	S26361-F3802-E280
Xeon E5-2690v2 10C/20T 3.00GHz 25MB 8.00GT/s 1866MHz 130W	S26361-F3802-E300
Segment Optimized CPU's	
- 1x 64-bit Intel Xeon (15/25/30MB Smart Cache); Hyper-Threading (HT); 1866 MHz DDR3 Bus; 8,00 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2637v2 4C/8T 3.50GHz 15MB 8.00GT/s 1866MHz 130W	S26361-F3803-E350
Xeon E5-2643v2 6C/12T 3.50GHz 25MB 8.00GT/s 1866MHz 130W	S26361-F3803-E330
Xeon E5-2667v2 8C/16T 3.30GHz 25MB 8.00GT/s 1866MHz 130W	S26361-F3803-E300
Xeon E5-2695v2 12C/24T 2.40GHz 30MB 8.00GT/s 1866MHz 115W	S26361-F3803-E240
Xeon E5-2697v2 12C/24T 2.70GHz 30MB 8.00GT/s 1866MHz 130W	S26361-F3803-E270
Low Power 6C/10C CPU's	
- 1x 64-bit Intel Xeon (15/25MB Smart Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus; 7,20/8,00 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2630Lv2 6C/12T 2.40GHz 15MB 7.20GT/s 1600MHz 60W	S26361-F3804-E240
Xeon E5-2650Lv2 10C/20T 1.70GHz 25MB 8.00GT/s 1600MHz 70W	S26361-F3804-E170



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
 For CPUs which do not offer 1866 MHz support, (Basic, Standard & Low Power class), System Architect will not offer memory modules supporting this frequency.

E

E

Section III Memory



<p>- There are 12 memory slots per CPU for max. 768GB LRDIMM (12x 64GB 8R) 192GB RDIMM (12x 16GB 2R) 64GB UDIMM (8x 8GB) on special Release only => max. 1.536GB for two CPU's (768GB per CPU), using LRDIMM</p> <p>- The memory area is divided into 4 channels per CPU with 3 slots per channel - Slot 1 of each channel belongs to memory bank 1, the slot 2 belongs to memory bank 2, slot 3 belongs to memory bank 3</p>
<p>Registered, LR DIMMs and unbuffered memory modules can be selected No mix of registered, load reduced and unbuffered modules allowed. Memory can be operated at 1.5V or 1.35V, even if the modules are of low voltage type. Memory operating voltage can be set within BIOS (1.5V is default setting for max. speed). In a single DIMM per channel configuration, following frequencies are supported: - 1.5V - 1866MHz max (depending on CPU) - 1.35V - 1600MHz max (depending on CPU, up to two LRDIMM per channel) - 1.35V - 1333MHz max (up to two UDIMM or RDIMM per channel) In a 3 DIMMs per channel configuration, memory will operate at 1.35V or 1.5V (no UDIMM allowed). SDDC (Chipkill) is supported for registered / load reduced x4 organized memory modules only</p>
<p>1.) In the "Independent Channel Mode" is following configuration possible Channels can be populated in any order in Independent Channel Mode. All four channels may be populated in any order and have no matching requirements. All channels must run at the same interface frequency but individual channels may run at different DIMM timings (RAS latency, CAS latency, and so forth) No mix of registered, load reduced and unbuffered modules allowed.</p>
<p>2.) "Rank Sparing Mode" configuration - Within a memory channel, one rank is a spare of the other ranks. The Spare Rank is held in reserve and is not available as system memory For the effective memory capacity, please refer to the spreadsheet below. The BIOS is set to the rank sparing setting. Minimum configuration is: 2x 1R, 2x 2R or 1x4R DDR3 module per channel This mode is not supported by unbuffered memory modules</p>
<p>3.) "Performance Mode" configuration - In this configuration, the memory module population ex factory is spread across all channels. The BIOS is set to the max. performance for memory. Minimum configuration is: 4x identical modules per CPU</p>
<p>4.) In the "Mirrored Channel Mode" is following configuration possible - Each memory bank can optionally be equipped with 4x registered or load reduced or unbuffered DDR3 modules In each memory bank channel A and B / C and D of CPU 1 or channel E and F / G and H of CPU 2 have to be equipped with identical modules for mirrored channel mode. In channel B / D is always the mirrored memory of channel A / B of CPU 1 In channel F / H is always the mirrored memory of channel E / G of CPU 2 Minimum configuration is: 4x identical modules per CPU This mode is not supported by unbuffered memory modules</p>

1x per CPU

<p>S26361-F3694-E10 Independent Mode Independent Channel Mode allows all channels to be populated in any order. No specific Memory RAS features are defined Requires min 1 memory Module per CPU</p>
<p>S26361-F3694-E1 Rank Sparing Mode Installation BIOS Setup factory preinstalled to this mode. One Rank is spare of other ranks on the same channel. Spare Rank is not shown in System Memory. For effective capacity within a channel, please have a look below. Supported for RDIMM / LRDIMM only. Requires min 2x 1R/2R or 1x 4R modules per CPU</p>
<p>S26361-F3694-E2 Performance Mode Installation BIOS Setup factory preinstalled for max. Performance, LV memory might be set to 1.5V operation. Four identical memory modules will be equipped in one memory bank to achieve highest memory performance. All four modules are active and full capacity can be used. Multiple of 4 identical modules to be configured per CPU</p>
<p>S26361-F3694-E3 Mirrored Channel Mode Installation BIOS Setup factory preinstalled to this mode. Four identical memory modules are always equipped in one memory bank to use the Mirrored channel Mode. Only two modules contain active data, the remain two modules contain mirrored data Supported for RDIMM / LRDIMM only. Multiple of 4 identical modules to be configured per CPU</p>

F

F



Effective Memory capacity / Rank Sparing Mode, 1 Channel populated

	RDIMM				LRDIMM	
	4GB 1R	8GB 1R	8GB 2R	16GB 2R	32GB 4R	64GB 8R
1DPC	na	na	na	na	24GB	48GB
2DPC	4GB	8GB	12GB	28GB	56GB	112GB
3DPC	8GB	16GB	20GB	44GB	80GB	160GB



Minimum one memory module or order code per CPU = first memory

8/12x per CPU, max. 2/3 modules per channel

Unbuffered Memory (UDIMM) no SDDC (chipkill) support - one DDR3 unbuffered ECC mem. Module, 1.35V Choose up to 8 order codes per CPU 8GB (1x8GB) 2Rx8 L DDR3-1600 U ECC S26361-F3807-E515	special release only	
Registered Memory (RDIMM) with SDDC (chipkill) support - one DDR3 registered ECC mem. Module, 1.35V 1333MHz supported with up to 2DPC (8 modules/CPU) and 1.35V 1600MHz supported with up to 2DPC (8 modules/CPU) and 1.5V Choose up to 12 order codes per CPU 4GB (1x4GB) 1Rx4 L DDR3-1600 R ECC S26361-F3781-E514 8GB (1x8GB) 1Rx4 L DDR3-1600 R ECC S26361-F3781-E515 16GB (1x16GB) 2Rx4 L DDR3-1600 R ECC S26361-F3781-E516		
Registered Memory (RDIMM) with SDDC (chipkill) support - one DDR3 registered ECC mem. Module, 1.5V 1866MHz supported with up to 2DPC (8 modules/CPU) Choose up to 12 order codes per CPU 16GB (1x16GB) 2Rx4 DDR3-1866 R ECC S26361-F3793-E516		
Registered Memory (RDIMM) no SDDC (chipkill) support - one DDR3 registered ECC mem. Module, 1.5V No mix with any other types of memory modules possible 1866MHz supported with up to 2DPC (8 modules/CPU) Choose up to 12 order codes per CPU 8GB (1x8GB) 2Rx8 DDR3-1866 R ECC S26361-F3793-E515		
Load Reduced Memory (LRDIMM) with SDDC (chipkill) support - one DDR3 load reduced ECC mem. Module, 1.35V Choose up to 12 order codes per CPU 32GB (1x32GB) 4Rx4 L DDR3-1600 LR ECC S26361-F3782-E517 64GB (1x64GB) 8Rx4 L DDR3-1333 LR ECC S26361-F3783-E518		as soon as available

special release only



Note 1)

Max. DDR3 memory speed depends on the memory configuration (No of mem modules per channel) as well as on the CPU type. 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 if configured. For real memory speed (depending on memory type / population), please check the spreadsheet "Memory speed" below



Note 2)

Mix of memory modules is only possible within the same group

G

Memory Configuration PRIMERGY RX200 S8

Each CPU offers 12 Slots for DDR3 Memory Modules organised in **3 Banks and 4 Channels**.

If you need more than 12 Slots you have to configure the 2nd CPU.

Depending on the amount of memory configured you can decide between 4 basic modes of operation (see explanation below).

There are 3 different kinds of DDR3 Memory Modules available: UDIMM / RDIMM and LRDIMM

UDIMM / RDIMM / LRDIMM offer different functionality. Mix of UDIMM / RDIMM / LRDIMM is not allowed.

If 1.5V and 1.35V DIMMs are mixed, the DIMMs will run at 1.5V

Mode	Configuration	UDIMM	RDIMM	RDIMM LRDIMM	Application
		x8	x8	x4	
SDDC (chipkill) support	any	no	no	yes	detect multi-bit errors
Independent Channel Mode	1, 2 or 3 Modules per Bank	yes	yes	yes	offers max. flexibility, upgradeability, capacity use UDIMM modules for lowest cost
Mirrored Channel Mode *)	4 identical Modules / Bank	no	no	yes	offers maximum security
Performance Mode	4 identical Modules / Bank	yes	yes	yes	offers maximum performance and capacity
Rank Sparing Mode *)	min. 2 Ranks / Channel	no	no	yes	balances security and capacity

*) For the delivery ex works the system will be prepared with dedicated BIOS setting.

Capacity	Configuration	UDIMM	RDIMM	LRDIMM	Notes
Min. Memory per CPU	1 Module / CPU	1x4GB	1x4GB	1x32GB	with one CPU
Max. Memory per CPU	8/12 Modules / CPU	8x4GB	12x16GB	12x64GB	with one CPU
Max. Memory per System	16/24 Modules / System	64GB	384GB	1536GB	if second CPU is configured

Memory-Speed:

Max. DDR3 memory speed depends on the memory configuration on one memory channel and the speed of the CPU

The memory channel with the lowest speed defines the speed of all CPU channels in the system

Mem. Speed provided by CPU	Real maximum memory-bus speed depending on CPU type, memory configuration (DPC) and voltage setting (BIOS)																	
	UDIMM 1866MHz						RDIMM 1866MHz						LRDIMM 4R 1866MHz					
	1.5V [default]			1.35V			1.5V [default]			1.35V			1.5V [default]			1.35V		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	DPC	
CPU with 1866MHz DDR3 Bus	1866	1600	-	1333	1333	-	1866	1866	1066	1333	1333	800	1866	1600	1066	1600	1600	1066
CPU with 1600MHz DDR3 Bus	1600	1600	-	1333	1333	-	1600	1600	1066	1333	1333	800	1600	1600	1066	1600	1600	1066
CPU with 1333MHz DDR3 Bus	1333	1333	-	1333	1333	-	1333	1333	1066	1333	1333	800	1333	1333	1066	1333	1333	1066

1R - Single Rank 4R - Quad Rank
2R - Dual Rank 8R - Eight Rank

1DPC = 1 DIMM per Channel
2DPC = 2 DIMM per Channel
3DPC = 3 DIMM per Channel

Configuration hints:

- The memory sockets on the systemboard offer a color coding:

Bank I black sockets
Bank II blue sockets
Bank III green sockets

- A so called Bank consists of 1 memory module on every Channel available on one CPU (examples see below)

Bank I on CPU 1/2 up to 4 memory modules connected to Channel A - H on the 1st/2nd CPU

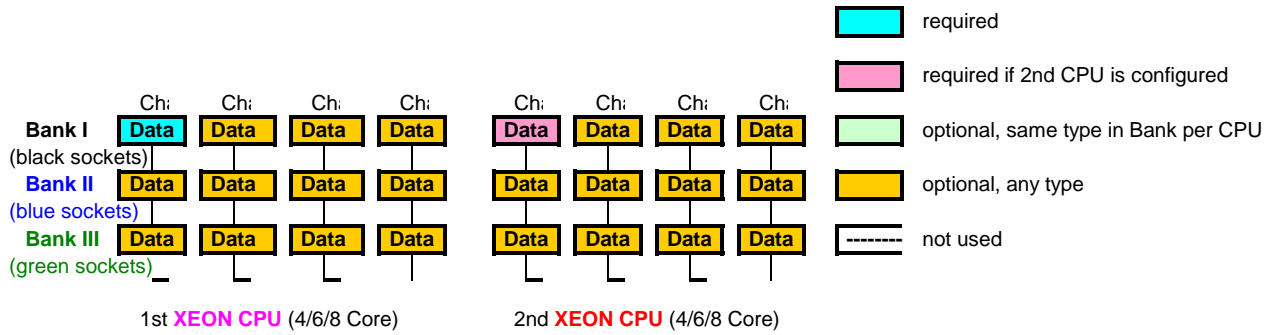
Bank II on CPU 1/2 up to 4 memory modules connected to Channel A - E on the 1st/2nd CPU

Bank III on CPU 1/2 up to 4 memory modules connected to Channel A - E on the 1st/2nd CPU

(can not be populated by UDIMM or 4R RDIMM memory modules)

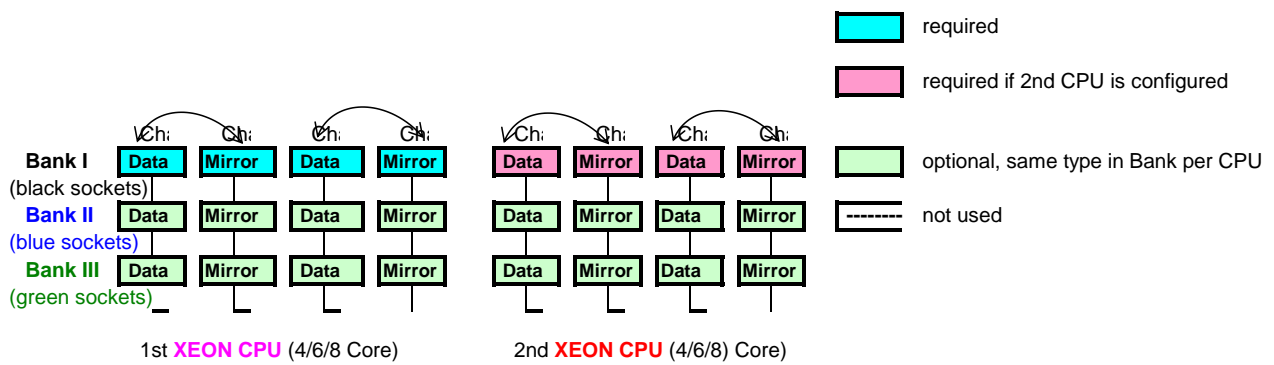
- See below and next page for a detailed descriptions of the memory configuration supported.

1. Independent Channel Mode



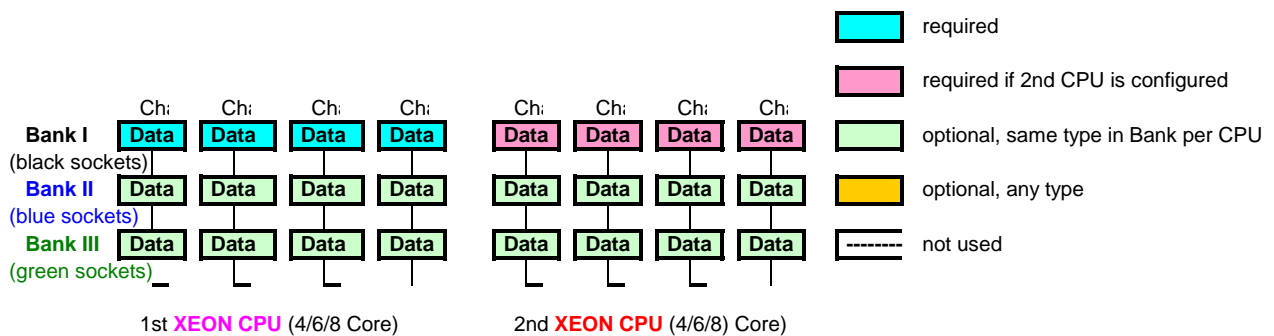
Independent Channel Mode allows all channels to be populated in any order
 Can run with differently rated DIMMs and use the settings of the slowest DIMM installed in the system

2. Mirrored Channel Mode



Mirrored Channel Mode requires identical modules on channel A,B, C, D (1st CPU) or channel E, F, G and H (2nd CPU)
 50% of the capacity is used for the mirror => the available memory for applications is only half of the installed memory
 If this mode is used, a multiple of 4 identical modules has to be ordered.

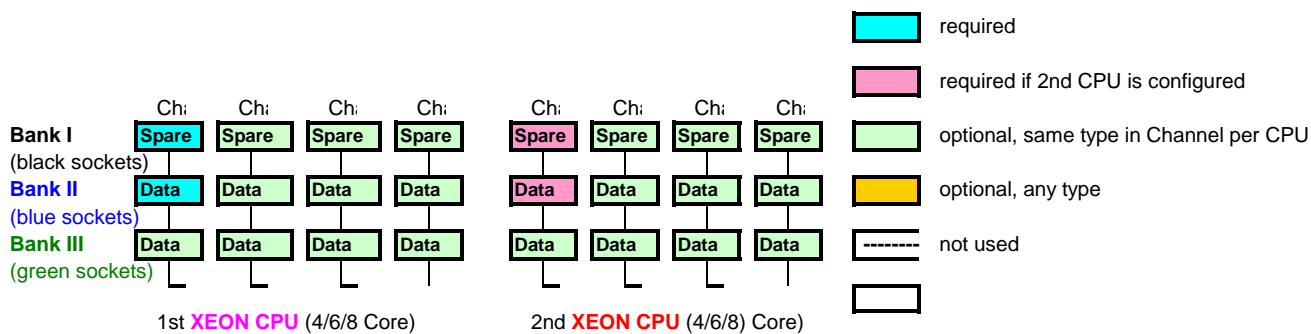
3. Performance Channel Mode



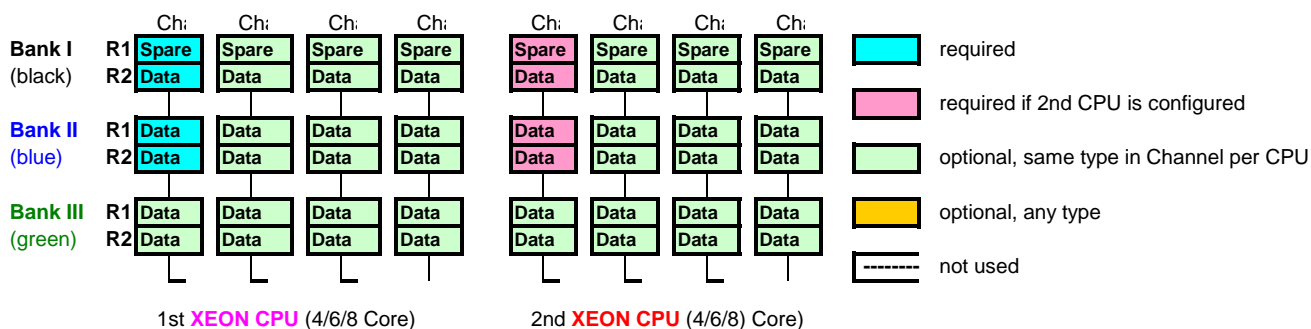
Performance Channel Mode requires identical modules on all channels of each Bank per CPU.
 If this mode is used, a multiple of 4 identical modules has to be ordered.

4. Rank Sparring Mode

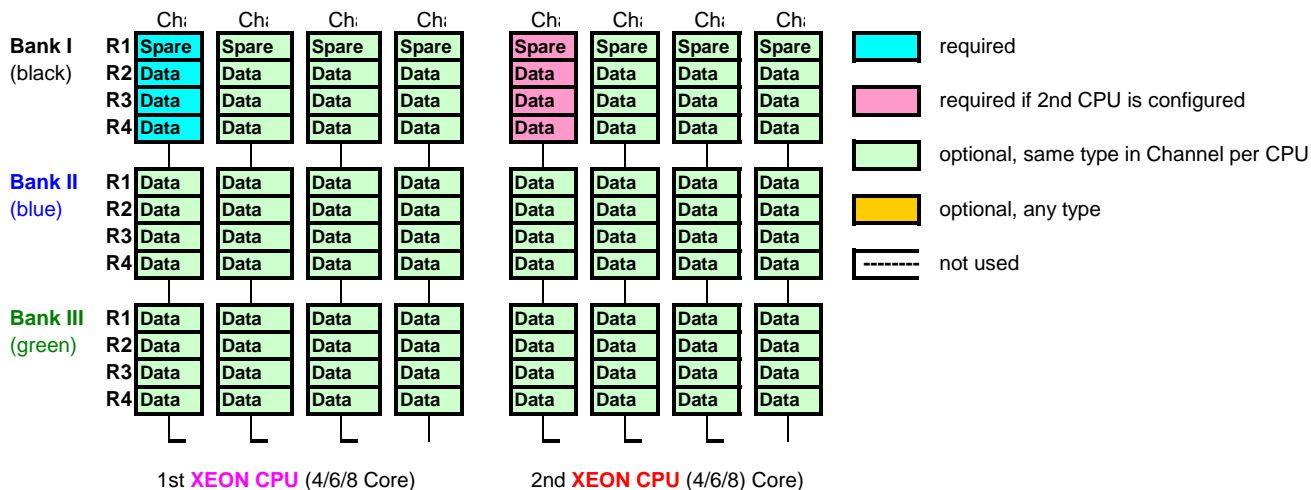
1-Rank Memory modules (RDIMM)



2-Rank Memory modules (RDIMM)



4-Rank Memory modules (LRDIMM)



Rank Sparring Mode requires identical modules (same capacity and technology) within the same channel.
 The available memory for applications will vary depending on configuration. Please refer to the spreadsheet above
 "Effective Memory capacity with active Rank Sparring Mode". Population rule for Rank sparring mode is to achieve max.
 available memory, e.g. 6 DIMMs will be spread across two channels, each with 3DPC

G

Section IV Graphics

Graphics Controller integrated in iRMC S4 (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)

S26361-F2571-E26
 Optional Front-VGA
 for Onboard Controller only
 consists of internal cable and
 front VGA connector
 max. 1x per system



The high end optional NVIDIA NVS300 graphic card offers dual head operation and fully 3D video support.
 The cables for either two times DVI-I or VGA (cable kit) connections are part of the delivery.
 Optional Front-VGA S26361-F2571-E26 cannot be ordered if NVS300 is required.
Remote Video direction via iRMC must be disabled.
 This PCIe-x1 card can also be installed in any PCIe-x4, x8 or x16 slot.
 Only one card per server is allowed.

max. 1x

S26361-F2748-E637
 PY VGA LP card 256MB PCI-e x1
 NVIDIA NVS300
 512 MB PCIe-x1
 Connectors: 1x LFH 59
 cable kit for 2x DVI or 2x VGA
 cable kits included
 Dual head + professional 2-D + 3-D
 supported for Windows OS
 native driver support for Linux OS
 low profile bracket
 max. 1x per system



S26361-F2748-L637
 PY VGA LP card 512MB PCI-e x1
 for loose delivery

I

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Section V Accessible drives

i Setup by ServerStart is supported with following configurations:

no DVD, no CD: remote installation only (PXE service & DHCP server required)
built in DVD or USB DVD: UNC Network share reachable or USB Floppy or MemoryBird connected

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

1x

S26361-F3269-E2 DVD-RW supermulti slim SATA all formats, DUAL/DL, DVD-RAM only W2K, W3K and Linux 0.5 x 5.25", black bezel max. 1x per system

S26361-F3641-E2 Blu-ray Triple Writer slim SATA 6x BD-RW, 8x DVD, 24x CD BD DL and all CD/DVD formats 0.5 x 5.25" max. 1x per system
--

USB 3.0 adapter

S26361-F3749-E201 USB3.0 PCIe x1 adapter card lp Sunrich U-720 PCIe x1 1 port intern, 1 port extern USB 3.0 A jacks max. 1x per system

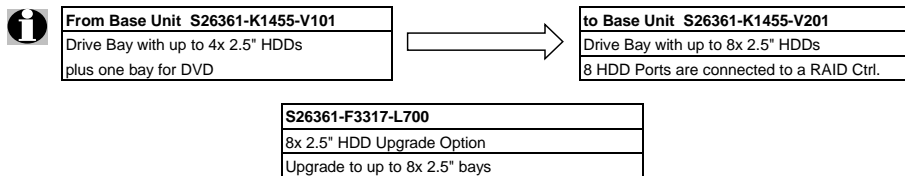
i The adapter is also available as optional (loose) delivery with FH and LP bracket included
 S26361-F3749-L501

i Configurations of DVD Drive are only possible for the Base Unit S26361-K1455-V101 (4x 2.5" HDD + DVD Option)
 With onboard SATA/SAS controller, max. 4x SATA/SAS HD's and one DVD are configurable.

J

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Section VI Drive Bay for Upgrade from 4x2.5" to 8x2.5" HD Basic Unit



Section VII Modular Raid 0/1, Raid5 for 4x / 8x 2.5" SAS or SATA HD's. On-board Controller for 4x 2.5" SATA or SAS HD's

On board SATA Controller with 3 Gb/s and up to 4x 2.5" SATA HDDs (no additional controller required)
For all other HDD configurations a modular RAID-controllers is required

Following optional onboard SAS RAID can be selected for 4x2.5" base unit V101

S26361-F3674-E1
SAS enabling key for onboard ports
LSI - Patsburg B
no Cache, no BBU
RAID 0, 1 & 10
SAS 1.0 (3Gb/s)
4 internal ports for SAS HD
PCIe x4
no PCI slot required
max. 1x per system

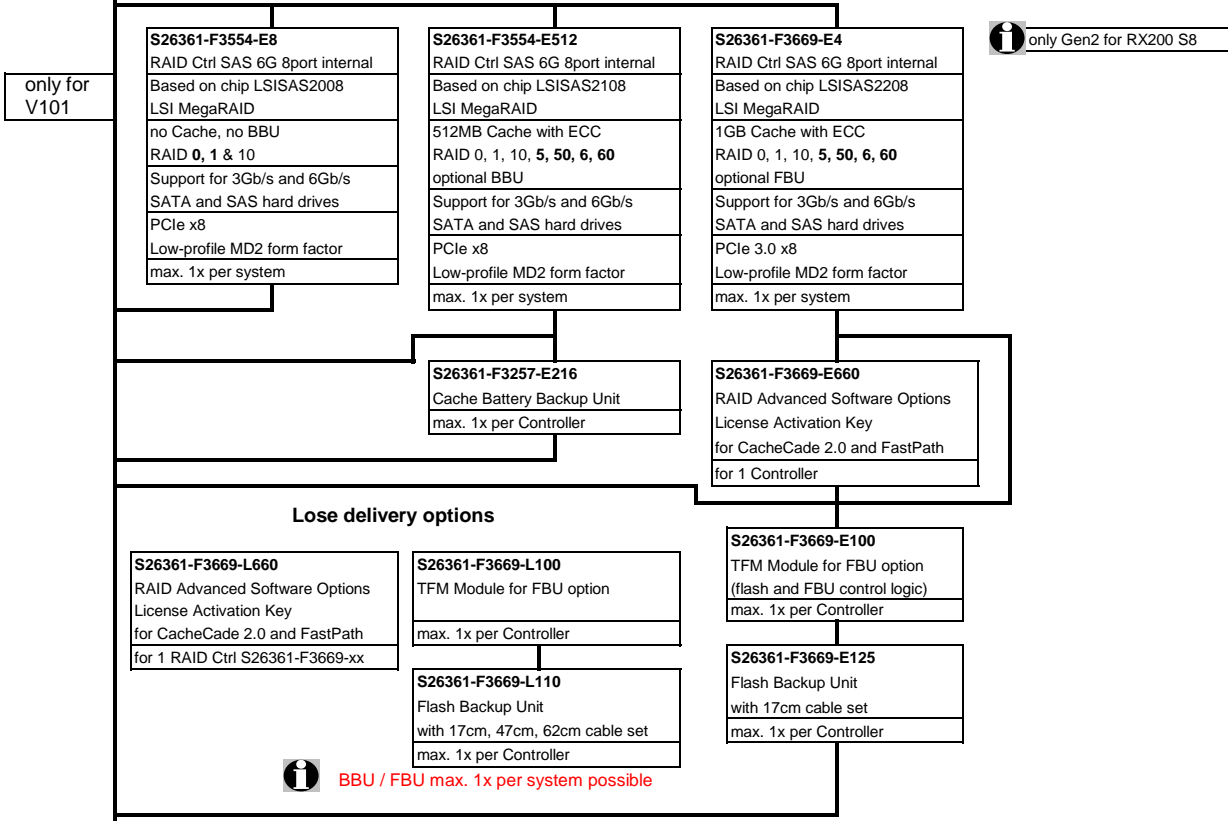
i only for V101

For 8x2.5" V201 base unit one of the following modular RAID-controllers is required (optional for 4x2.5" base unit)

Modular Raid 0/1 controller with IME support for SAS/SATA
This RAID controller supports 8 HDDs on the 4 + 4 internal SAS ports

Modular Raid 5 controller for SAS/SATA
RAID levels 0, 1, 10, 5, 50, 6 and 60 are supported.
This RAID controller supports 8 HDDs on the 4 + 4 internal SAS ports

i The FBU is an option for the controller which can be used once per controller. If the FBU option has been chosen, the TFM Module is needed once per FBU.



K

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Section VIII 4x / 8x 2.5" SAS / SATA Hard disk drives

All combinations of SSD and SAS are possible - but not in same logical drive (RAID array)
 For basic units V1xx up to 4x SATA / SAS 2.5" hard disks plus ODD can be configured.
 SAS support for V1xx only via optional selectable Patsburg upgrade kit
 For basic units V2xx up to 8x SATA / SAS 2.5" hard disks can be configured.

Solid State Disk, Mainstream Endurance*

SSD SATA 6Gb/s 2.5" with hot plug/hot replace tray

100GB MLC, Mainstream Performance	S26361-F5225-E100	as long as stock
200GB MLC, Mainstream Performance	S26361-F5225-E200	as long as stock
400GB MLC, Mainstream Performance	S26361-F5225-E400	as long as stock
100GB, Mainstream Performance	S26361-F5303-E100	as soon as available
200GB, Mainstream Performance	S26361-F5303-E200	as soon as available
400GB, Mainstream Performance	S26361-F5303-E400	as soon as available
800GB, Mainstream Performance	S26361-F5303-E800	as soon as available

SSD SAS 6Gb/s 2.5" with hot plug/hot replace tray

100GB MLC, Enterprise Performance	S26361-F4581-E100	as long as stock
200GB MLC, Enterprise Performance	S26361-F4581-E200	as long as stock

SSD SAS 12Gb/s 2.5" with hot plug/hot replace tray

200GB, Enterprise Performance	S26361-F5297-E200	as soon as available
400GB, Enterprise Performance	S26361-F5297-E400	as soon as available
800GB, Enterprise Performance	S26361-F5297-E800	as soon as available
1.6TB, Enterprise Performance	S26361-F5297-E160	as soon as available
max. 4 / 8x per system		

Interface SAS12Gb/s and SAS 6Gb/s.
 SAS 12Gb/s support is not released

*) SSD Mainstream Endurance
 10DWPD over 5y

SAS Disk Drive 2.5"

HDD SAS 6Gb/s 2.5" with hot plug/hot replace tray

300GB 10000rpm,<4,5ms, 32MB Cache	S26361-F5247-E130	as soon as available
450GB 10000rpm,<4,5ms, 32MB Cache	S26361-F5247-E145	
600GB 10000rpm,<4,5ms, 32MB Cache	S26361-F5247-E160	
900GB 10000rpm,<4,5ms, 32MB Cache	S26361-F5247-E190	
1,2TB 10000rpm,<4,5ms, 64MB Cache	S26361-F5247-E112	

146GB 15krpm,<4,5ms, 32MB Cache	S26361-F4482-E514	as soon as available
300GB 15krpm,<4,5ms, 32MB Cache	S26361-F4482-E530	
450GB 15krpm,<4,5ms, 32MB Cache	S26361-Fxxxx-E5xx	as soon as available
600GB 15krpm,<4,5ms, 32MB Cache	S26361-Fxxxx-E5xx	

500GB 7.2krpm,<9,5ms, 64MB Cache	S26361-F5228-E500
1TB 7.2krpm,<9,5ms, 64MB Cache	S26361-F5228-E100
max. 4 / 8x per system	

2.5" SAS 7.2Krpm with CPU S26361-F3803-E330 is not released. The configuration is not allowed.

SATA Disk Drive 2.5"

HDD SATA 6Gb/s 2.5" with hot plug/hot replace tray

250GB 7.2krpm,<9,5ms, 64MB Cache	S26361-F3708-E250	2.5" SATA 7.2Krpm with CPU S26361-F3803-E330 is not released. The configuration is not allowed.
500GB 7.2krpm,<9,5ms, 64MB Cache	S26361-F3708-E500	
1TB 7.2krpm,<9,5ms, 64MB Cache	S26361-F3708-E100	
max. 4 / 8x per system		

S26361-F3837-L64
 SATA DOM 64GB, 3G, Mainstream Endurance, non-hot plug
 Special Release

4x /
8x

L

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Section IX External SAS Disk Array & Backup drives

SAS RAID controller for JBOD subsystems

S26361-F3713-E203
RAID Ctrl SAS 6G 8port external
LSI MegaRAID SAS 9286-8e
1GB Cache with ECC
RAID 0, 1, 5, 6, 10, 50 & 60
without FBU
SAS 6Gb/sec
8 port external
PCIe 3.0 x8, MD2 form factor
low profile bracket
max. 1x per system



Loose delivery options

S26361-F3713-L203
RAID Ctrl SAS 6G 8port external
LSI MegaRAID SAS 9286-8e
1GB Cache with ECC
RAID 0, 1, 5, 6, 10, 50 & 60
without FBU
SAS 6Gb/sec
8 port external
PCIe 3.0 x8, MD2 form factor
low profile bracket
max. 1x per system

1x

S26361-F3669-E155
Flash Backup Unit
with 47cm cable set
max. 1x per Controller

S26361-F3669-L110
Flash Backup Unit
with 17, 47, 62 cable set
max. 1x per Controller

S26361-F3669-E661
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
for 1 Controller

S26361-F3669-L661
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
for 1 RAID Ctrl S26361-F3713-xxx



BBU / FBU max. 1x per system possible

SAS controller (for external backup drives released; for HDDs/SSDs as soon as available)

S26361-F3628-E201
SAS Controller 6Gb/s 8 port LP
LSI SAS9200-8e LP
PCIe 2.0
ext: 8 port
PCIe x4, Low Profile
max. 2x per system

2x

PCIe SSD (occupies one PCIe slot)

S26361-F4522-E351
PCIe-SSD 365GB MLC
ioDrive2 365GB
PCIe 2.0
25nm Lithography
PCIe x4, Low Profile
max. 1x per system

S26361-F4522-E781
PCIe-SSD 785GB MLC
ioDrive2 785GB
PCIe 2.0
25nm Lithography
PCIe x4, Low Profile
max. 1x per system

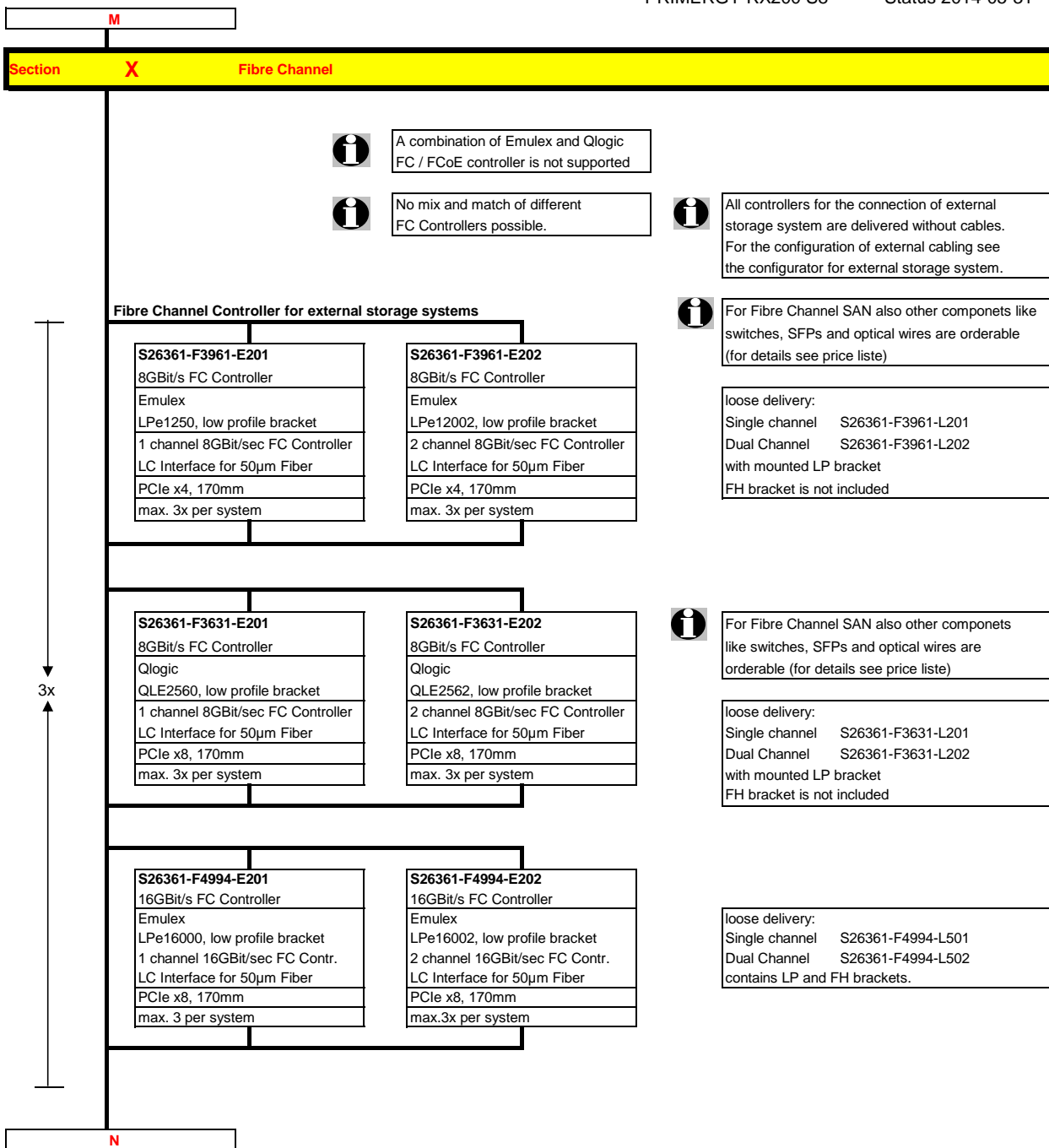
S26361-F4522-E121
PCIe-SSD 1.2TB MLC
ioDrive2 1.2TB
PCIe 2.0
25nm Lithography
PCIe x4, Low Profile
max. 1x per system

1x



loose delivery:
-L351/L781/L121

M



N

Section XI Communication / Network

2x Gigabit (Dualport) Ethernet Contr. onboard
 Intel LAN I350 (Powerville)
 ext: 2x RJ 45 connector



Modular On-Board LAN is a flexible extension of a cost-optimized Motherboard with basic 2x Gbit LAN on-board.
 5 different Upgrade-Kits are offered, which occupies a dedicated PCIe slot and can be ordered once per system.
If a 1Gb modular LAN Controller is installed, 2 additional 1Gb LAN controllers are possible!
If a 10Gb modular LAN Controller is installed, 1 additional 10Gb LAN controllers is possible!

1Gbit/s Modular On-Board LAN Adapter

S26361-F4610-E802
 Upgrade-Kit to 4x 1Gb LAN on-board LP
 PLAN CP 2x1Gbit Cu Intel I350-T2 LP
 Intel Powerville based 2 port Server Ad.
 PCIe x4, Low Profile
 ext: for RJ45-plug, Cat 5
 max. 1x per system

S26361-F4610-E804
 Upgrade-Kit to 6x 1Gb LAN on-board LP
 PLAN CP 4x1Gbit Cu Intel I350-T4 LP
 Intel Powerville based 4 port Server Ad.
 PCIe x4, Low Profile
 ext: for RJ45-plug, Cat 5
 max. 1x per system

S26361-F3629-E702
 Upgrade-Kit to 2xGbit+2x10Gbit LOM
 Eth Ctrl 2x10Gbit PCIe x8 D2755 SFP+
 Intel Niantic based dual port 10Gb NIC
 please refer to 10Gb LAN section

S26361-F3740-E701
 Upgrade-Kit to 4x Gbit LAN on-board
 Eth Ctrl 2x1Gbit PCIe x4 D3035 Cu
 Intel Powerville based 2 port Server Ad.
 PCIe x4, Low Profile
 ext: for RJ45-plug, Cat 5
 max. 1x per system

S26361-F3739-E701
 Upgrade-Kit to 6x Gbit LAN on-board
 Eth Ctrl 4x1Gbit PCIe x4 D3045 Cu
 Intel Powerville based 4 port Server Ad.
 PCIe x4, Low Profile
 ext: for RJ45-plug, Cat 5
 max. 1x per system



1Gbit/s Ethernet Adapter

S26361-F4610-E202
 (I350-T2)
 Gbit Ethernet Controller Dual 1000TX LP
 PLAN CP 2x1Gbit Cu Intel I350-T2 LP
 Intel Powerville based 2 port Server Ad.
 PCIe x4, Low Profile
 low profile (LP) bracket
 ext: for RJ45-plug, Cat 5
 max. 4x per system

S26361-F4610-E204
 (I350-T4)
 Gbit Ethernet Controller Quad 1000TX LP
 PLAN CP 4x1Gbit Cu Intel I350-T4 LP
 Intel Powerville based 4 port Server Ad.
 PCIe x4, Low Profile
 low profile (LP) bracket
 ext: for RJ45-plug, Cat 5
 max. 4x per system

S26361-F3516-E201
 (Shelter Island)
 Gigabit Ethernet Controller 1000TX LP
 Eth Ctrl 1x1Gbit PCI-e Gigabit CT DT Cu LP
 Intel® Gigabit CT Desktop Adapter
 PCIe x1
 ext: for RJ45-connector, Cat 5
 max. 4x per system

S26361-F3740-E201
 (D3035)
 Gbit Ethernet Controller Dual 1000TX LP
 Eth Ctrl 2x1Gbit Cu PCIe x4 D3035 lp
 Intel Powerville based 2 port Server Ad.
 PCIe x4, Low Profile
 low profile (LP) bracket
 ext: for RJ45-plug, Cat 5
 max. 4x per system

S26361-F3739-E201
 (D3045)
 Gbit Ethernet Controller Dual 1000TX LP
 Eth Ctrl 4x1Gbit Cu PCIe x4 D3045 lp
 Intel Powerville based 4 port Server Ad.
 PCIe x4, Low Profile
 low profile (LP) bracket
 ext: for RJ45-plug, Cat 5
 max. 4x per system

S26361-F3242-E201
 (Sheepshead Bay)
 Gigabit Ethernet Contr. 1000SX
 Eth Ctrl 1x1Gbit PCI-e Pro/1000PF LC
 Intel PRO/1000 PF Server Adapter
 PCIe x4
 ext: LC-connector
 max. 4x per system

while stocks last

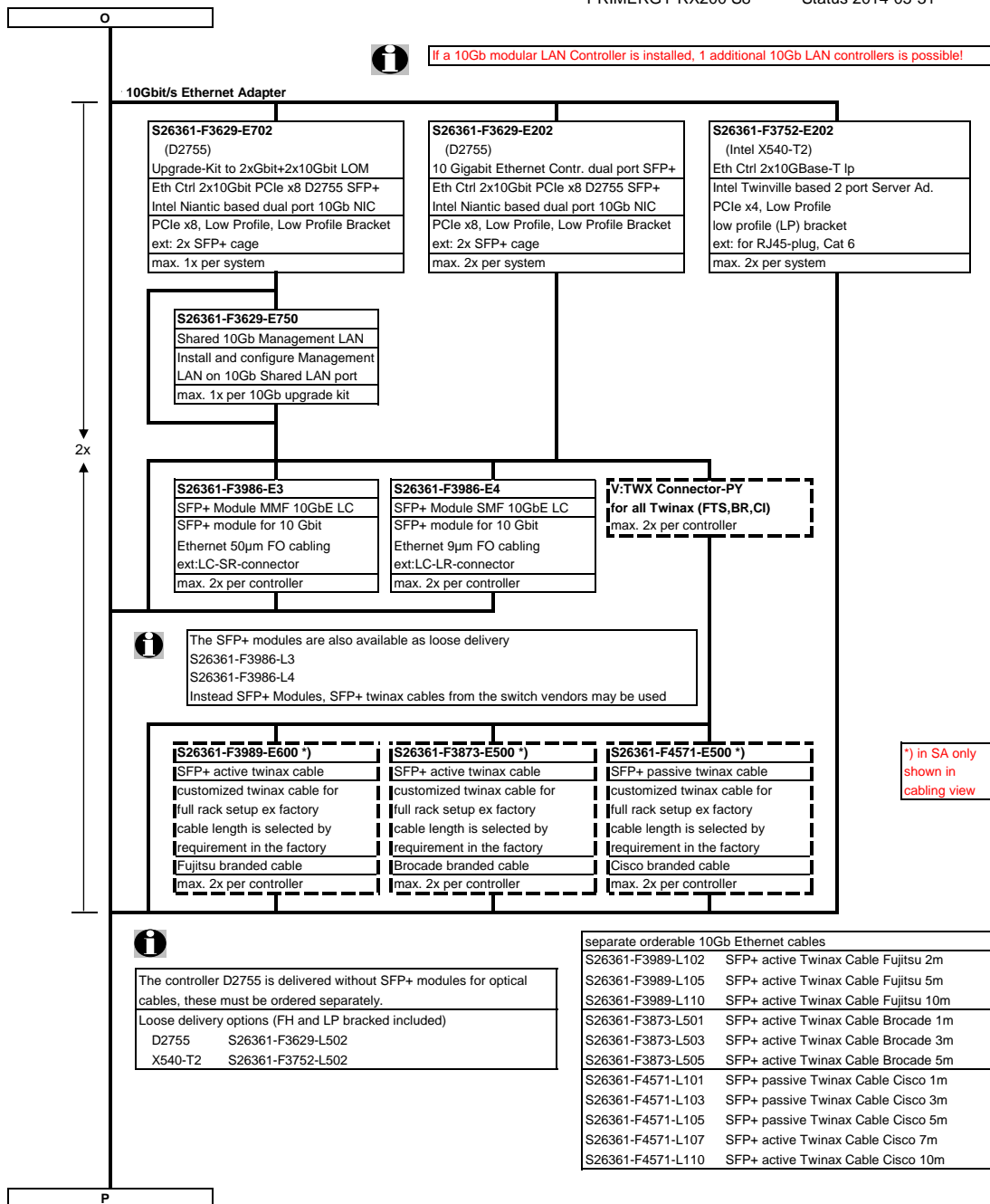
while stocks last

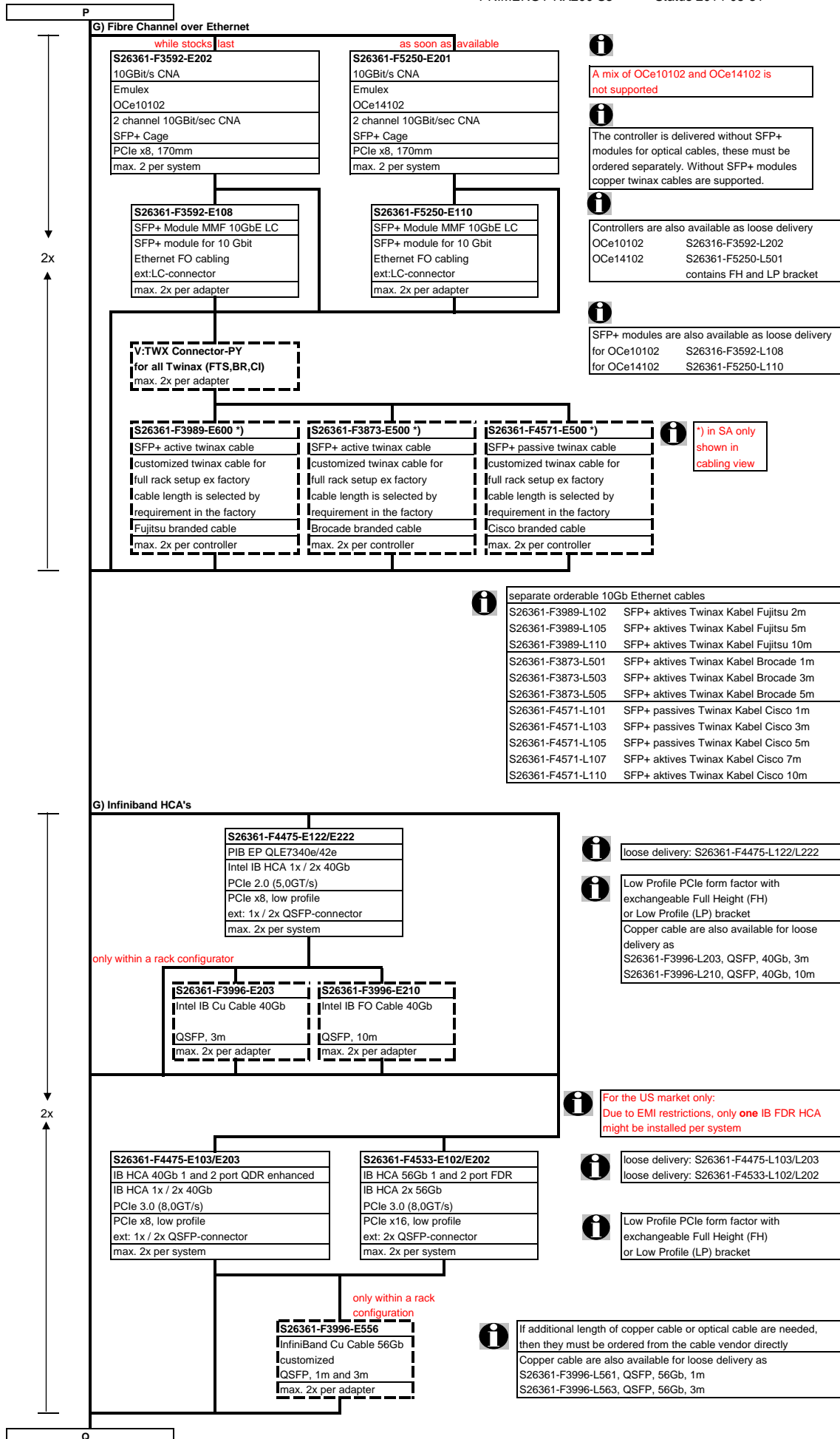
while stocks last



Loose delivery with FH and LP bracket:
 I350-T2 S26361-F4610-L502
 I350-T4 S26361-F4610-L504
 D3035 S26361-F3740-L501
 D3045 S26361-F3739-L501
 Loose delivery with LP bracket:
 Shelter Island S26361-F3516-L201
 Sheepshead Bay S26361-F3242-L201

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Section XII System Management Products (Remote Management)

iRMC S4 (integrated Remote Management Controller) onboard server management with dedicated 10/100/1000 LAN-port and integrated graphics controller
 Optional 10/100 Service LAN-port on front panel.
 The Service LAN-port can be switched alternatively on standard Gbit LAN port



S26361-F1790-E243
iRMC S4 advanced pack
 integrated remote management controller
 activation key for
 Advanced Video Redirection (AVR)
 and Virtual Media
 max. 1x per system



Loose delivery with:
 S26361-F1790-L243

S26361-F2557-E301
 HDD&RAID OOB monitoring by iRMC
 Out of Band Status Monitoring for HDD
 w/o OS running
 Cable between HDD BP and Mobo
 max. 1x per system



Loose delivery with:
 S26361-F2557-L301

S26361-F2571-E27
Maintenance LAN
 Front management LAN Port
 In combination with iRMC adv. pack
 For local maintenance / console redirection,
 Integrated in front (operating panel)
 max. 1x per system

Section XIII Miscellaneous

S26361-F3120-E3
 Serial Port Option
 RS-232-C
 Cable with 9-pin plug
 for a RS-232-C Serial Port
 Interface
 occupies PCI slot
 max. 1x per system

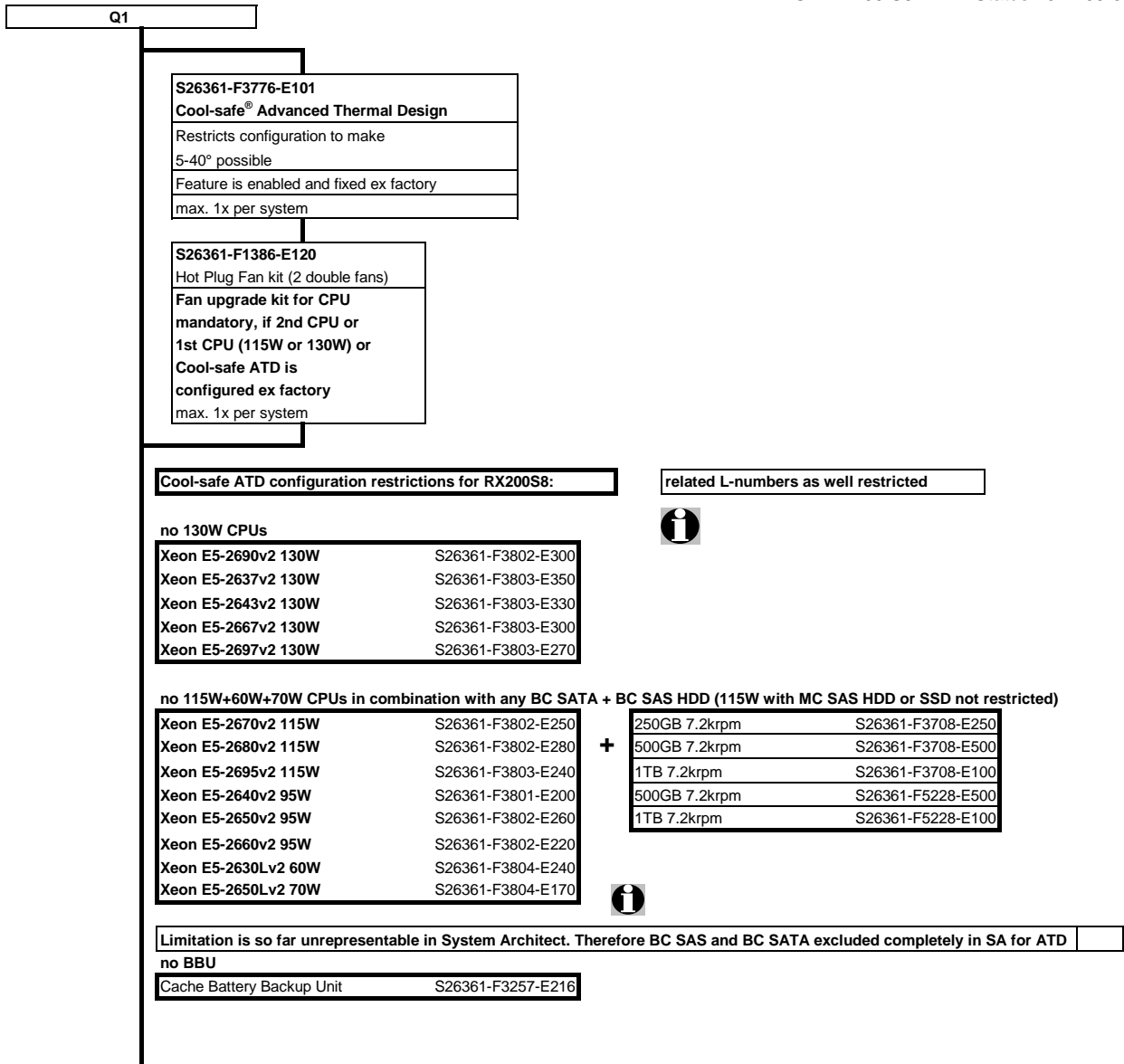


serial port bracket can be plugged-in in every of the rear slots
 assembly priority; slot3, slot 2, slot 1

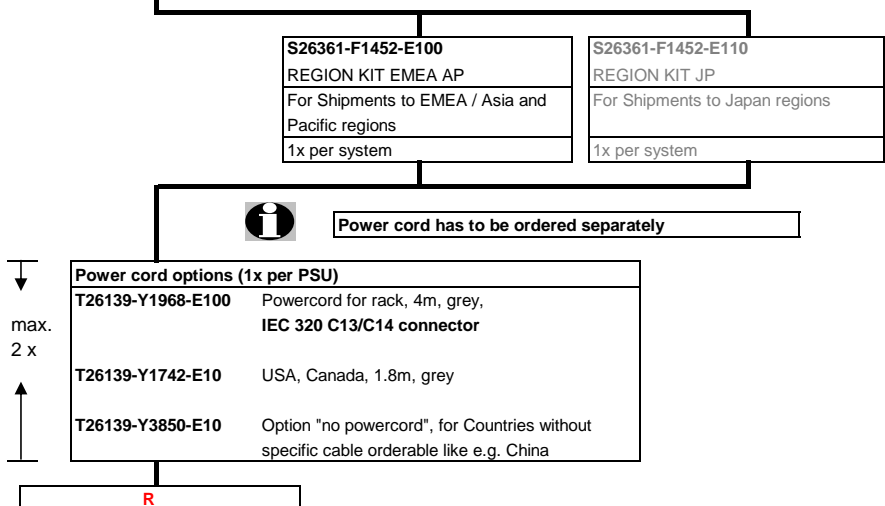


Options and other peripherals
 For other options, refer to SystemArchitect and Pricelist.

Q1



Section XIV Country specific power cord



R

Section XVI CCC exclusions

S26361-F3301-E120
 CCC Certification for China
 Limits configuration in accordance
 with CCC exclusions
 max. 1x per system

**The following order components out of the specific sections
 are NOT allowed together with CCC Certification for China:**



Front-VGA Interface	S26361-F2571-E26
PCIe-SSD 365GB MLC	S26361-F4522-E351
PCIe-SSD 785GB MLC	S26361-F4522-E781
PCIe-SSD 1.2TB MLC	S26361-F4522-E121
RAID Ctrl SAS 6G 8Port ex 1GB LP LSI V3	S26361-F3713-E203
SFP+ Module Multi Mode Fiber 10GbE LC	S26361-F3986-E3
SFP+ Module Single Mode Fiber 10GbE LC	S26361-F3986-E4
SFP+ Modul Multi Mode Fibre 10Gb FCoE	S26361-F3592-E108
IB HCA 40Gb 1 port QDR	S26361-F4475-E102
PIB EP QLE7342e	S26361-F4475-E222
Shared 10Gb Management LAN Kit	S26361-F3629-E750
IB HCA 56Gb 1 Kanal FDR	S26361-F4533-E102
IB HCA 56Gb 2 Kanal FDR	S26361-F4533-E202
Modulare SV 800W titanium hp	S26113-F615-E10
Cable powercord rack, 4m, grey	T26139-Y1968-E100
Leitung Netzanschluss (USA), 1,8m, grau	T26139-Y1742-E10
Serial Port Option	S26361-F3120-E3
TPM Modul	S26361-F3552-E1

End PRIMERGY RX200 S8

