FUJITSU

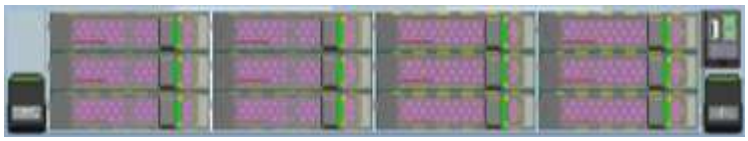
PRIMERGY RX2520 M1

System configurator and order-information guide

June 2014

Contents

Available in April 2014



PRIMERGY Server

Instructions

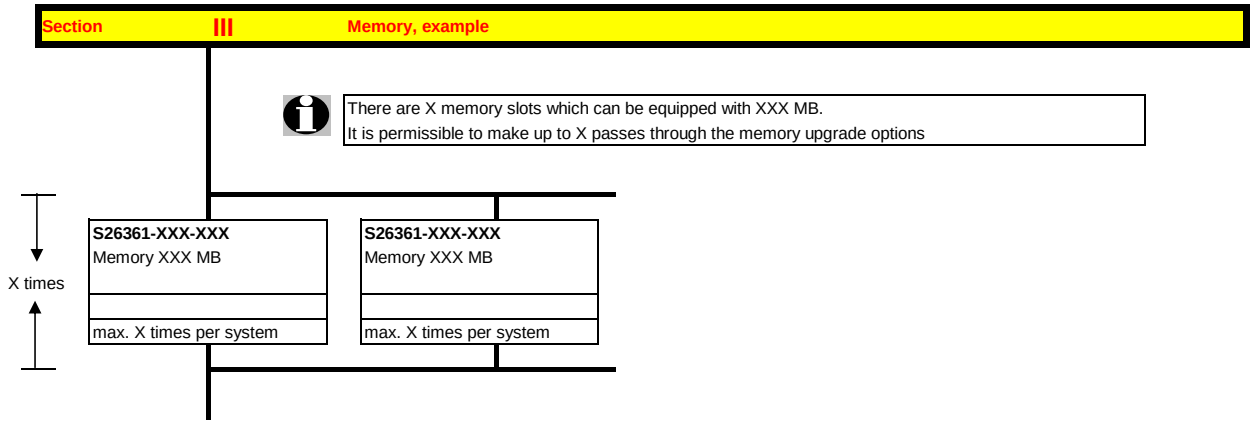
This document contains basic product and configuration information that will enable you to configure your system via PC-/System-Architect.

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

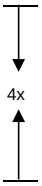
You can configure your individual PRIMERGY server in order to adjust your specific requirements.

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:

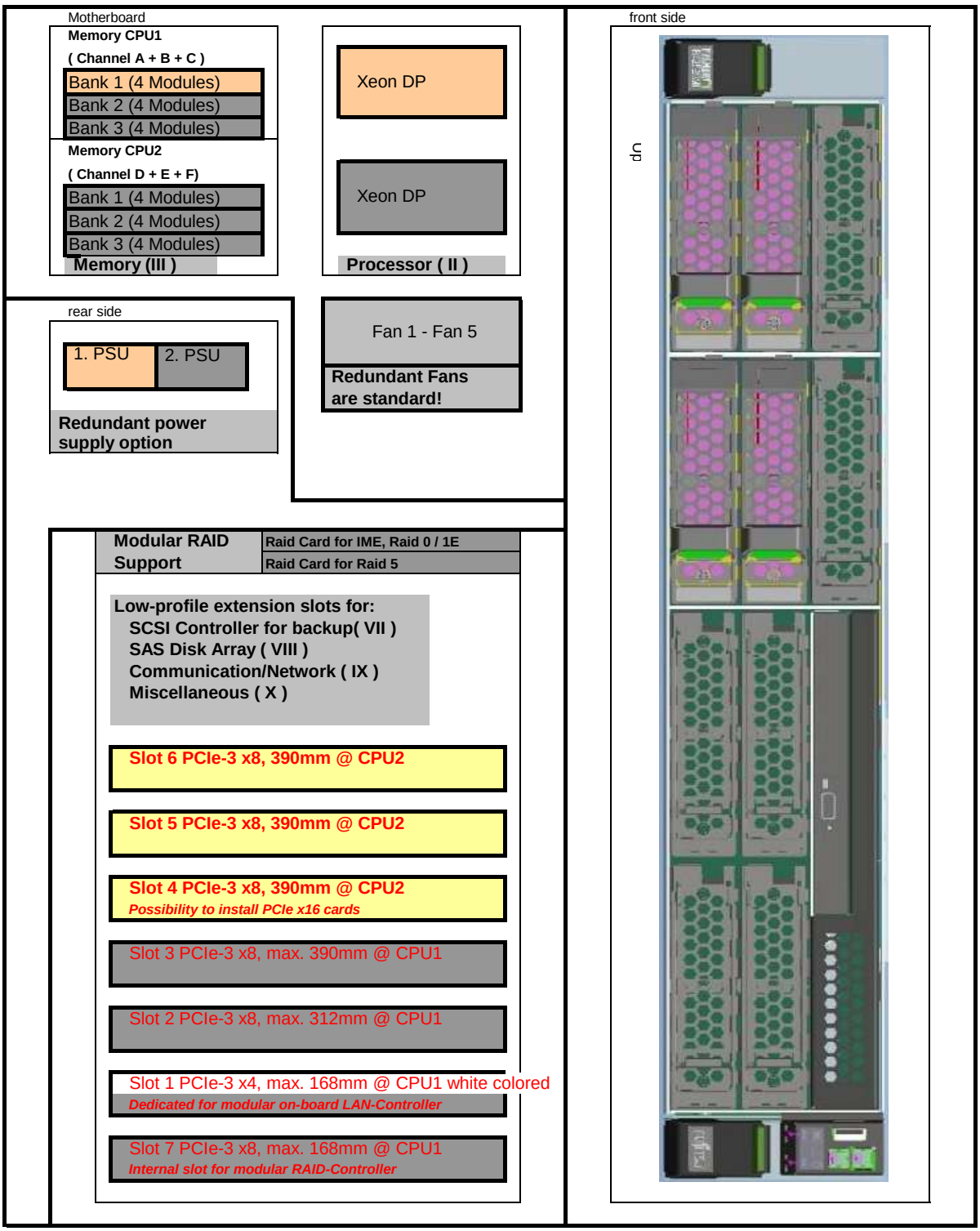
http://ts.fujitsu.com/products/standard_servers/inc (internet)

https://partners.ts.fujitsu.com/com/order-supply/configurators/primergy_config/current/Pages/default.aspx (extranet)

Configuration diagram PRIMERGY RX2520 M1

System unit (I)

with up to 8x or 12x 3.5" Hard disk drives



Key:

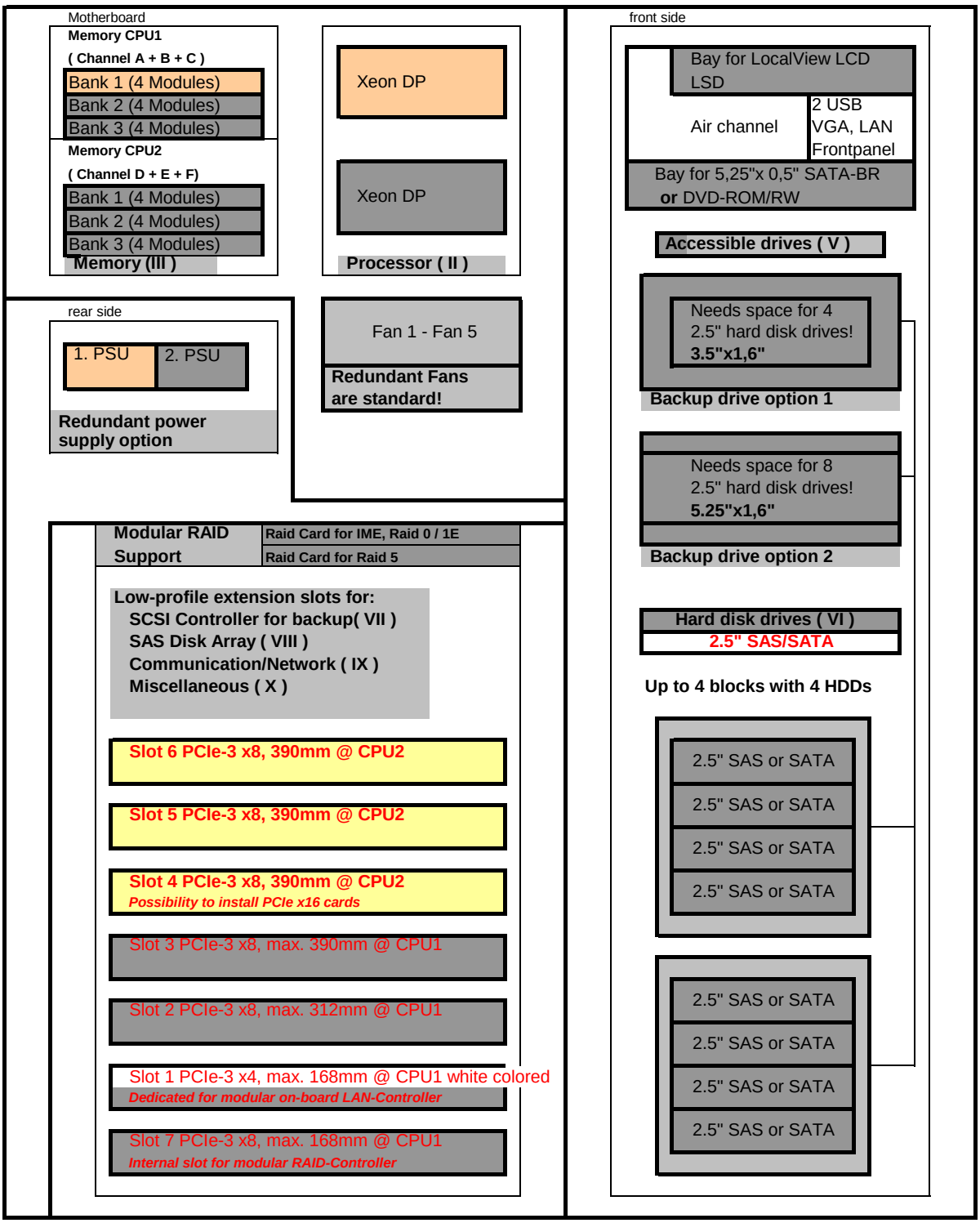
Included in basic unit Option

One **CPU**, one **memory** per CPU and one **PSU** has to be selected for an orderable basic unit.

Configuration diagram PRIMERGY RX2520 M1

System unit (I)

with up to 4, 8, 12 or 16x 2.5" Hard disk drives

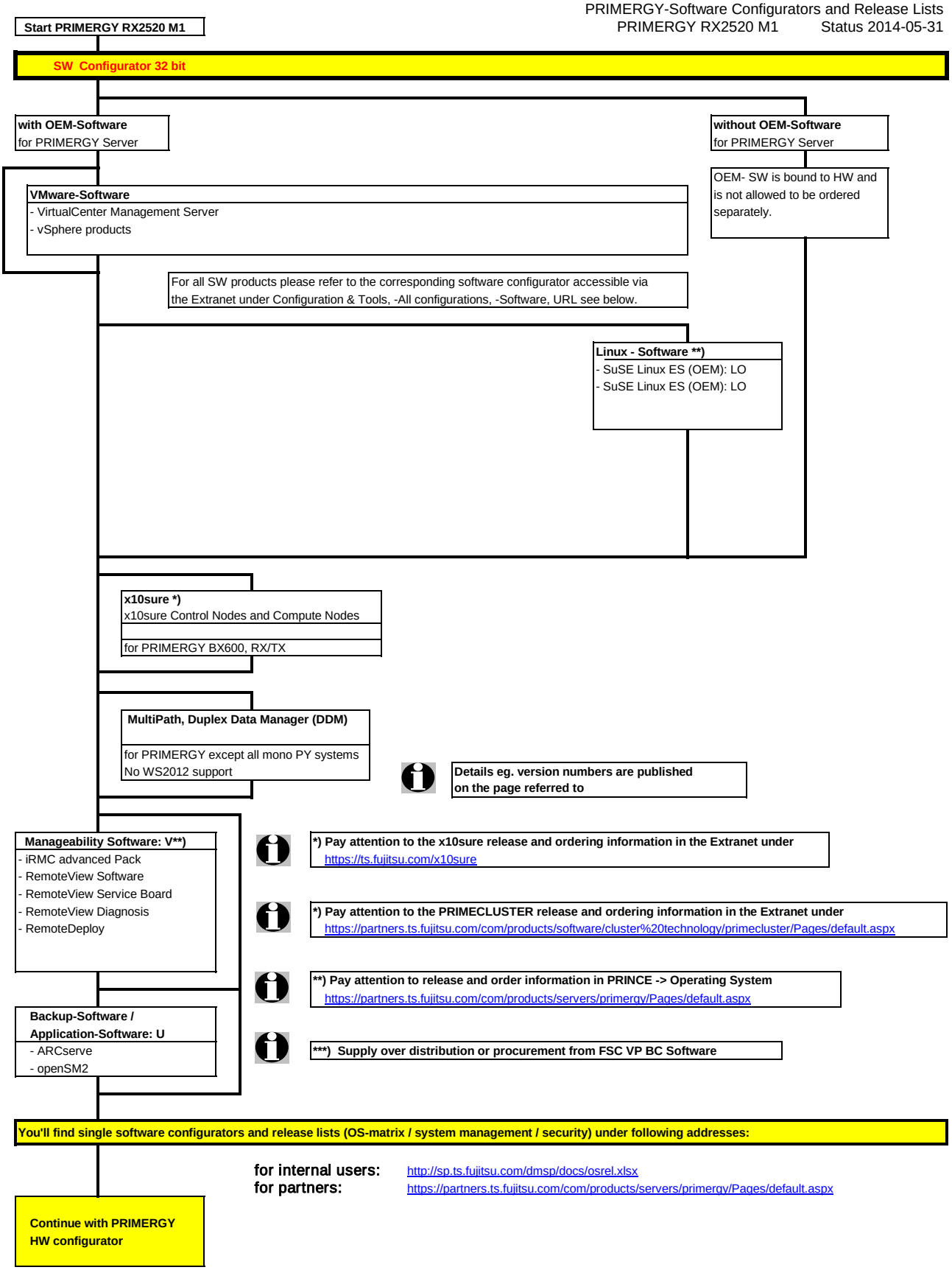


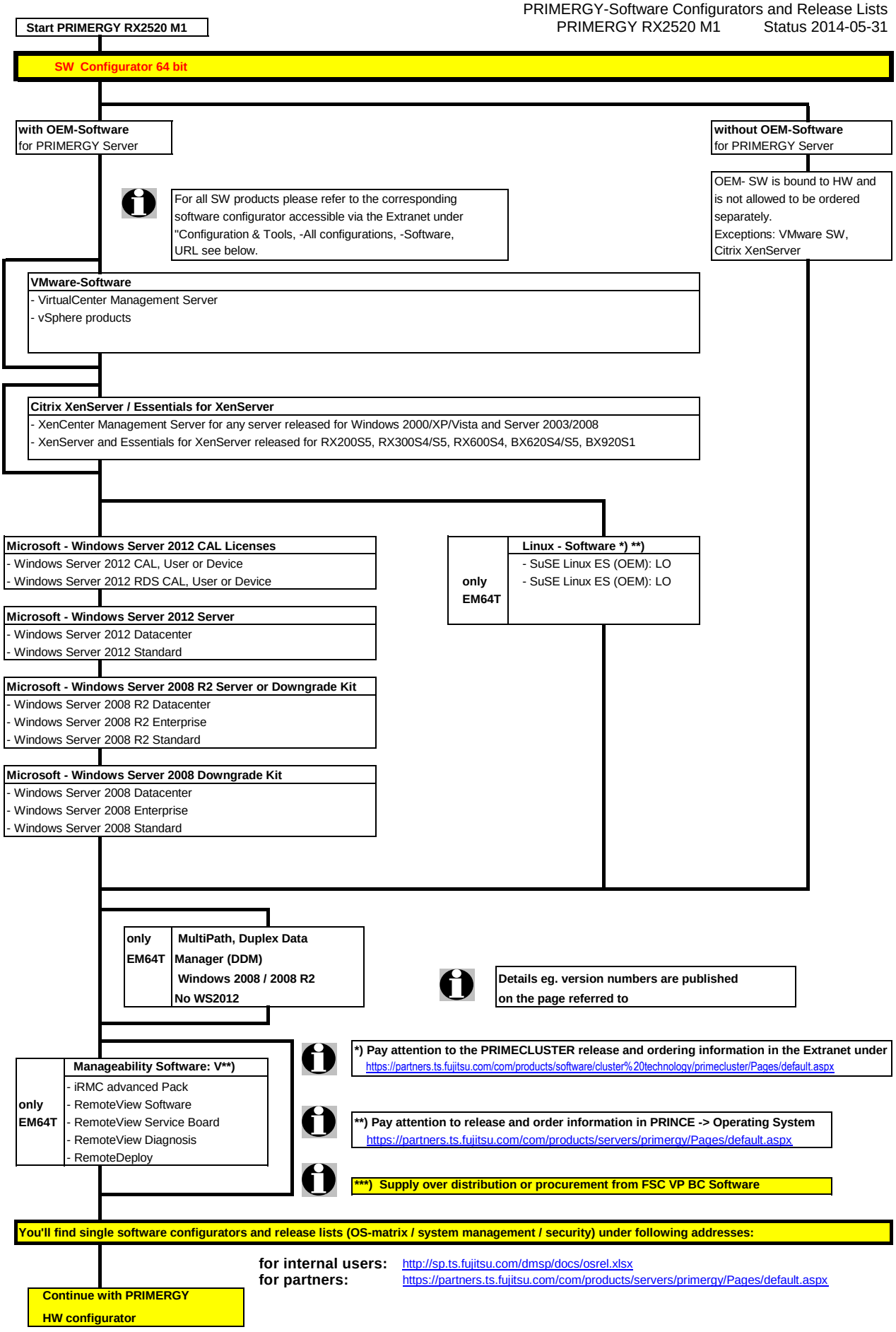
Key:

Included in basic unit

Option

One **CPU**, one **memory** per CPU and one **PSU** has to be selected for an orderable basic unit.


Start PRIMERGY RX2520 M1
SW Configurator 32 bit
with OEM-Software
for PRIMERGY Server
without OEM-Software
for PRIMERGY Server
OEM- SW is bound to HW and is not allowed to be ordered separately.
VMware-Software
- VirtualCenter Management Server
- vSphere products
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
- SuSE Linux ES (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/primergy/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/primergy/Pages/default.aspx
Continue with PRIMERGY HW configurator


Start PRIMERGY RX2520 M1
SW Configurator 64 bit
with OEM-Software
for PRIMERGY Server
without OEM-Software
for PRIMERGY Server
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
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
Linux - Software *) **)
- SuSE Linux ES (OEM): LO
- SuSE Linux ES (OEM): LO
only EM64T
MultiPath, Duplex Data Manager (DDM)
Windows 2008 / 2008 R2
No WS2012
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
*) 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/primergy/Pages/default.aspx
***) 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 RX2520 M1

Section | Basic unit

System unit consisting of:
*** 2U Housing without power supply modules**
*** Basic units with:**
- 2 Hot-Plug Power Supply Bays
- 4 Bays for fans: 2 + 1 fans (redundancy option), 2nd CPU requires additional fan!
note: 12x 3.5" HD basic unit contains allways 5 fans!
- 6 memory DIMMs per CPU => Total 12 DIMMs for two CPU`s
*** SAS Backplane for 12x 3.5" HD, SAS Backplanes for 4, 8, 12 or 16x 2.5" HD or PCIe Backplanes for with cable connection to on-board, modular RAID Controller**

*** Drives/Bays**
- 8 or 12 bays 1" for hot plug 3.5" HD (1" high) or 4, 8, 12 or 16 bays for hot plug 2.5" HD
- 1 bay for 3.5" and 1.6" high Backup device, not possible for 3.5" HD basic units or for basic unit with 12 or 16 x 2,5" HD
- 1 bay for 5.25" and 1.6" high Backup device, not possible for basic units 3.5" HD or for basic unit with 12 or 16 x 2,5" HD
- 1 bay SATA-CD- or DVD-ROM 0,5" height (option), not possible for 12x 3.5" HD basic unit
- 1 bay for opt. LocalView LC-Display, not possible for 3.5" HD basic units

*** Integrated ServerView Diagnostics Technology (Diagnosis LED`s) for indication of internal failed components**

Systemboard D3169 with:
*** Up to two Xeon DP CPU`s (Socket-B2)**
with 1 serial QPI link (Quick Path Interconnect) and three memory channels per CPU
First CPU has to be selected for an orderable basic unit,
*** Chipset Intel® C600 Series (codenamed Patsburg)**

*** 7 PCI slots:** **- 3x PCIe-3 x8 (Slots are connected to CPU 2, useable with configured 2nd CPU only!)**
all Gen 3 **- 2x PCIe-3 x8**
- 1x PCIe-3 x4 Gen 2 only
- 1x PCIe-3 x8 (for internal modular RAID controller only)

*** 12 memory slots for max. 192 GB RAM DDR3 available**
- Memory is divided into 6 DIMMs per CPU (3 channels with 2 slots per channel)
Possible max. configurations are:
12x 16GB RDIMM (dual rank modules) = 192 GB
12x 32GB LRDIMM (quad rank modules) = 384 GB on project release only
12x 64GB LRDIMM (quad rank modules) = 768GB on project release only
First Memory (one module) has to be selected for an orderable basic unit per CPU
- Memory upgrade is possible module wise

*** 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)

Interfaces at the rear:
* 1x RS-232-C (serial, 9 pins) (usable for BMC or OS or shared)
* 1x VGA (15 pins)
* 4x USB **2.0** (UHCI) with **480MBit/s,** no USB wakeup
* 2x LAN RJ45, 1x Service-LAN RJ45

Interfaces on the front:
* 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

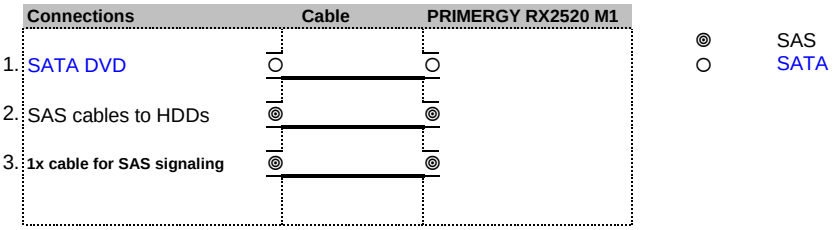
Interfaces internal:
* 1x released internal USB Interfaces for backup devices,
* 1x USB 2.0 (UHCI) with 480MBit/s for dongle funcionality (uSSD memory), no USB wakeup
* 1x SATA interface for DVD (only usable with 4x 2.5" HDD + DVD Option)
* 4x SATA/SAS interface for 4 SATA/SAS HD`s or SAS Backup device
* 2x USB 2.0 ports for internal USB redirection connected to BMC

Software:
*** ServerView Suite Software package incl. ServerStart, ServerBooks, Management Software and Updates**
*** Documentation engl. (multilingual on CD)**

A

A

Cables included in basic unit



Note: Rack Mounting kit and Power Cord for RX2520 M1 is not included in the basic unit and has to be configured separately

Rack version for 19" racks with No PSU included in Base Unit		
Basic unit is without CPU and Memory For an orderable basic unit one CPU = first CPU and one memory = first memory has to be selected		
Basic unit with **8x 3.5" HDD bays**	**S26361-K1480-V101**	April 2014
12x 3.5" HDD bays	**S26361-K1480-V112**	April 2014
Basic unit with **2.5" HDD bays expandable**	**S26361-K1480-V401**	

Basic unit with 2.5" HDD bays is modular expandable with various modules for backup devices integration or up to 16x 2.5" HDDs.
Details and pictures see Section Va:
Possible configuration options for basic units

Full redundancy cannot be guaranteed for a max. config. with e.g. two 95W CPUs with 450W PSUs In this case SysArch will generate a warning and Power Safeguard will throttle CPUs in case of a PSU failure.
So, power consumption will be limited to 450W.

S26113-F575-E12	**S26113-F574-E12**	**S26113-F609-E10** (on project release)	**S26113-F615-E10** (March 2014)
450W PSU module platinum	**800W** PSU module platinum	**800W** PSU module -48V DC gold	**800W** PSU module titanium
1st or 2nd PSU for redundancy	1st or 2nd PSU for redundancy	1st or 2nd PSU for redundancy	1st or 2nd PSU for redundancy
94% efficiency (platinum)	94% efficiency (platinum)	92% efficiency (gold)	96% efficiency (titanium)
uses hot plug PSU slot	uses hot plug PSU slot	uses hot plug PSU slot	uses hot plug PSU slot
min. 1 / max. 2x per system	min. 1 / max. 2x per system	min. 1 / max. 2x per system	min. 1 / max. 2x per system

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 -48V DC PSU hot plug no power cable included!!!	**S26113-F609-L10**	on project release
One 800W power supply module titanium no power cable included!!!	**S26113-F615-L10**	as soon as available
Please order appropriate power cord additionally:		
Powercord for rack, 4m, grey, IEC320 C13->C14 connector		**T26139-Y1968-L10**
Power Cord USA / Canada, 1.8m, grey		**T26139-Y1742-L10**
Power Cord -48V DC, 4m, black		**T26139-Y4024-L10**

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

S26361-F3667-E10
Redundant fan upgrade kit
2 + 1 fans (redundancy option)
2nd CPU requires additional fan (comes automaticly)
max. 1x per system

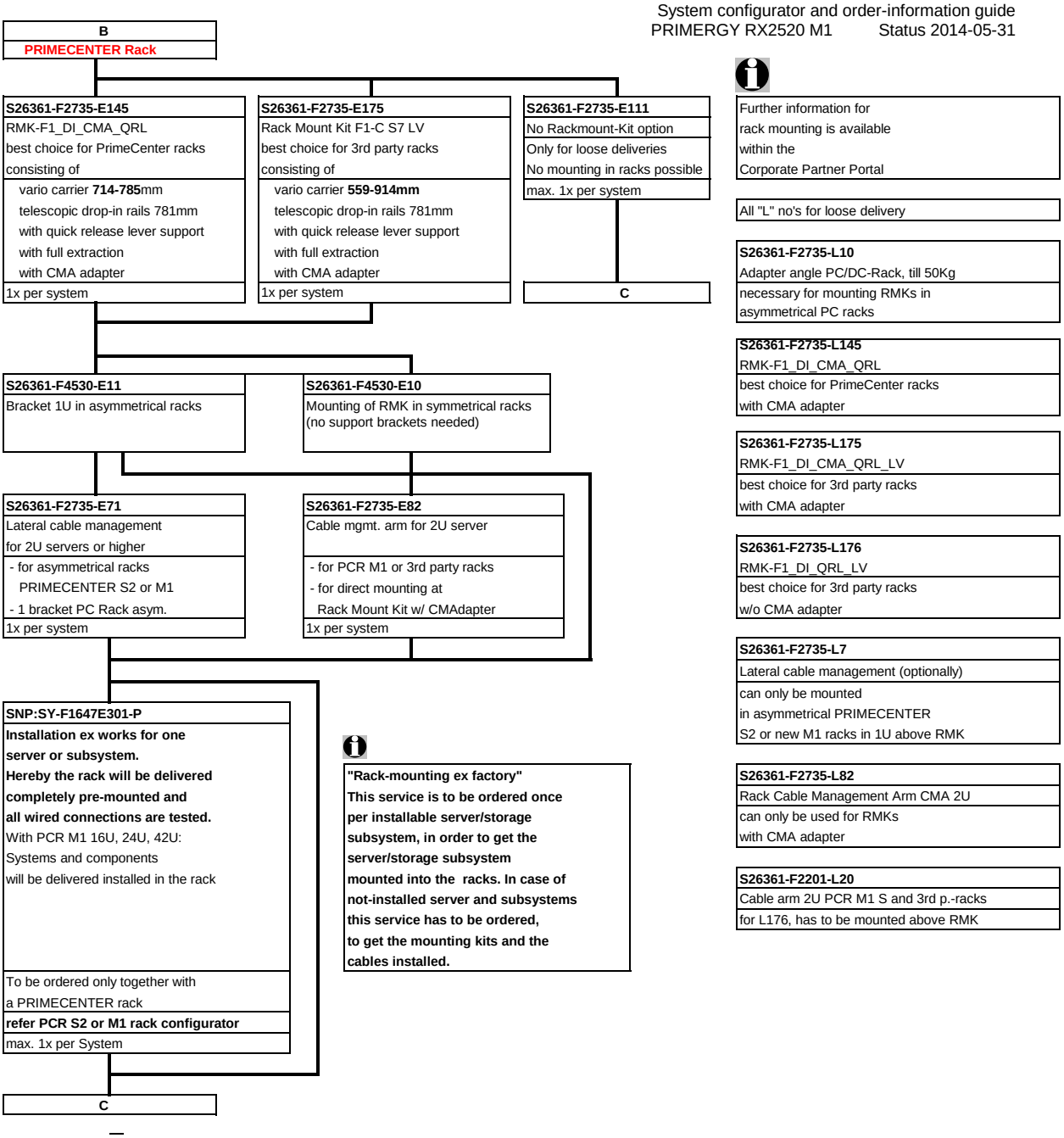
Not possible for 12x 3.5" HD basic unit
It contains allways 5 fans!

S26361-F3552-E6
TPM Module
Trusted Platform Module on Motherboard
Use according to import restrictions
max. 1x per system

S26361-F3552-L6
TPM Module add-on kit
for later integration (loose delivery)
Trusted Platform Module on Motherboard
Use according to import restrictions
max. 1x per system

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

B



Further information for
rack mounting is available
within the
Corporate Partner Portal

All "L" no's for loose delivery

S26361-F2735-L10
Adapter angle PC/DC-Rack, till 50Kg
necessary for mounting RMKs in
asymmetrical PC racks

S26361-F2735-L145
RMK-F1_DI_CMA_QRL
best choice for PrimeCenter racks
with CMA adapter

S26361-F2735-L175
RMK-F1_DI_CMA_QRL_LV
best choice for 3rd party racks
with CMA adapter

S26361-F2735-L176
RMK-F1_DI_QRL_LV
best choice for 3rd party racks
w/o CMA adapter

S26361-F2735-L7
Lateral cable management (optionally)
can only be mounted
in asymmetrical PRIMECENTER
S2 or new M1 racks in 1U above RMK

S26361-F2735-L82
Rack Cable Management Arm CMA 2U
can only be used for RMKs
with CMA adapter

S26361-F2201-L20
Cable arm 2U PCR M1 S and 3rd p.-racks
for L176, has to be mounted above RMK

C

Section **Processor**

There are 2 processor sockets available.
The first socket must always be 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**
2nd CPU requires additional fan which comes automaticly when ordering 2nd CPU!
Two processors with different clock frequencies are not possible

C1

8x3,5" HDD Base Unit
S26361-K1480-V101

2,5" HDD Base Unit(s)
S26361-K1480-V401

C2

12x3,5" HDD Base Unit
S26361-K1480-V112

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 CPUs - 1x 64-bit Intel Xeon (10MB shared TLC = Third Level Cache) 1333 MHz DDR3 Bus, 6,40 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2403v2 4C/4T 1.80GHz 10MB 6.40GT/s 1333MHz 80W	**S26361-F3832-E180**
Xeon E5-2407v2 4C/4T 2.40GHz 10MB 6.40GT/s 1333MHz 80W	**S26361-F3832-E240**
Standard Turbo 6/8C CPUs - 1x 64-bit Intel Xeon (15/20MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus, 7,20 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2420v2 6C/12T 2.20GHz 15MB 7.20GT/s 1600MHz 80W	**S26361-F3833-E220**
Xeon E5-2430v2 6C/12T 2.50GHz 15MB 7.20GT/s 1600MHz 80W	**S26361-F3833-E250**
Xeon E5-2440v2 8C/16T 1.90GHz 20MB 7.20GT/s 1600MHz 95W	**S26361-F3833-E190**
Advanced Turbo+ 8C/10C CPU - 1x 64-bit Intel Xeon (20MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus, 8,00 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2450v2 8C/16T 2.50GHz 20MB 8.00GT/s 1600MHz 95W	**S26361-F3834-E250**
Xeon E5-2470v2 10C/20T 2.40GHz 25MB 8.00GT/s 1600MHz 95W	**S26361-F3834-E240**
Low Power 6C CPU - 1x 64-bit Intel Xeon (15MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1333 MHz DDR3 Bus, 7,20 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2430Lv2 6C/12T 2.40GHz 15MB 7.20GT/s 1600MHz 60W	**S26361-F3835-E240**
Xeon E5-2450Lv2 10C/20T 1.70GHz 25MB 8.00GT/s 1600MHz 60W	**S26361-F3835-E170**

D

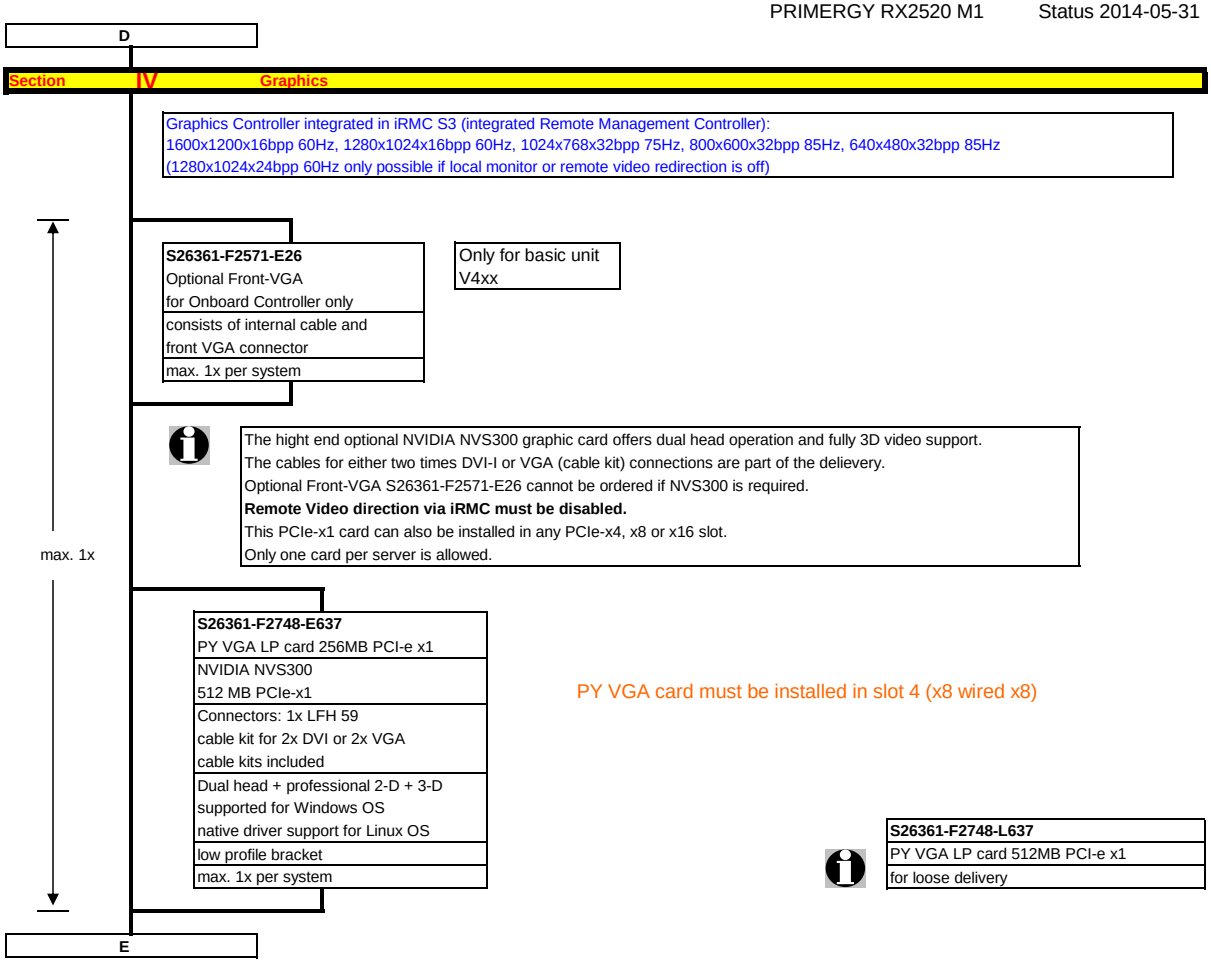
C2

12x3,5'' HDD Base Unit
S26361-K1480-V112

as soon as available

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 CPUs - 1x 64-bit Intel Xeon (10MB shared TLC = Third Level Cache) 1333 MHz DDR3 Bus, 6,40 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2403v2 4C/4T 1.80GHz 10MB 6.40GT/s 1333MHz 80W	**S26361-F3832-E181**
Xeon E5-2407v2 4C/4T 2.40GHz 10MB 6.40GT/s 1333MHz 80W	**S26361-F3832-E241**
Standard Turbo 6/8C CPUs - 1x 64-bit Intel Xeon (15/20MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus, 7,20 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2420v2 6C/12T 2.20GHz 15MB 7.20GT/s 1600MHz 80W	**S26361-F3833-E221**
Xeon E5-2430v2 6C/12T 2.50GHz 15MB 7.20GT/s 1600MHz 80W	**S26361-F3833-E251**
Xeon E5-2440v2 8C/16T 1.90GHz 20MB 7.20GT/s 1600MHz 95W	**S26361-F3833-E191**
Advanced Turbo+ 8C/10C CPU - 1x 64-bit Intel Xeon (20MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1600 MHz DDR3 Bus, 8,00 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2450v2 8C/16T 2.50GHz 20MB 8.00GT/s 1600MHz 95W	**S26361-F3834-E251**
Xeon E5-2470v2 10C/20T 2.40GHz 25MB 8.00GT/s 1600MHz 95W	**S26361-F3834-E241**
Low Power 6C CPU - 1x 64-bit Intel Xeon (15MB shared TLC = Third Level Cache); Hyper-Threading (HT); 1333 MHz DDR3 Bus, 7,20 GT/s QPI Bus and passive heat sink occupies socket for one CPU	
Xeon E5-2430Lv2 6C/12T 2.40GHz 15MB 7.20GT/s 1600MHz 60W	**S26361-F3835-E241**
Xeon E5-2450Lv2 10C/20T 1.70GHz 25MB 8.00GT/s 1600MHz 60W	**S26361-F3835-E171**

D


D
Section IV Graphics
Graphics Controller integrated in iRMC S3 (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
Only for basic unit
V4xx
The hight 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 delievery.
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
PY VGA card must be installed in slot 4 (x8 wired x8)
S26361-F2748-L637
PY VGA LP card 512MB PCI-e x1
for loose delivery
E

E

Section III Memory

- There are 6 memory slots per CPU for max.
96GB RDIMM (6x 16GB 2R)
currently up to 192GB for two CPUs (96GB per CPU), using RDIMM
- The memory area is divided into 3 channels per CPU with 2 slots per channel
- Slot 1 of each channel belongs to memory bank 1, the slot 2 belongs to memory bank 2.

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 2 DIMMs per channel configuration the max memory speed is 1600 MHz (depending on CPU)
@1.35V the max memory speed is 1333MHz max
SDDC (Chipkill) is supported for registered x4 organized memory modules only

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)

2.) "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: 3x identical modules

F

F

1x per CPU

S26361-F3695-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

S26361-F3695-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 3 identical modules to be configured per CPU

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

6x per CPU
max. 2 mod.
per channel

Registered Memory (RDIMM) with SDDC (chipkill) support

- one DDR3 registered ECC mem. Module, 1.35V
- 1600MHz supported with up to 2DPC (8 modules/CPU) @ 1.5V

Choose up to 6 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**

Note 1.)

Max. DDR3 memory speed depends on the CPU type.

Load Reduced Memory (LRDIMM) with SDDC (chipkill) support

- one DDR3 load reduced ECC mem. Module, 1.35V

Choose up to 6 order codes per CPU

32GB (1x32GB) 4Rx4 L DDR3-1600 LR ECC	on project release only
64GB (1x64GB) 8Rx4 L DDR3-1333 LR ECC	on project release only

G

Memory Configuration PRIMERGY RX2520 M1

Each CPU offers 6 **Slots** for DDR3 Memory Modules organised in **2 Banks and 3 Channels.**
If you need more than 6 Slots you have to configure the 2nd CPU.
Depending on the amount of memory configured you can decide between 2 basic modes of operation (see explanation below).

Mode	Configuration	RDIMM	Application
		x4	
SDDC (chipkill) support	any	yes	detect multi-bit errors
Independant Channel Mode	1, 2 or 3 Modules per Bank	yes	offers max. flexibility, upgradeability, capacity use UDIMM modules for lowest cost
Performance Mode	3 identical Modules / Bank	yes	offers maximum performance and capacity

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

Capacity	Configuration	RDIMM	Notes
Min. Memory per CPU	1 Module / CPU	4GB	with one CPU
Max. Memory per CPU	6 Modules / CPU	96GB	with one CPU
Max. Memory per System	12 Modules / System	192GB	if second CPU is configured

Memory-Speed:
Max. DDR3 memory speed depends on the speed of the CPU
Real maximum memory-bus speed depending on CPU type and voltage setting (BIOS; default is 1.5V)

Mem. Speed provided by CPU	RDIMM 1600MHz			
Voltage setting (BIOS)	1.5V		1.35V	
DIMM per Channel (DPC)	1	2	1	2
CPU with 1600MHz DDR3 Bus	1600	1600	1333	1333
CPU with 1333MHz DDR3 Bus	1333	1333	1333	1333

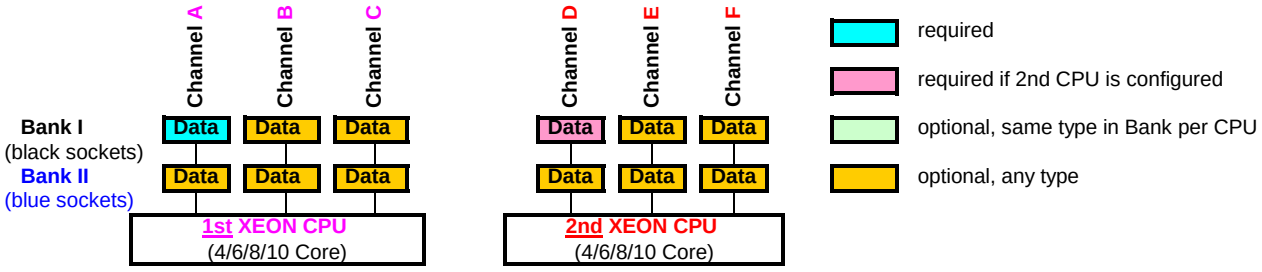
Configuration hints:

- The memory sockets on the systemboard offer a color coding:
  Bank I black sockets
  Bank II blue sockets

- A so called Bank consits of 1 memory module on every Channel available on one CPU (examples see below)
  Bank I on CPU 1/2 up to 3 memory modules connected to Channel A - F on the 1st/2nd CPU
  Bank II on CPU 1/2 up to 3 memory modules connected to Channel A - F on the 1st/2nd CPU

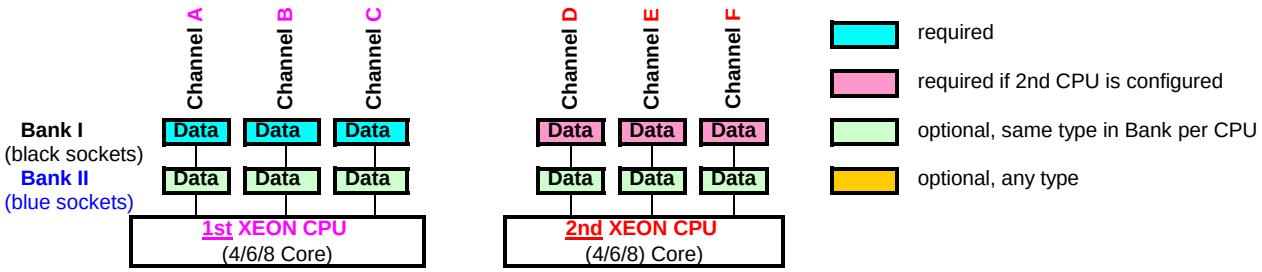
- See below and next page for a detailed descriptions of the memory configuration supported.

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. Performance Channel Mode

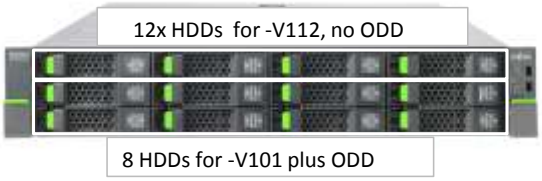


Performance Channel Mode requires identical modules on all channels of each Bank per CPU.
If this mode is used, a multiple of 3 identical modules has to be ordered.

G

Section Va Possible configuration options for basic units

April 2014



Basic unit S26361-K1480-V101 with 8x 3.5" HDDs	
Basic unit S26361-K1480-V112 with 12x 3.5" HDDs	
Available Upgrade kit for -V101:	
Upgrade kit to 12x 3.5" HDD	**S26361-F1480-L119**

Basic unit S26361-K1480-V401 with	**expandable**
Config 2: 4x 2.5" HDD	**S26361-F1373-E420** *)
Available Upgrade kits for this configuration option:	
Upgrade kit to 8x 2.5" HDD	**S26361-F1373-L424**
Upgrade kit to 12x 2.5" HDD	**S26361-F1373-L427**
Upgrade kit to 4x 2.5" HDD + LTO	**S26361-F1373-L423**

Basic unit S26361-K1480-V401 with	**expandable**
Config 3: 4x 2.5" HDD + LTO	**S26361-F1373-E430**
Available Upgrade kits for this configuration option:	
Upgrade kit to 8x 2.5" HDD	**S26361-F1373-L436**

Basic unit S26361-K1480-V401 with	**expandable**
Config. 4: 8x 2,5" HDD bays	**S26361-F1480-E440**
Available Upgrade kits for this fixed configuration:	
Upgrade kit to 12x 2.5" HDD	**S26361-F1373-L247**
Upgrade kit to 16x 2.5" HDD	**S26361-F1373-L248**

Basic unit S26361-K1480-V401 with	
Config 5: 8x 2.5" HDD + 3.5" drive	**S26361-F1373-E450**
No Upgrade kit available!	

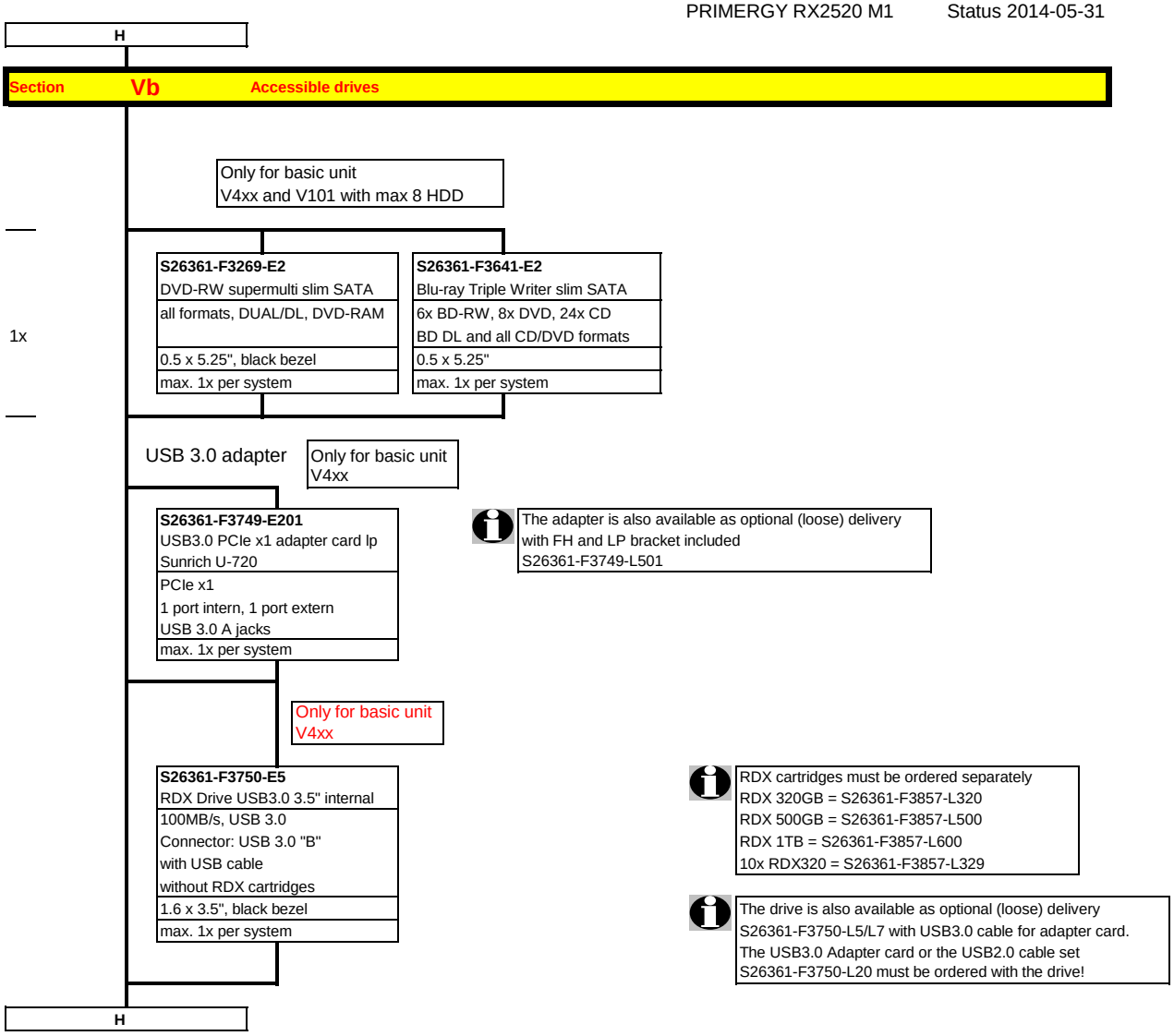
Basic unit S26361-K1480-V401 with	
Config 6: 8x 2.5" HDD + LTO	**S26361-F1373-E460**
no ODD and LSD bay available!	
No Upgrade kit available!	

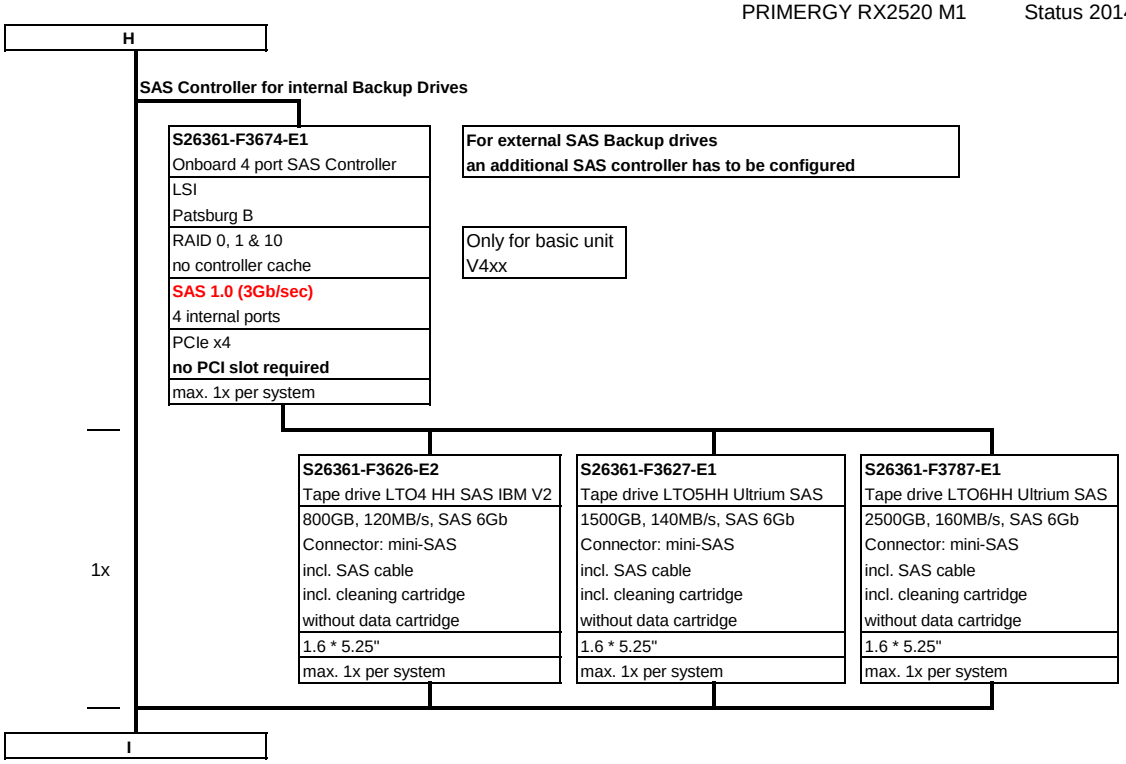
Basic unit S26361-K1480-V401 with	**expandable**
Config 7: 12x 2,5" HDD bays	**S26361-F1480-E470**
Available Upgrade kits for this configurations:	
Upgrade kit to 16x 2.5" HDD	**S26361-F1373-L378**

Basic unit S26361-K1480-V401 with	
Config 8: 16x 2.5" HDD	**S26361-F1373-E480**
no ODD and LSD bay available!	
No Upgrade kit available!	
Includes all necessary bezels, cages, backplanes and cables	

*) these are the only HDD/SSD configuration opportunity without needed RAID controller

H


H
Section Vb Accessible drives
Only for basic unit
V4xx and V101 with max 8 HDD
1x
S26361-F3269-E2
DVD-RW supermulti slim SATA
all formats, DUAL/DL, DVD-RAM
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
Only for basic unit
V4xx
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
The adapter is also available as optional (loose) delivery
with FH and LP bracket included
S26361-F3749-L501
Only for basic unit
V4xx
S26361-F3750-E5
RDX Drive USB3.0 3.5" internal
100MB/s, USB 3.0
Connector: USB 3.0 "B"
with USB cable
without RDX cartridges
1.6 x 3.5", black bezel
max. 1x per system
RDX cartridges must be ordered separately
RDX 320GB = S26361-F3857-L320
RDX 500GB = S26361-F3857-L500
RDX 1TB = S26361-F3857-L600
10x RDX320 = S26361-F3857-L329
The drive is also available as optional (loose) delivery
S26361-F3750-L5/L7 with USB3.0 cable for adapter card.
The USB3.0 Adapter card or the USB2.0 cable set
S26361-F3750-L20 must be ordered with the drive!
H


H
SAS Controller for internal Backup Drives
S26361-F3674-E1
Onboard 4 port SAS Controller
LSI
Patsburg B
RAID 0, 1 & 10
no controller cache
SAS 1.0 (3Gb/sec)
4 internal ports
PCIe x4
no PCI slot required
max. 1x per system
For external SAS Backup drives
an additional SAS controller has to be configured
Only for basic unit
V4xx
1x
S26361-F3626-E2
Tape drive LTO4 HH SAS IBM V2
800GB, 120MB/s, SAS 6Gb
Connector: mini-SAS
incl. SAS cable
incl. cleaning cartridge
without data cartridge
1.6 * 5.25"
max. 1x per system
S26361-F3627-E1
Tape drive LTO5HH Ultrium SAS
1500GB, 140MB/s, SAS 6Gb
Connector: mini-SAS
incl. SAS cable
incl. cleaning cartridge
without data cartridge
1.6 * 5.25"
max. 1x per system
S26361-F3787-E1
Tape drive LTO6HH Ultrium SAS
2500GB, 160MB/s, SAS 6Gb
Connector: mini-SAS
incl. SAS cable
incl. cleaning cartridge
without data cartridge
1.6 * 5.25"
max. 1x per system
I

I

Section VI Hard disks drives

Modular Raid controller is connected to internal HDDs
For basic unit V101 up to 12 SAS 3.5" hard disks can be configured also in mixed configuration.
The option "Tape drive" is not possible for 3.5" Version (V1xx)
Mixed configurations with Eco SATA drives and SAS drives are not allowed
3.5" SAS drives and 3.5" BC SATA drives can be mixed, but not used in one logical RAID volume

8x or 12x with SAS expander for basic unit V1xx

SATA Disk Drive 3.5"

HDD SATA 6Gb/s 3.5" with hot plug/hot replace tray	
500GB 7200rpm,<9,0ms, 64MB Cache	S26361-F3815-E500
1TB 7200rpm,<9,0ms, 64MB Cache	S26361-F3815-E100
2TB 7200rpm,<9,0ms, 64MB Cache	S26361-F3815-E200
3TB 7200rpm,<9,0ms, 64MB Cache	S26361-F3815-E300
4TB 7200rpm,<9,0ms, 64MB Cache	S26361-F3815-E400
max. 8x or 12x per System	

Please order additionally either/or:

Config 1: Max. 8x 3.5" HDD	S26361-F1480-E101
Config 9: Up to 12x 3.5" HDD	S26361-F1480-E109

SAS Disk Drive 3.5"

HDD SAS 6Gb/s 3.5" with hot plug/hot replace tray	
300GB 15000rpm,<4,0ms, 16MB Cache	S26361-F3819-E530
450GB 15000rpm,<4,0ms, 16MB Cache	S26361-F3819-E545
600GB 15000rpm,<4,0ms, 16MB Cache	S26361-F3819-E560
1TB 7200rpm,<9,0ms, 32MB Cache	S26361-F3820-E100
2TB 7200rpm,<9,0ms, 32MB Cache	S26361-F3820-E200
3TB 7200rpm,<9,0ms, 32MB Cache	S26361-F3820-E300
4TB 7200rpm,<9,0ms, 32MB Cache	S26361-F3820-E400
max. 8x or 12x per System	

SATA SSDs

SSD SATA 6Gb/s, 2.5" SSD with 3.5" hot plug/hot replace tray (H-P)	
100GB, Enterprise (EP), Mainstream Endurance (ME)*	S26361-F5289-E100
200GB, Enterprise (EP), Mainstream Endurance (ME)*	S26361-F5289-E200
400GB, Enterprise (EP), Mainstream Endurance (ME)*	S26361-F5289-E400
800GB, Enterprise (EP), Mainstream Endurance (ME)*	S26361-F5289-E800
max. 8x or 12x per System	

J

J

Solid State Disk 2.5", Mainstream Endurance*

SSD SATA 6Gb/s 2.5" with hot plug/hot replace tray (H-P)	
100GB, Enterprise (EP), Mainstream Endurance (ME)	S26361-F5303-E100
200GB, Enterprise (EP), Mainstream Endurance (ME)	S26361-F5303-E200
400GB, Enterprise (EP), Mainstream Endurance (ME)	S26361-F5303-E400
800GB, Enterprise (EP), Mainstream Endurance (ME)	S26361-F5303-E800
max. 4/8/12/16x per system	

*) SSD Mainstream Endurance 10DWPD over 5y

SAS Disk Drive 2.5"

max 4/8/12/16x for V4xx

HDD SAS 6Gb/s 2.5" with hot plug/hot replace tray	
300GB 10000rpm,<4,5ms, 32MB Cache	S26361-F5247-E130
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, 16MB Cache	S26361-F4482-E514
300GB 15krpm,<4,5ms, 32MB Cache	S26361-F4482-E530
500GB 7.2krpm,<9,5ms, 64MB Cache	S26361-F5228-E500
1TB 7.2krpm,<9,5ms, 64MB Cache	S26361-F5228-E100
max. 4/8/12/16x per system	

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
500GB 7.2krpm,<9,5ms, 64MB Cache	S26361-F3708-E500
1TB 7.2krpm,<9,5ms, 64MB Cache	S26361-F3708-E100
max. 4/8/12/16x per system	

K

K

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

On board SATA Controller with 3 Gb/sec and up to 4x 2.5" SATA HDDs (no additional controller required)
For up to 4x 2.5" SAS HDDs with RAID 0/1 functionality a Patsburg Upgrade Kit is required
For all other HDD configurations a modular RAID-controller is required

Following optional onboard SAS RAID can be selected for 4x2.5" HDDs or one SAS Tape device

S26361-F3674-E1
Onboard 4 port SAS Controller
LSI
Patsburg B
RAID 0, 1 & 10
no controller cache
SAS 1.0 (3Gb/sec)
4 internal ports
PCIe x4
no PCI slot required
max. 1x per system

Only for basic unit
V4xx

For more than 4 hard disks or 6 Gb/sec one of the following modular RAID-controllers is required

Modular Raid 0/1 controller with IME support for SAS/SATA
This RAID controller supports max. 8 HDDs on 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 max. 16 HDDs combined with internal SAS expander

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

S26361-F3554-E8
RAID Ctrl SAS 6G 8port internal
Based on chip LSISAS2008
LSI MegaRAID
no Cache, no BBU
RAID 0, 1 & 10
Support for 3Gb/s and 6Gb/s
SATA and SAS hard drives
PCIe x8
Low-profile MD2 form factor
max. 1x per system

S26361-F3554-E512
RAID Ctrl SAS 6G 8port internal
Based on chip LSISAS2108
LSI MegaRAID
512MB Cache with ECC
RAID 0, 1, 10, 5, 50, 6, 60
optional BBU
Support for 3Gb/s and 6Gb/s
SATA and SAS hard drives
PCIe x8
Low-profile MD2 form factor
max. 1x per system

S26361-F3669-E4
RAID Ctrl SAS 6G 8port internal
Based on chip LSISAS2208
LSI MegaRAID
1GB Cache with ECC
RAID 0, 1, 10, 5, 50, 6, 60
optional FBU
Support for 3Gb/s and 6Gb/s
SATA and SAS hard drives
PCIe 3.0 x8
Low-profile MD2 form factor
max. 1x per system

1x

S26361-F3669-E660
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
max. 1x per Controller

Lose delivery options

S26361-F3669-L660
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
max. 1x per Controller

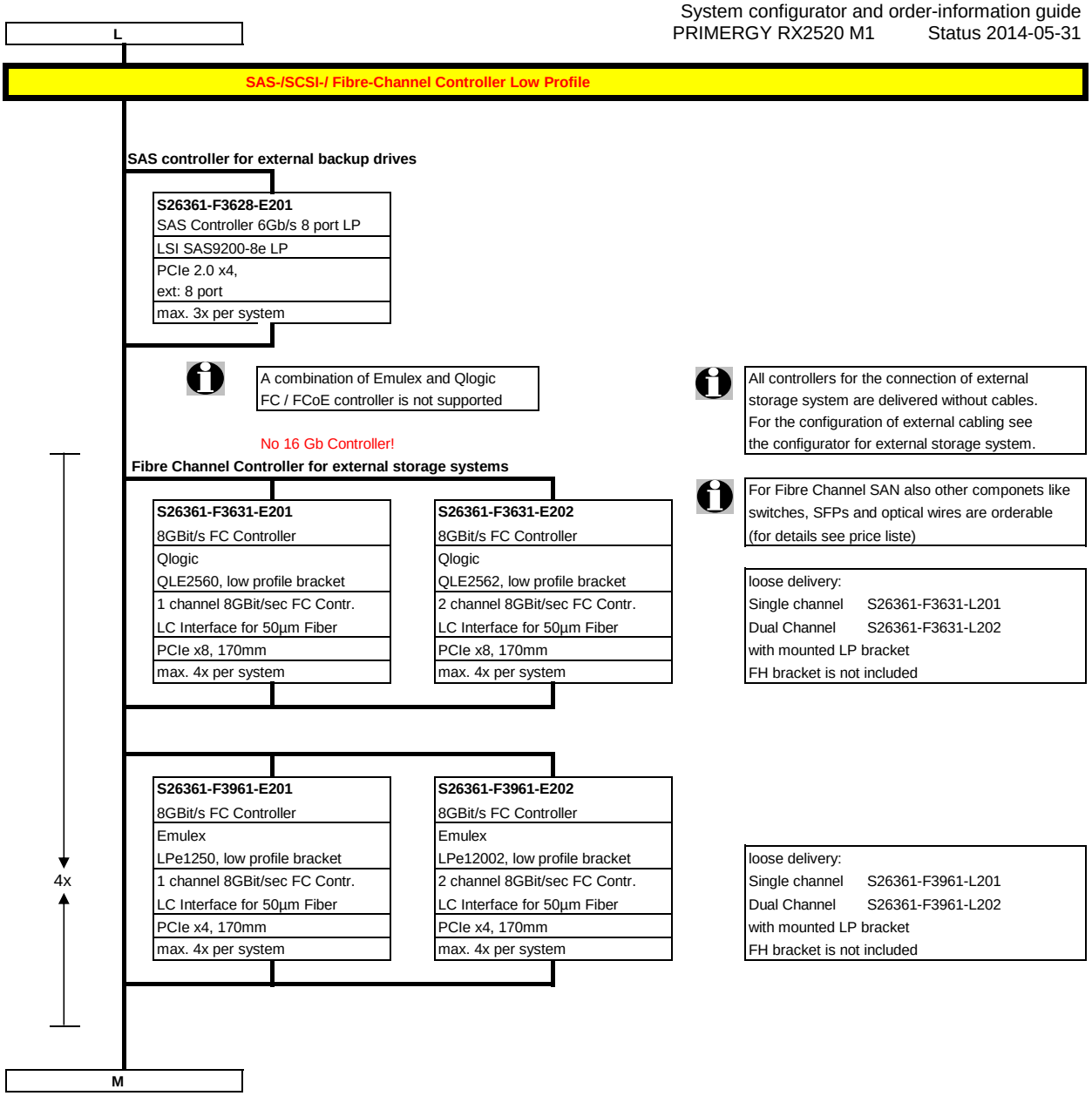
S26361-F3669-L100
TFM Module for FBU option
max. 1x per Controller

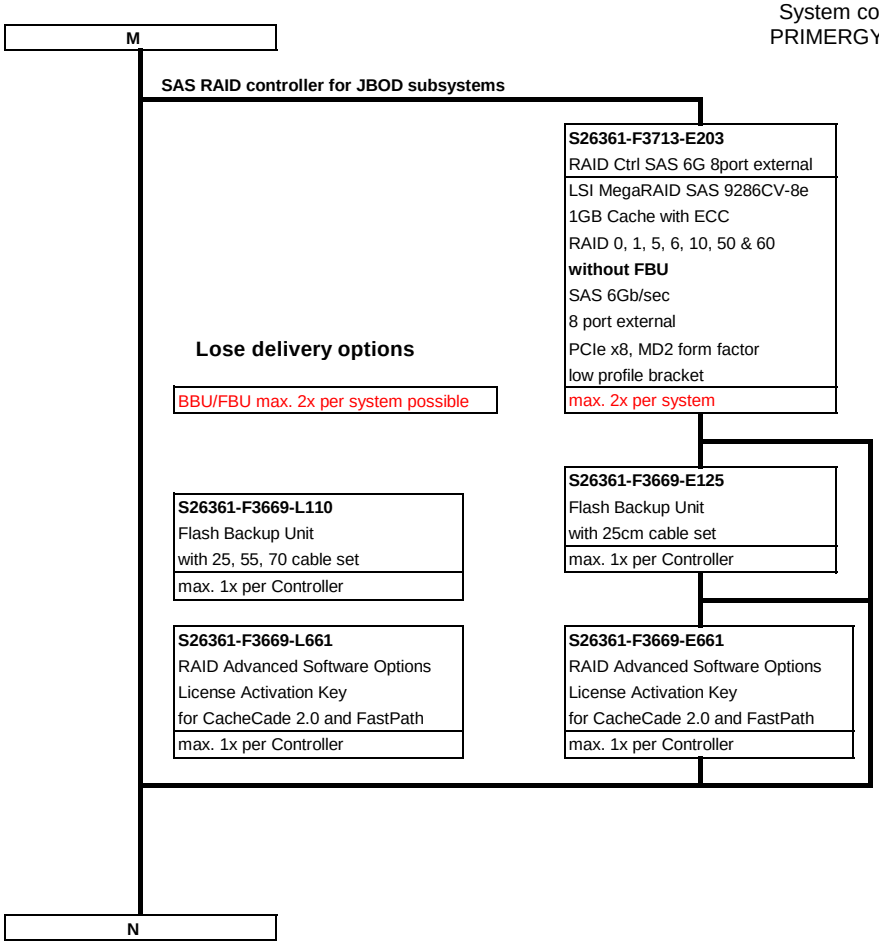
S26361-F3669-L110
Flash Backup Unit
with 25cm, 55cm, 70cm cable set
max. 1x per Controller

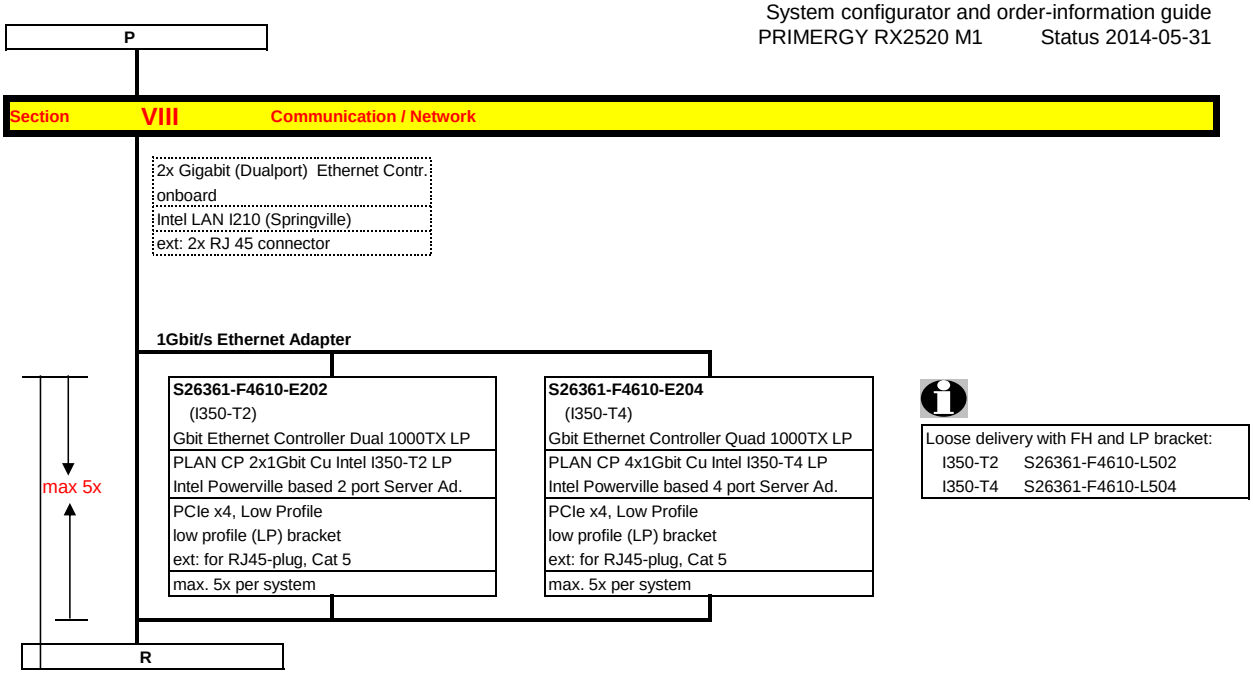
S26361-F3669-E100
TFM Module for FBU option
(flash and FBU control logic)
max. 1x per Controller

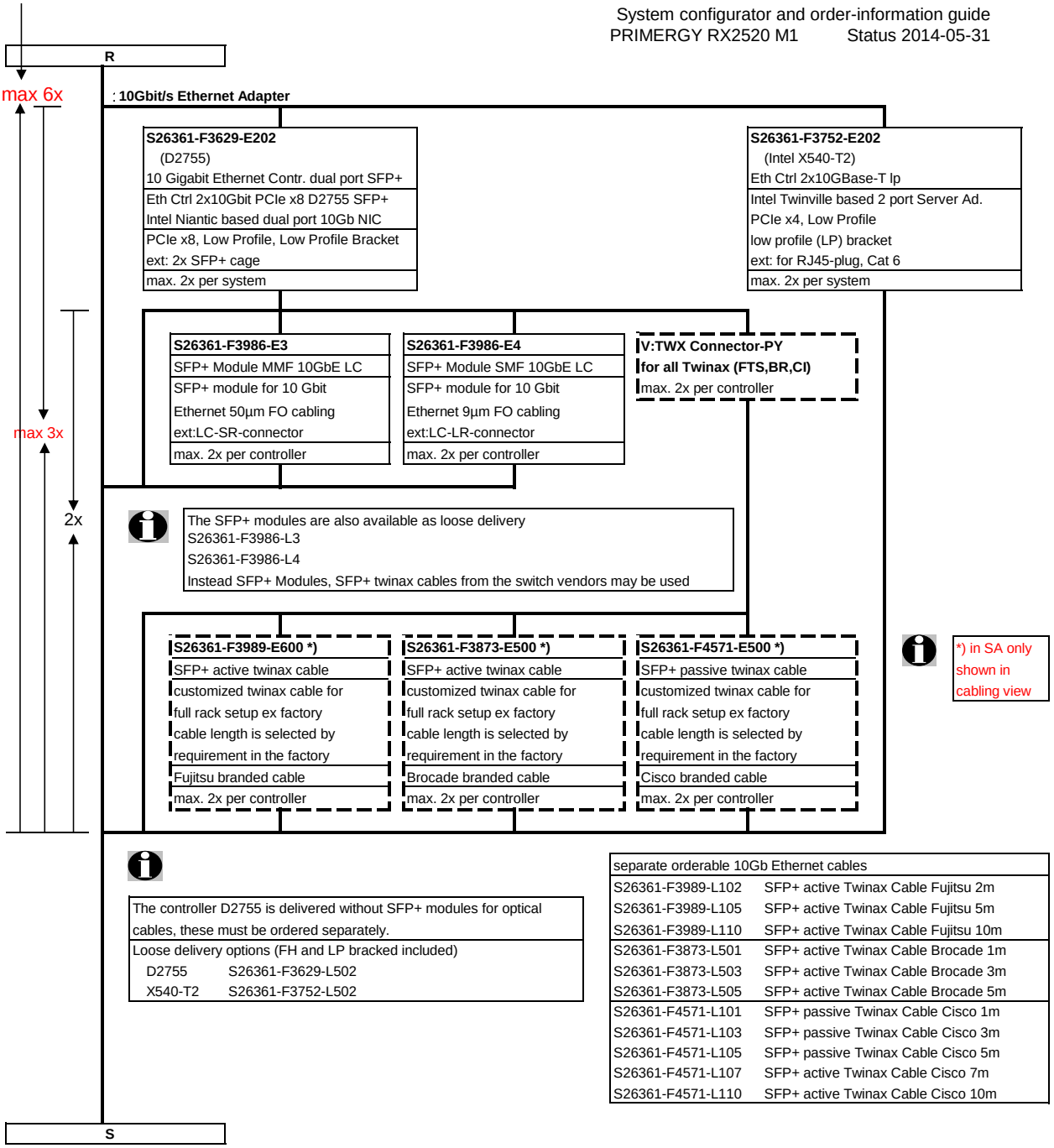
S26361-F3669-E125
Flash Backup Unit
with 25cm cable set
max. 1x per Controller

L


L
SAS-/SCSI-/ Fibre-Channel Controller Low Profile
SAS controller for external backup drives
S26361-F3628-E201
SAS Controller 6Gb/s 8 port LP
LSI SAS9200-8e LP
PCIe 2.0 x4,
ext: 8 port
max. 3x per system
A combination of Emulex and Qlogic
FC / FCoE controller is not supported
All controllers for the connection of external
storage system are delivered without cables.
For the configuration of external cabling see
the configurator for external storage system.
No 16 Gb Controller!
Fibre Channel Controller for external storage systems
For Fibre Channel SAN also other componets like
switches, SFPs and optical wires are orderable
(for details see price liste)
S26361-F3631-E201
8GBit/s FC Controller
Qlogic
QLE2560, low profile bracket
1 channel 8GBit/sec FC Contr.
LC Interface for 50µm Fiber
PCIe x8, 170mm
max. 4x per system
S26361-F3631-E202
8GBit/s FC Controller
Qlogic
QLE2562, low profile bracket
2 channel 8GBit/sec FC Contr.
LC Interface for 50µm Fiber
PCIe x8, 170mm
max. 4x per system
loose delivery:
Single channel S26361-F3631-L201
Dual Channel S26361-F3631-L202
with mounted LP bracket
FH bracket is not included
S26361-F3961-E201
8GBit/s FC Controller
Emulex
LPe1250, low profile bracket
1 channel 8GBit/sec FC Contr.
LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system
S26361-F3961-E202
8GBit/s FC Controller
Emulex
LPe12002, low profile bracket
2 channel 8GBit/sec FC Contr.
LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system
loose delivery:
Single channel S26361-F3961-L201
Dual Channel S26361-F3961-L202
with mounted LP bracket
FH bracket is not included
4x
M


M
SAS RAID controller for JBOD subsystems
S26361-F3713-E203
RAID Ctrl SAS 6G 8port external
LSI MegaRAID SAS 9286CV-8e
1GB Cache with ECC
RAID 0, 1, 5, 6, 10, 50 & 60
without FBU
SAS 6Gb/sec
8 port external
PCIe x8, MD2 form factor
low profile bracket
max. 2x per system
Lose delivery options
BBU/FBU max. 2x per system possible
S26361-F3669-E125
Flash Backup Unit
with 25cm cable set
max. 1x per Controller
S26361-F3669-L110
Flash Backup Unit
with 25, 55, 70 cable set
max. 1x per Controller
S26361-F3669-L661
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
max. 1x per Controller
S26361-F3669-E661
RAID Advanced Software Options
License Activation Key
for CacheCade 2.0 and FastPath
max. 1x per Controller
N


P
Section VIII Communication / Network
2x Gigabit (Dualport) Ethernet Contr.
onboard
Intel LAN I210 (Springville)
ext: 2x RJ 45 connector
1Gbit/s Ethernet Adapter
max 5x
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. 5x 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. 5x per system
Loose delivery with FH and LP bracket:
I350-T2 S26361-F4610-L502
I350-T4 S26361-F4610-L504
R



The controller D2755 is delivered without SFP+ modules for optical cables, these must be ordered separately.	
Loose delivery options (FH and LP bracked included)	
D2755	S26361-F3629-L502
X540-T2	S26361-F3752-L502

separate orderable 10Gb Ethernet cables	
S26361-F3989-L102	SFP+ active Twinax Cable Fujitsu 2m
S26361-F3989-L105	SFP+ active Twinax Cable Fujitsu 5m
S26361-F3989-L110	SFP+ active Twinax Cable Fujitsu 10m
S26361-F3873-L501	SFP+ active Twinax Cable Brocade 1m
S26361-F3873-L503	SFP+ active Twinax Cable Brocade 3m
S26361-F3873-L505	SFP+ active Twinax Cable Brocade 5m
S26361-F4571-L101	SFP+ passive Twinax Cable Cisco 1m
S26361-F4571-L103	SFP+ passive Twinax Cable Cisco 3m
S26361-F4571-L105	SFP+ passive Twinax Cable Cisco 5m
S26361-F4571-L107	SFP+ active Twinax Cable Cisco 7m
S26361-F4571-L110	SFP+ active Twinax Cable Cisco 10m

S

Section XI System Management Products (RemoteView)

iRMC S4 (integrated Remote Management Controller) onboard server management Controller with dedicated 10/100/1000 Service LAN-port and integrated graphics.

S26361-F1790-E243
iRMC S4 advanced pack
integrated remote management controller
activation key for
graphical console redirection
and remote media redirection
max. 1x per system

S26361-F2557-E106
Local Service Display incl. mount. kit
Customer Self Service
LSD module incl. mounting kit
0.5" x 5.25"
max. 1x per system

Only for basic unit V4xx

Section XII Miscellaneous

Options and other peripherals
For other options, refer to SystemArchitect and Pricelist
These options are supplied lose with the shipment
For suitable peripherals for this product, please refer to SystemArcitect

S26361-F3776-E101
Cool-safe® Advanced Thermal Design
Restricts configuration to make 5-40° possible
Feature is enabled and fixed ex factory
max. 1x per system

Cool-safe ATD configuration restrictions for RX2520 M1
related L-numbers as well restricted

no tape drives

Tape drive LTO4 HH SAS IBM V2	S26361-F3626-E2
Tape drive LTO5HH Ultrium SAS	S26361-F3627-E1
Tape drive LTO6HH Ultrium SAS	S26361-F3787-E1

Only for basic unit V4xx

Section XIII Country specific power cord

S26361-F1452-E100
REGION KIT EMEA AP
For Shipments to EMEA / Asia and Pacific regions
1x per system

S26361-F1452-E110
REGION KIT JP
For Shipments to Japan regions
1x per system

Power cord has to be ordered separately

max. 2 x

Power cord options (1x per PSU)

T26139-Y1968-E100	Powercord for rack, 4m, grey, **IEC 320 C14 connector**
T26139-Y1742-E10	USA, Canada, 1.8m, grey
T26139-Y4024-E10	for -48V DC PSU only, 4m, black
T26139-Y3850-E10	Option "no powercord", for Countries without specific cable orderable like e.g. China

End PRIMERGY RX2520 M1

Change Report

Date	Order number	Changes
2014-05-15	S26361-F5289-E100	New 3.5" SATA SSDs added.
2014-03-04	New processors for V112	New processors only for basic unit with 12x 3.5" HDDs - as soon as available
2014-03-04	S26361-K1480-V112	New basic unit for 12x 3.5" HDDs - as soon as available
2014-01-23		First Release