FUJITSU

PRIMERGY RX300 S5

System configurator and order-information guide

December 2009

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Configurator
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Change report

PRIMERGY Server

Instructions

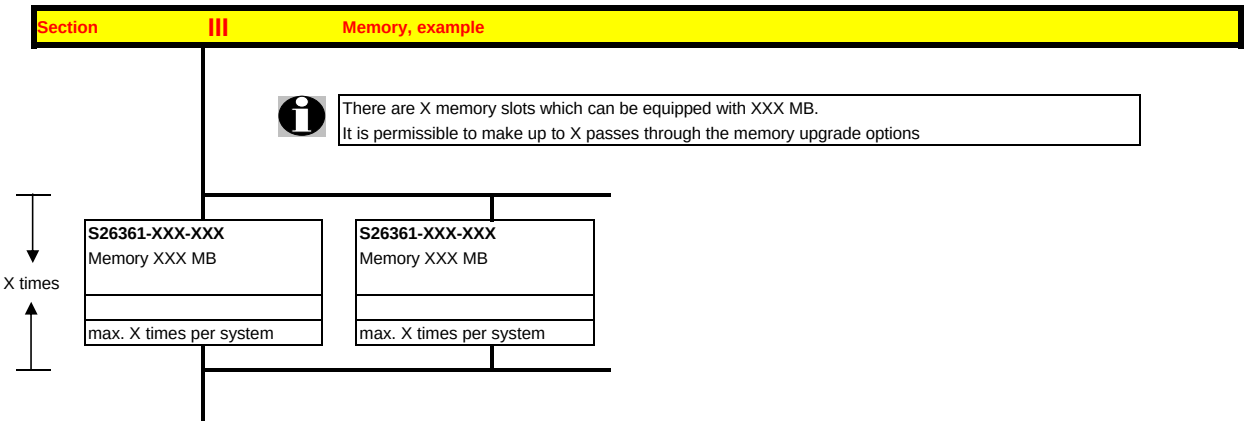
This document contains basic product and configuration information that will enable you to configure your system via PC-/System-Architect.

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

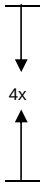
You can configure your individual PRIMERGY server in order to adjust your specific requirements.

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:

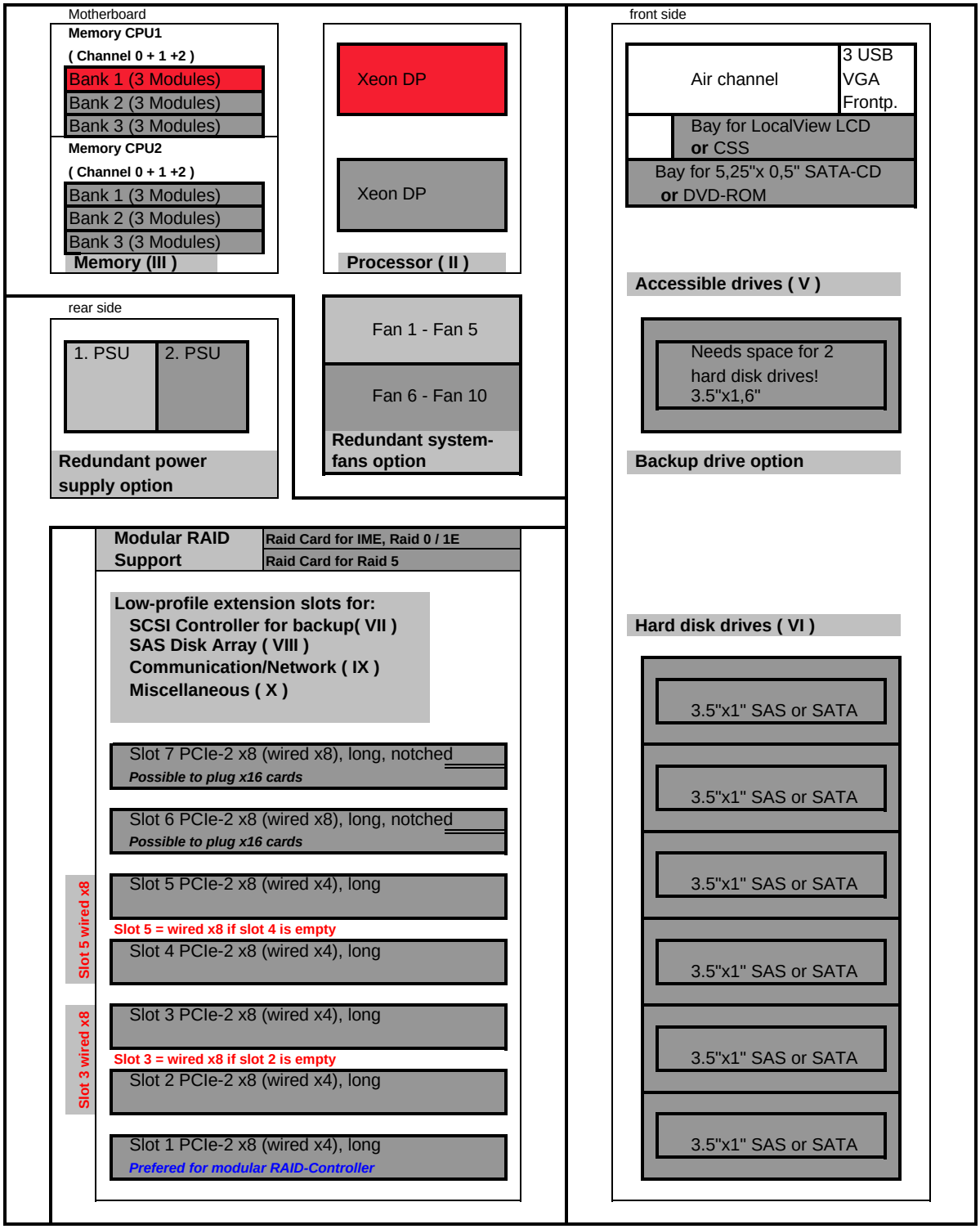
http://ts.fujitsu.com/products/standard_servers/inc (internet)

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

Configuration diagram PRIMERGY RX300 S5

System unit (I)

with 3.5" Hard disk drives



Key:

Included in basic unit

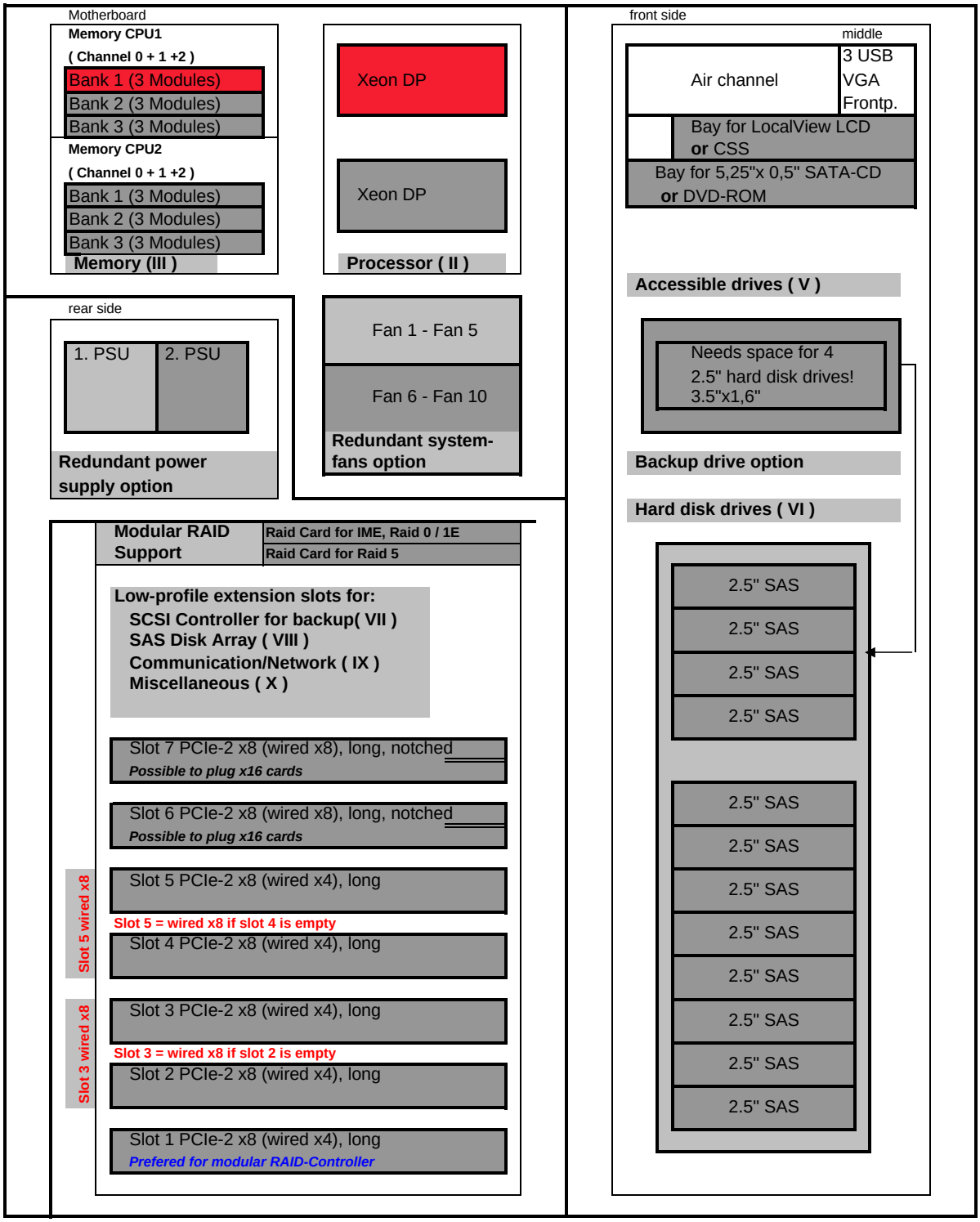
Option

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

Configuration diagram PRIMERGY RX300 S5

System unit (I)

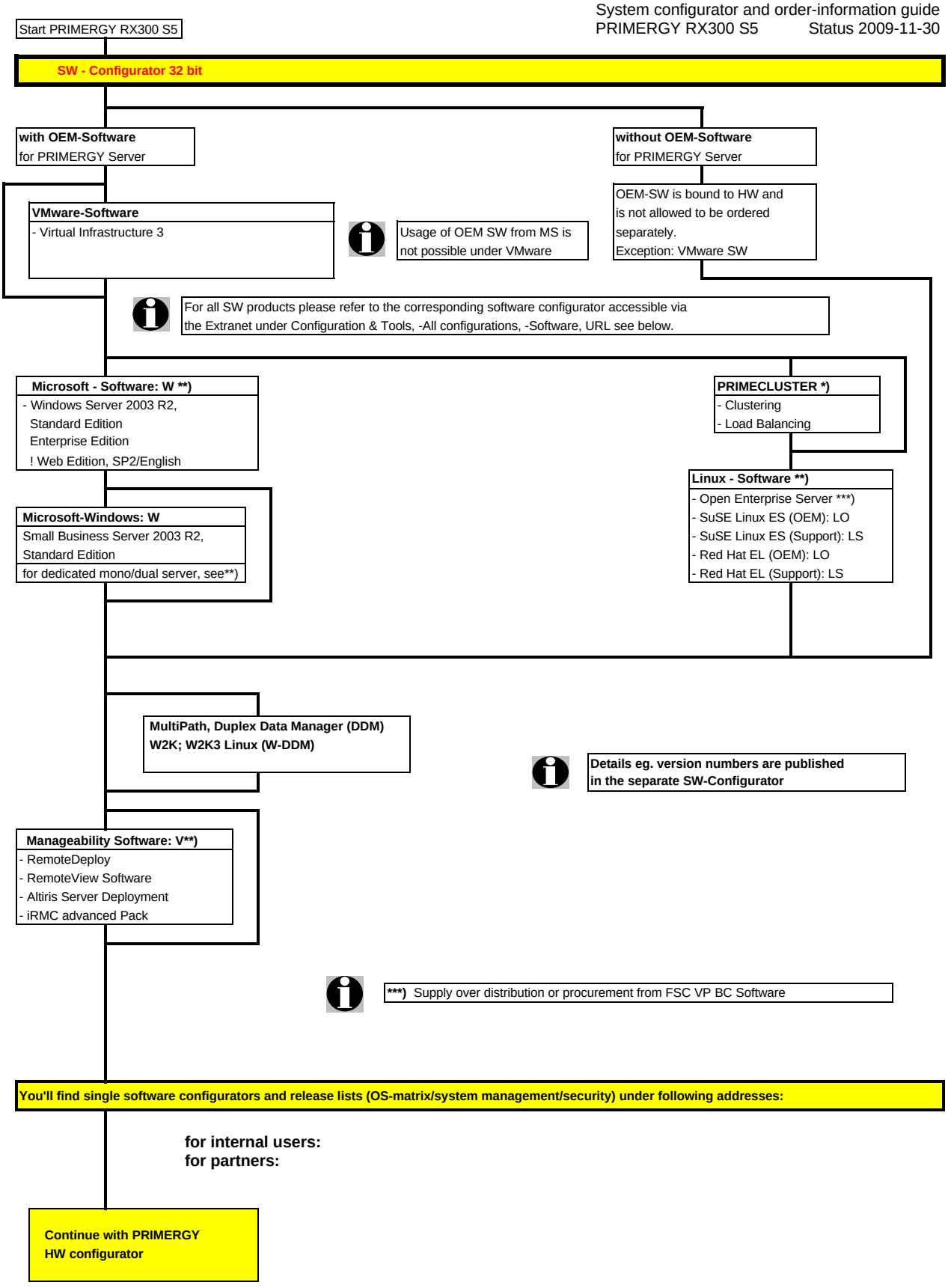
with 8 or 12 2.5" Hard disk drives

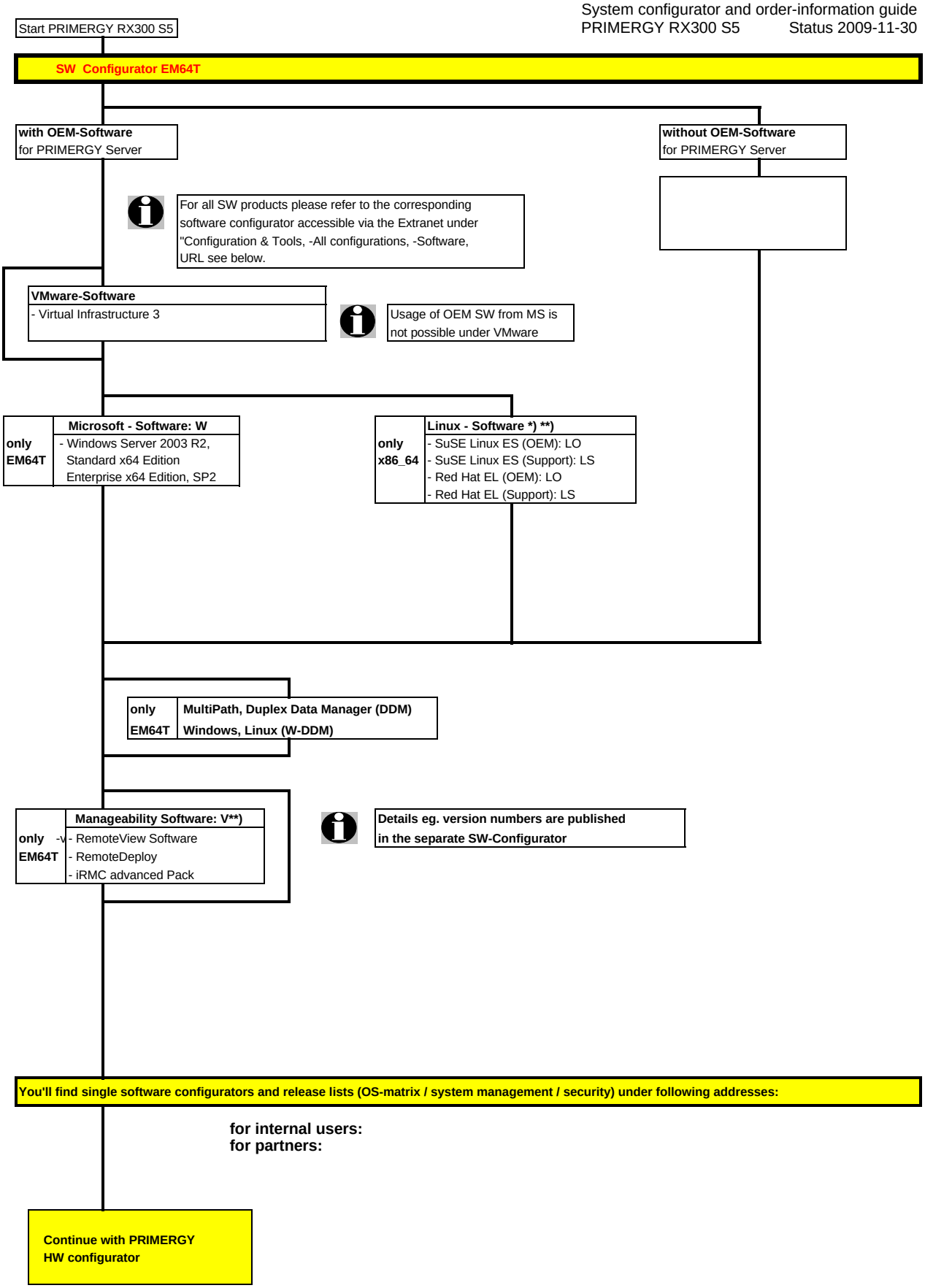


Key:

Included in basic unit Option

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


Start PRIMERGY RX300 S5
SW - Configurator 32 bit
with OEM-Software
for PRIMERGY Server
without OEM-Software
for PRIMERGY Server
VMware-Software
- Virtual Infrastructure 3
Usage of OEM SW from MS is not possible under VMware
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 - Software: W **)
- Windows Server 2003 R2,
Standard Edition
Enterprise Edition
! Web Edition, SP2/English
PRIMECLUSTER *)
- Clustering
- Load Balancing
Linux - Software **)
- Open Enterprise Server ***)
- SuSE Linux ES (OEM): LO
- SuSE Linux ES (Support): LS
- Red Hat EL (OEM): LO
- Red Hat EL (Support): LS
Microsoft-Windows: W
Small Business Server 2003 R2,
Standard Edition
for dedicated mono/dual server, see**)
MultiPath, Duplex Data Manager (DDM)
W2K; W2K3 Linux (W-DDM)
Details eg. version numbers are published in the separate SW-Configurator
Manageability Software: V**)
- RemoteDeploy
- RemoteView Software
- Altiris Server Deployment
- iRMC advanced Pack
***) 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:
for partners:
Continue with PRIMERGY HW configurator


Start PRIMERGY RX300 S5
SW Configurator EM64T
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.
VMware-Software
- Virtual Infrastructure 3
Usage of OEM SW from MS is not possible under VMware
only EM64T
Microsoft - Software: W
- Windows Server 2003 R2, Standard x64 Edition
Enterprise x64 Edition, SP2
only x86_64
Linux - Software *) **)
- SuSE Linux ES (OEM): LO
- SuSE Linux ES (Support): LS
- Red Hat EL (OEM): LO
- Red Hat EL (Support): LS
only EM64T
MultiPath, Duplex Data Manager (DDM)
Windows, Linux (W-DDM)
only EM64T
Manageability Software: V**)
- RemoteView Software
- RemoteDeploy
- 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:
for partners:
Continue with PRIMERGY HW configurator

Start PRIMERGY RX300 S5

Section | **Basic unit**

System unit consisting of:
*** 2U Housing including one power supply module**
- hot plug Power supply unit with 1 PSU module and power cord rack 4m lenght (can be upgraded with one additional PSU module)

*** Fan unit with 5 hot plug system-fans and control logic for 10 fans**
- Additional 5 hot plug system-fans as a redundant fans option (option)

*** SAS Backplane for 6x 3.5" HD or SAS Backplane for 8 or 12x 2.5" HD with cable connection to modular RAID Controller**
-> 3 different basic units for 6x 3.5" HD or 8 or 12x 2.5" HD

*** 9 memory DIMMs per CPU (max 72GB) => Total 18 DIMMs (max 144GB) for two CPU`s**

*** Drives/Bays**
- 6 bays 1" for hot plug 3.5" HD (1" high) or 8 or 12 bays for hot plug 2.5" HD
- 1 bay for 3.5" and 1.6" high Backup device, consumes 2 bays for 3.5" HD for basic unit 6x 3.5" HD not possible for basic unit with 12x 2,5" HD
- 1 bay SATA-CD- or DVD-ROM 0,5" height (option)
- 1 bay for opt. CSS-Display or LocalView LC-Display

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

Systemboard D2619 with:
*** Up to two Xeon Dual Core, Quad-Core or Turbo Quad Core CPU`s (Nehalem-EP, LGA 1366 socket) with serial QPI links (Quick Path Interconnect) and three memory channels per CPU**
First CPU has to be selected for an orderable basic unit,
*** Chipset Intel® 5520 (codenamed Tylersburg-EP or 36D)**

*** 7 PCI slots: - 2x PCIe-2 x8 (wired x8, notched, possible to plug x16 card)**
- 5x PCIe-2 x8 (wired x4)
From 4 PCIe-slots each two wired x4 slots can be combined to one wired x8 slot

*** 18 memory slots for max. 144GB RAM DDR3 available**
- Memory is divided into 9 DIMMs per CPU (3 channels with 3 slots per channel)
- Max. three 8GB modules or two 8GB / 16GB quad rank modules are possible per channel
First Memory (one module) has to be selected for an orderable basic unit per CPU
- Memory upgrade is possible module wise
- Memory mirrroring is supported with 2 identical modules in channel A+B CPU 1 or D+E CPU 2
- Hot Spare Memory is supported with 3 identical modules in channel A+B+C CPU 1 or D+E+F CPU 2
- SDDC (Chipkill) is supported for memory modules,

*** Dual Port 10/100/1000 x4 PCI Express* Gigabit Ethernet Intel LAN controller Zoar 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)

Interfaces at the rear:
* 1x RS-232-C (serial, 9 pins) (usable for BMC or OS or shared)
* 1x RS-232-C (serial, 9 pins)
* 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:
* 3x USB **2.0** (UHCI) with **480MBit/s,** no USB wakeup
* 1x VGA (15 pins) as an option

Interfaces internal:
* 1x released internal USB Interfaces for backup device,
* 1x USB **2.0** (UHCI) with **480MBit/s** for dongle funcionality, no USB wakeup
* 2x SATA for internal devices

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

A

A

Cables included in basic unit

Connections	Cable	PRIMERGY RX300 S5
1. SATA DVD		
2. SAS cables to HDDs		
1x cable for SAS signaling		
3. Power cable		

◎ SAS
○ SATA

Rack version for 19'' racks with 1 hot plug power supply module (Eff. 89%)	
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 **6x 3,5" hard disk drive bays**	**S26361-K1237-V101**
Basic unit with **8x 2,5" hard disk drive bays**	**S26361-K1237-V201**
Basic unit with **12x 2,5" hard disk drive bays**	**S26361-K1237-V301**

Rack version for 19'' racks with 1 hot plug Gold power supply module (Eff. 92%)	
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 **6x 3,5" HDD bays, Gold PSU**	**S26361-K1237-V501**
Basic unit with **8x 2,5" HDD bays, Gold PSU**	**S26361-K1237-V601**
Basic unit with **12x 2,5" HDD bays, Gold PSU**	**S26361-K1237-V701**

S26113-F543-E10
2nd power supply 800W (hot plug) for redundancy
occupies one bay for hot plug power supply
max. 1x per system

S26113-F555-E10
2nd Gold power supply 800W (hot plug) for redundancy
occupies one bay for hot plug power supply
max. 1x per system

For later upgrade the following kit is available:

S26113-F543-L10	1 power supply module 800W hot plug: Supplementary module	S26113-F555-L10

S26361-F3552-E1
TPM Module
Trusted Platform Module on Motherboard
Use according to import restrictions
max. 1x per system

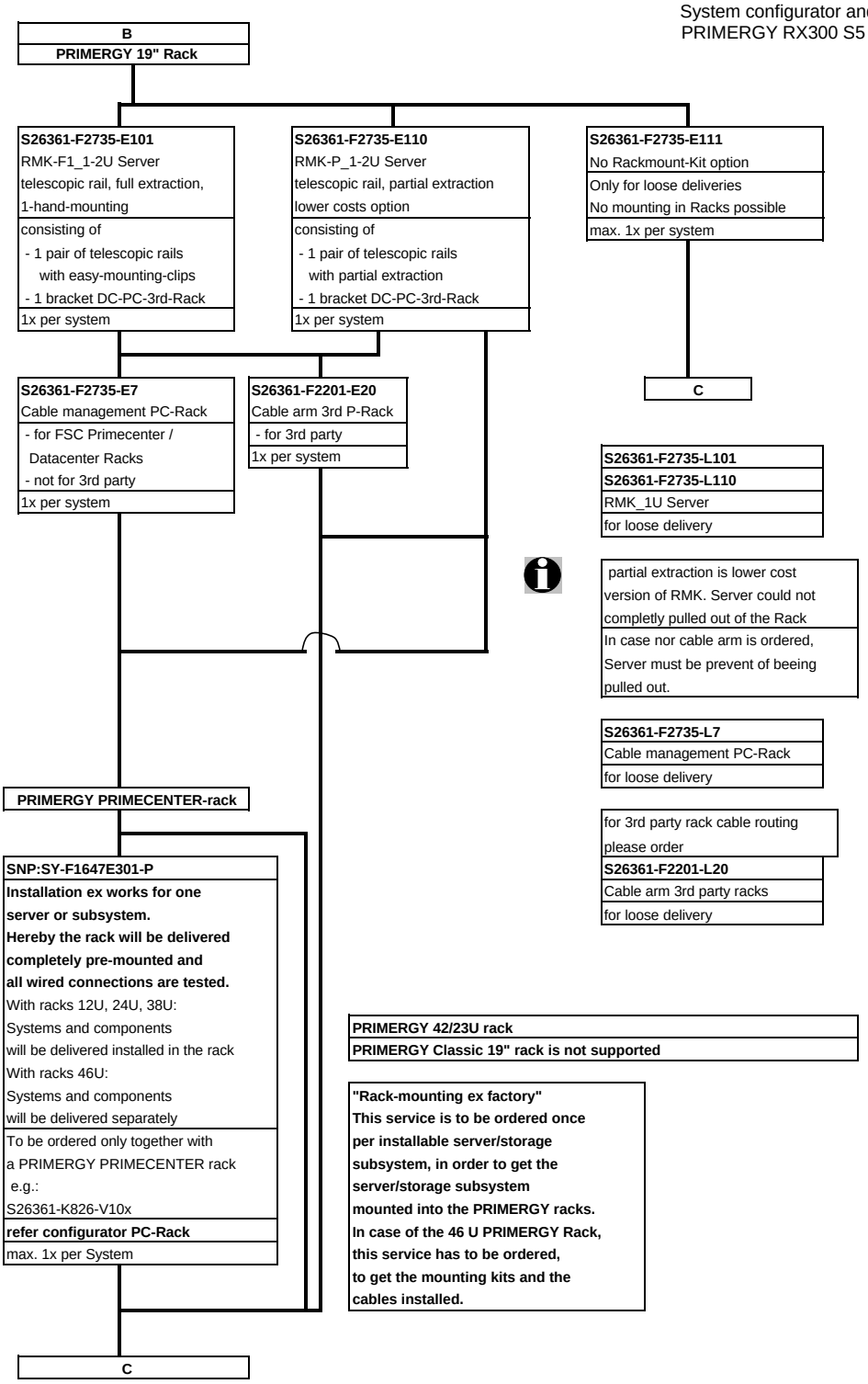
Be aware of import restrictions!
Only 1 TPM per system.
Loose delivery for later integration possible for customer.

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-F2621-E5
Redundant Fans option
5 single hot plug fans
max. 1x per system

For later upgrade the following kit is available:	
Fan upgrade kit: Upgrade of standard into redundant fans	S26361-F2621-L5

B


B
PRIMERGY 19" Rack
S26361-F2735-E101
RMK-F1_1-2U Server
telescopic rail, full extraction,
1-hand-mounting
consisting of
- 1 pair of telescopic rails
with easy-mounting-clips
- 1 bracket DC-PC-3rd-Rack
1x per system
S26361-F2735-E110
RMK-P_1-2U Server
telescopic rail, partial extraction
lower costs option
consisting of
- 1 pair of telescopic rails
with partial extraction
- 1 bracket DC-PC-3rd-Rack
1x per system
S26361-F2735-E111
No Rackmount-Kit option
Only for loose deliveries
No mounting in Racks possible
max. 1x per system
S26361-F2735-E7
Cable management PC-Rack
- for FSC Primecenter /
Datacenter Racks
- not for 3rd party
1x per system
S26361-F2201-E20
Cable arm 3rd P-Rack
- for 3rd party
1x per system
C
S26361-F2735-L101
S26361-F2735-L110
RMK_1U Server
for loose delivery
partial extraction is lower cost
version of RMK. Server could not
completly pulled out of the Rack
In case nor cable arm is ordered,
Server must be prevent of beeing
pulled out.
S26361-F2735-L7
Cable management PC-Rack
for loose delivery
PRIMERGY PRIMECENTER-rack
for 3rd party rack cable routing
please order
S26361-F2201-L20
Cable arm 3rd party racks
for loose delivery
SNP:SY-F1647E301-P
Installation ex works for one
server or subsystem.
Hereby the rack will be delivered
completely pre-mounted and
all wired connections are tested.
With racks 12U, 24U, 38U:
Systems and components
will be delivered installed in the rack
With racks 46U:
Systems and components
will be delivered separately
To be ordered only together with
a PRIMERGY PRIMECENTER rack
e.g.:
S26361-K826-V10x
refer configurator PC-Rack
max. 1x per System
PRIMERGY 42/23U rack
PRIMERGY Classic 19" rack is not supported
"Rack-mounting ex factory"
This service is to be ordered once
per installable server/storage
subsystem, in order to get the
server/storage subsystem
mounted into the PRIMERGY racks.
In case of the 46 U PRIMERGY Rack,
this service has to be ordered,
to get the mounting kits and the
cables installed.
C

C

Section II 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 clock frequencies are not possible
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	
Dual-Core CPU with max. DDR3 Bus Speed 800MHz	
- 1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink occupies socket for one CPU	
Xeon DP E5502 (1,86GHz/4M/4,8GT) / 80W	**S26361-F3277-E186**
Quad-Core CPU`s with max. DDR3 Bus Speed 800MHz	
- 1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink occupies socket for one CPU	
Xeon DP E5504 (2.00GHz/4M/4,8GT) / 80W	**S26361-F3278-E200**
Xeon DP E5506 (2.13GHz/4M/4,8GT) / 80W	**S26361-F3278-E213**
Turbo Quad-Core CPU`s with max. DDR3 Bus Speed 1066MHz	
- 1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT) and passive heat sink occupies socket for one CPU	
Xeon DP E5520 (2.26GHz/8M/5,86GT) / 80W	**S26361-F3279-E226**
Xeon DP E5530 (2.40GHz/8M/5,86GT) / 80W	**S26361-F3279-E240**
Xeon DP E5540 (2.53GHz/8M/5,86GT) / 80W	**S26361-F3279-E253**
Turbo Quad-Core CPU`s with max. DDR3 Bus Speed 1333MHz	
- 1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT) and passive heat sink occupies socket for one CPU	
Xeon DP X5550 (2.66GHz/8M/6,4GT) / 95W	**S26361-F3280-E267**
Xeon DP X5560 (2.80GHz/8M/6,4GT) / 95W	**S26361-F3280-E280**
Xeon DP X5570 (2.93GHz/8M/6,4GT) / 95W	**S26361-F3280-E293**
Xeon DP W5590 (3.33GHz/8M/6,4GT) / 130W	**S26361-F3337-E333**
Low Voltage Quad-Core CPU with max. 800MHz DDR3 speed (4.8GT/s)	
- 1x 64-bit Intel Xeon DP (4MB shared TLC = Third Level Cache) and passive heat sink occupies socket for one CPU	
Xeon LV DP L5506 (2,13GHz/4M/4,8GT) / 60W	**S26361-F3281-E213**
Low Voltage Turbo Quad-Core CPU`s with max. DDR3 Bus Speed 1066MHz	
- 1x 64-bit Intel Xeon DP (8MB shared TLC = Third Level Cache); Hyper-Threading (HT) and passive heat sink occupies socket for one CPU	
Xeon LV DP L5520 (2,26GHz/8M/5,86GT) / 60W	**S26361-F3281-E226**
Xeon LV DP L5530 (2,40GHz/8M/5,86GT) / 60W	**S26361-F3281-E240**

D

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**

D

Section III Memory

- There are 9 memory slots for max. 72GB DDR3 RAM per CPU available with 8GB DIMMs
=> max. 144GB for two CPU`s (72GB per CPU)
(For explanation of following terms refer to section "Memory Configurations"
- The memory area is divided into 3 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 and slot 3 belongs to memory bank 3
No mix of dual rank and quad rank modules possible for the configuration of the same CPU

1.) In the independent channel mode is following configuration possible
- Each slot can optionally be equipped with 2GB **single rank**, 4GB and 8GB **dual rank** DDR3 modules or with 8GB **quad rank** DDR3 modules

2.) In the spare channel mode is following configuration possible
- Each memory bank can optionally be equipped with 3x2GB **single rank**, 3x4GB and 3x8GB dual rank DDR3 modules or with 3x8GB **quad rank** DDR3 modules
Each slot of one bank has to be equipped with identical modules for spare channel mode
In channel A and B of CPU 1 or channel D and E of CPU 2 are always the active memory modules, in channel C of CPU 1 and channel F of CPU 2 is always the spare module

3.) In the mirrored channel mode is following configuration possible
- Each memory bank can optionally be equipped with 2x2GB **single rank**, 2x4GB and 2x8GB dual rank DDR3 modules or with 2x8GB **quad rank** DDR3 modules
In each memory bank channel A and B of CPU 1 or channel D and E of CPU 2 have to be equipped with identical modules for mirrored channel mode. Channel C of CPU 1 and channel F of CPU 2 is not equipped
In channel B is always the mirrored memory of channel A of CPU 1
In channel E is always the mirrored memory of channel D of CPU 2

DDR3 1066 and 1333MHz modules can be mixed, but run always with the slower speed.
With three DIMMs per channel only 800MHz is possible.

- For each CPU minimum 1 memory module has to be configured in Independent Channel Mode
(=> Additional memory extensions can still be configured up to eight times per CPU) **or**
one bank has to be equipped with two modules (channel A+B for CPU 1 or D+E for CPU 2) in Mirrored Channel Mode
(=> Additional memory extensions can still be configured up to two times per CPU) **or**
one bank has to be equipped with three modules (channel A+B+C for CPU 1 or D+E+F for CPU 2) in Spare Channel Mode or Performance Mode
(=> Additional memory extensions can still be configured up to two times per CPU)

- ECC with SDDC (Chipkill) is standard for RX300 S5.

For a description of memory configurations refer to section "Memory Configurations"

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

9x for each CPU with max. 3 modules per channel

Registered (reg) RDIMMs

For "independent channel mode" usage!	
- One **DDR3-1066 PC3-8500** reg ECC memory module	
Memory 2GB (single rank)	**S26361-F3284-E513**
Memory 4GB (dual rank)	**S26361-F3284-E514**
Memory 8GB (dual rank)	**S26361-F3284-E515**
Choose up to 9 order codes above per CPU.	

Note 1.)

Max. DDR3 memory speed depends on the memory configuration of one CPU memory channel and on the speed of the CPU itself.
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.
One DIMM per channel = max. 1333MHz,
two DIMMs per channel = max. 1066MHz,
three DIMMs per channel = max. 800MHz,

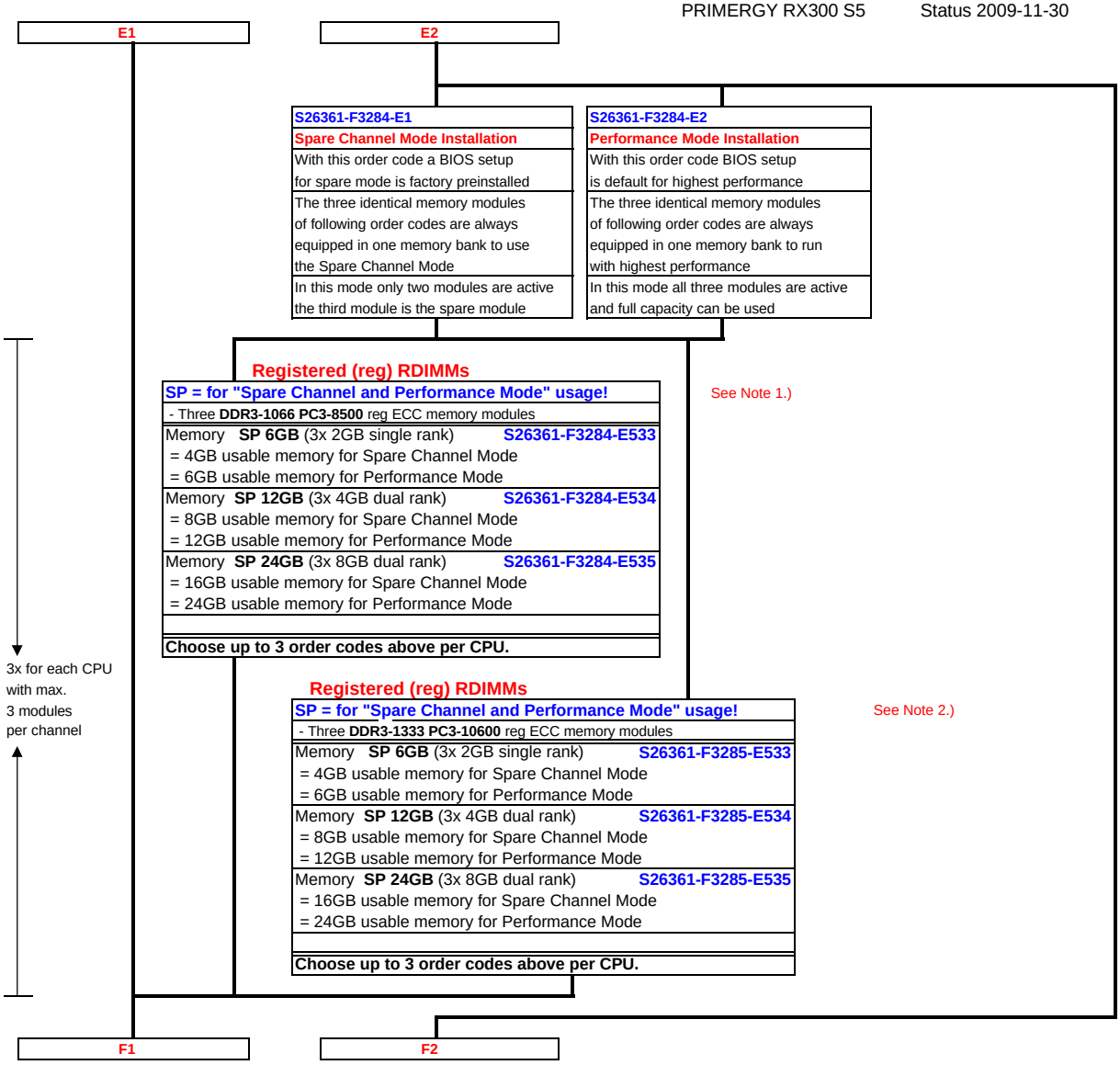
Registered (reg) RDIMMs

For "independent channel mode" usage!	
- One **DDR3-1333 PC3-10600** reg ECC memory module	
Memory 2GB (single rank)	**S26361-F3285-E513**
Memory 4GB (dual rank)	**S26361-F3285-E514**
Memory 8GB (dual rank)	**S26361-F3285-E515**
Choose up to 9 order codes above per CPU.	

Note 2.)

Max. DDR3 memory speed 1333MHz is only possible with CPU`s X5550, X5560 and X5570

E1 E2


E1
E2
S26361-F3284-E1
Spare Channel Mode Installation
With this order code a BIOS setup for spare mode is factory preinstalled
The three identical memory modules of following order codes are always equipped in one memory bank to use the Spare Channel Mode
In this mode only two modules are active the third module is the spare module
S26361-F3284-E2
Performance Mode Installation
With this order code BIOS setup is default for highest performance
The three identical memory modules of following order codes are always equipped in one memory bank to run with highest performance
In this mode all three modules are active and full capacity can be used
Registered (reg) RDIMMs
SP = for "Spare Channel and Performance Mode" usage!
- Three DDR3-1066 PC3-8500 reg ECC memory modules
Memory SP 6GB (3x 2GB single rank) S26361-F3284-E533
= 4GB usable memory for Spare Channel Mode
= 6GB usable memory for Performance Mode
Memory SP 12GB (3x 4GB dual rank) S26361-F3284-E534
= 8GB usable memory for Spare Channel Mode
= 12GB usable memory for Performance Mode
Memory SP 24GB (3x 8GB dual rank) S26361-F3284-E535
= 16GB usable memory for Spare Channel Mode
= 24GB usable memory for Performance Mode
Choose up to 3 order codes above per CPU.
See Note 1.)
3x for each CPU with max. 3 modules per channel
Registered (reg) RDIMMs
SP = for "Spare Channel and Performance Mode" usage!
- Three DDR3-1333 PC3-10600 reg ECC memory modules
Memory SP 6GB (3x 2GB single rank) S26361-F3285-E533
= 4GB usable memory for Spare Channel Mode
= 6GB usable memory for Performance Mode
Memory SP 12GB (3x 4GB dual rank) S26361-F3285-E534
= 8GB usable memory for Spare Channel Mode
= 12GB usable memory for Performance Mode
Memory SP 24GB (3x 8GB dual rank) S26361-F3285-E535
= 16GB usable memory for Spare Channel Mode
= 24GB usable memory for Performance Mode
Choose up to 3 order codes above per CPU.
See Note 2.)
F1
F2

F1

F2

S26361-F3284-E3
Mirrored Channel Mode Installation
With this order code a BIOS setup for Mirrored Channel Mode is factory preinstalled
The two identical memory modules of following order codes are always equipped in one memory bank to use the Mirrored Channel Mode
In this mode only one module contains active data, the second modul contains the mirrored data

3x for each CPU with max. 3 modules per channel

Registered (reg) RDIMMs

MM = for "Mirrored Channel Mode" usage!
- Two **DDR3-1066 PC3-8500** reg ECC memory modules

Memory **MM 4GB** (2x 2GB single rank) = 2GB usable memory for Mirrored Channel Mode	**S26361-F3284-E523**
Memory **MM 8GB** (2x 4GB dual rank) = 4GB usable memory for Mirrored Channel Mode	**S26361-F3284-E524**
Memory **MM 16GB** (2x 8GB dual rank) = 8GB usable memory for Mirrored Channel Mode	**S26361-F3284-E525**

Choose up to 3 order codes above per CPU.

See Note 1.)

Registered (reg) RDIMMs

MM = for "Mirrored Channel Mode" usage!
- Two **DDR3-1333 PC3-10600** reg ECC memory modules

Memory **MM 4GB** (2x 2GB single rank) = 2GB usable memory for Mirrored Channel Mode	**S26361-F3285-E523**
Memory **MM 8GB** (2x 4GB dual rank) = 4GB usable memory for Mirrored Channel Mode	**S26361-F3285-E524**
Memory **MM 16GB** (2x 8GB dual rank) = 8GB usable memory for Mirrored Channel Mode	**S26361-F3285-E525**

Choose up to 3 order codes above per CPU.

See Note 2.)

Section IV Graphics

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)

S26361-F2571-E16
Optional Front-VGA
consists of internal cable and front VGA connector
max. 1x per system

S26361-F2748-E633
PY VGA LP card 256MB PCI-e x1
NVIDIA NVS290
256 MB PCIe-x1
2x DVI or 2x VGA or
1x DVI plus 1x VGA
cables adapters included
Dual head + fully 3-D
supported for Windows OS
only native driver support for Linux OS
low profile bracket
max. 1x per system

The hight end optional NVIDIA NVS290 graphic card offers dual head operation and fully 3D video support.
The cables for either two times DVI or VGA connections are part of the delivery.
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.

PY VGA card must be installed in slot 4

S26361-F2748-L633
PY VGA LP card 256MB PCI-e x1
for loose delivery

G

Memory Configuration PRIMERGY RX300 S5

Each CPU offers **9 Slots** for DDR3 Memory Modules organised in **3 Banks and 3 Channels.**
If you need more than 9 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).

For RX300 S5 only registered DDR3 memory modules (RDIMM) are available.

Mode	Configuration	RDIMM	Application
chip kill support	any	yes	detect multi-bit errors
Independant Channel Mode	1, 2 or 3 Modules per Bank x	x	offers max. flexibility, upgradeability, capacity use UDIMM modules for lowest cost
Mirrored Channel Mode	2 identical Modules / Bank **)	x	offers maximum security
Performance Mode *)	3 identical Modules / Bank **)	x	offers maximum performance and capacity
Spare Channel Mode *)	3 identical Modules / Bank **)	x	balances security and capacity

*) = Performance Mode and Spare mode use different BIOS settings.
**) = technically possible but no Order Numbers available, use at your own risk
x = order codes available

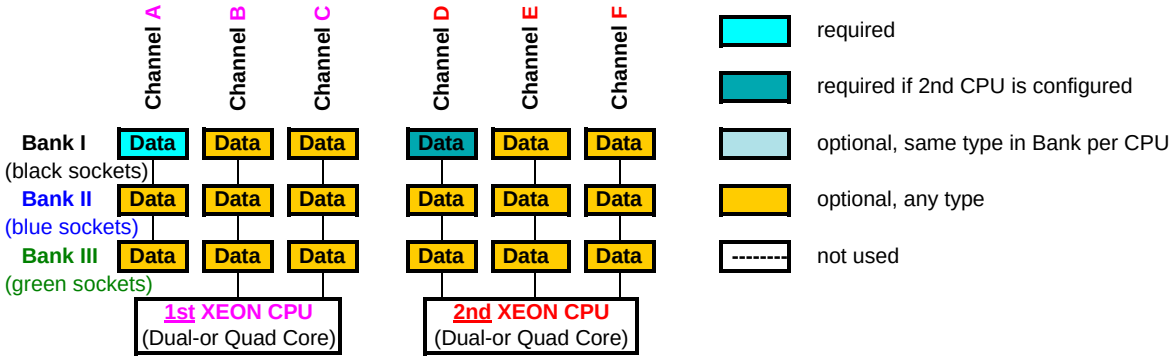
Configuration hints:

- 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 consits of 1 memory module on every Channel available on one CPU (examples see below)
  Bank I on CPU 1 up to 3 memory modules connected to Channel A, B and C on the first CPU
  Bank II on CPU 1 up to 3 memory modules connected to Channel A, B and C on the first CPU
  Bank III on CPU 1 up to 3 memory modules connected to Channel A, B and C on the first CPU
  Bank I on CPU 2 up to 3 memory modules connected to Channel D, E and F on the second CPU
  Bank II on CPU 2 up to 3 memory modules connected to Channel D, E and F on the second CPU
  Bank III on CPU 2 up to 3 memory modules connected to Channel D, E and F on the second CPU

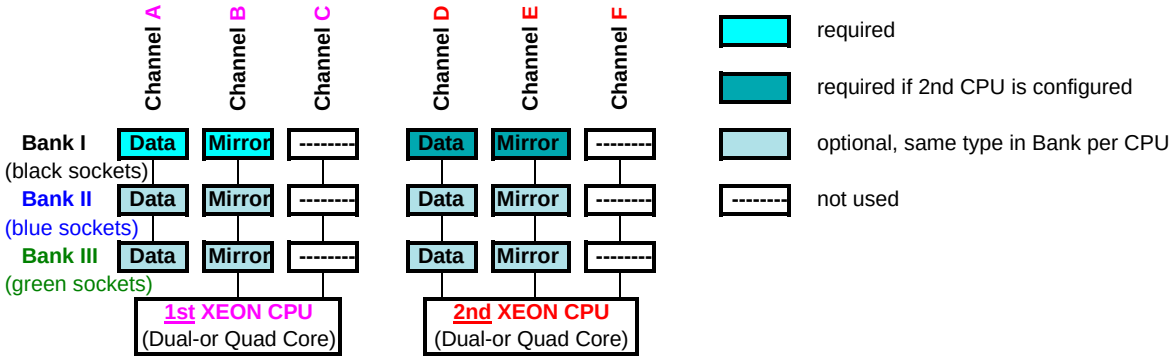
- See below and next page for a detailed descriptions of the memory configuration supported.

1. Independent Channel Mode



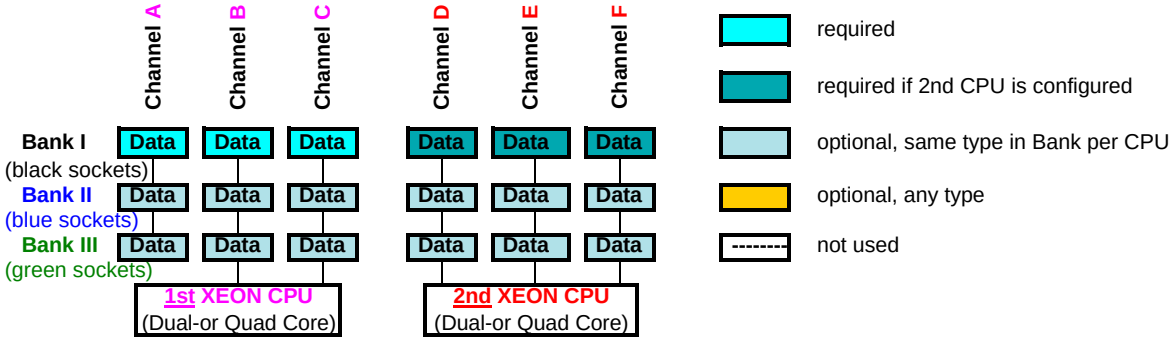
Independent Channel Mode allows all channels to be populated in any order
Can run with differently rated DIMMs and use the settings of the slowest DIMM within a channel

2. Mirrored Channel Mode



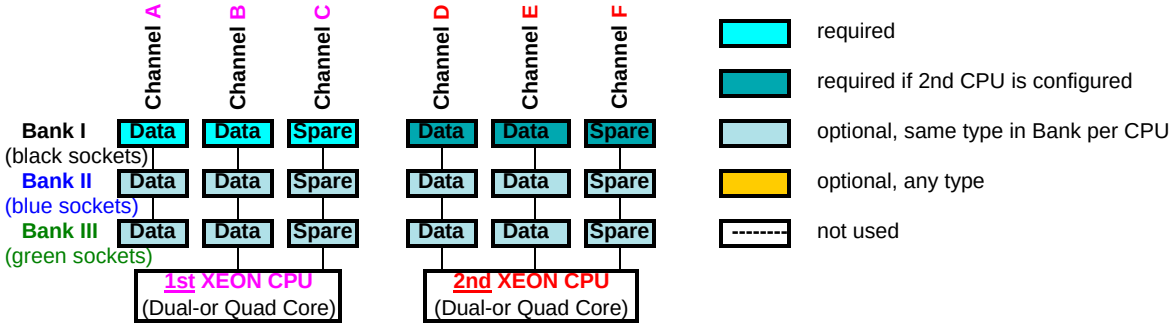
Mirrored Channel Mode requires identical modules on channel A and B (1st CPU) or channel D and E (2nd CPU)
50% of the capacity is used for the mirror => the available memory for applications is only half of the installed memory
Channel C (1st CPU) or channel F (2nd CPU) are not usable in Mirrored Channel Mode

3. Performance Channel Mode



Performance Channel Mode requires identical modules on all channels of each Bank per CPU

4. Spare Channel Mode



Spare Channel Mode requires identical modules on all channels of each Bank per CPU
one third of the capacity is used for the spare => the available memory for applications is two thirds of the installed memroy

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Section V Accessible drives

Setup RX300 S5 by ServerStart is supported with following configurations:
no DVD, no CD:
remote installation only (PXE service & DHCP server required)
built in CD/DVD or USB CD/DVD disk drive:
UNC Network share reachable or USB Floppy connected
USB Floppy, no CD/DVD:
USB CD/DVD connected

If installation is done locally, make sure you have external FDD available for driver installation.

Following USB Components are available			
1) USB DVD:	External SuperMulti Drive	(USB cable included)	S26341-F103-L82
2) USB FDD:	External USB FDD	(USB cable included)	S26391-F264-L226
3) USB Keyboard:	KBPC PX D, professional keyboard		S26381-K340-V120
4) USB Mouse:	Optical Wheel Mouse Tilt USB/PS2		S26381-K415-L100
5) USB Memorybird:	4GB		S26391-F6047-L104

1x

S26361-F3531-E2
Blu-ray Combo slim SATA
6x BD-ROM, 16x DVD, 40x CD
BD DL and all CD/DVD formats
0.5 x 5.25", black bezel
max. 1x per system

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

1x

S26361-F3324-E7
Tape drive DDS Gen5 USB 3.5"
36GB, 3MB/s, USB 2.0
1.6 x 3.5", black bezel
within a tape cage
incl. description (Ger/US)
data and cleaning cartridge
occupies 2 x 1" hard disk bays
max. 1x per system

S26361-F3857-E7
RDX drive USB 3.5" internal
80-320GB, 25MB/s, USB 2.0
1.6 x 3.5", black bezel
within a tape cage
incl. description (Ger/US)
without RDX cartridges
occupies 2 x 1" hard disk bays
max. 1x per system

Only for basic unit V1xx

RDX cartridges must be ordered separately
RDX 80GB = S26361-F3857-L80
RDX 160GB = S26361-F3857-L160
RDX 320GB = S26361-F3857-L320

1x

S26361-F3324-E5
Tape drive DDS Gen5 USB 3.5"
36GB, 3MB/s, USB 2.0
Connector: USB "B"
with USB cable
incl. description (Ger/US)
data and cleaning cartridge
1.6 x 3.5", black bezel
max. 1x per system

S26361-F3857-E5
RDX drive USB 3.5" internal
80-320GB, 25MB/s, USB 2.0
Connector: USB "B"
with USB cable
incl. description (Ger/US)
without RDX cartridges
1.6 x 3.5", black bezel
max. 1x per system

Only for basic unit V2xx

RDX cartridges must be ordered separately
RDX 80GB = S26361-F3857-L80
RDX 160GB = S26361-F3857-L160
RDX 320GB = S26361-F3857-L320

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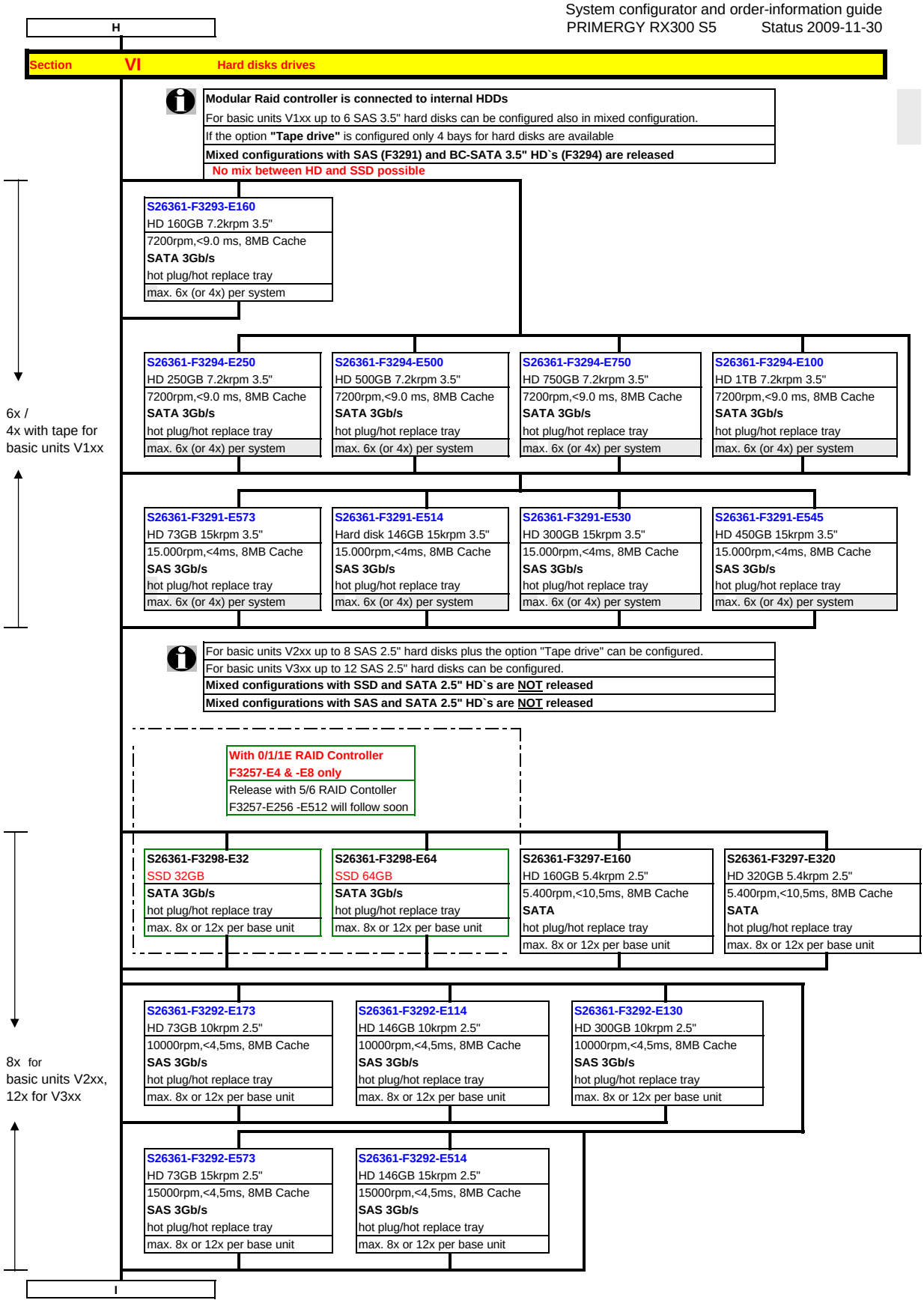
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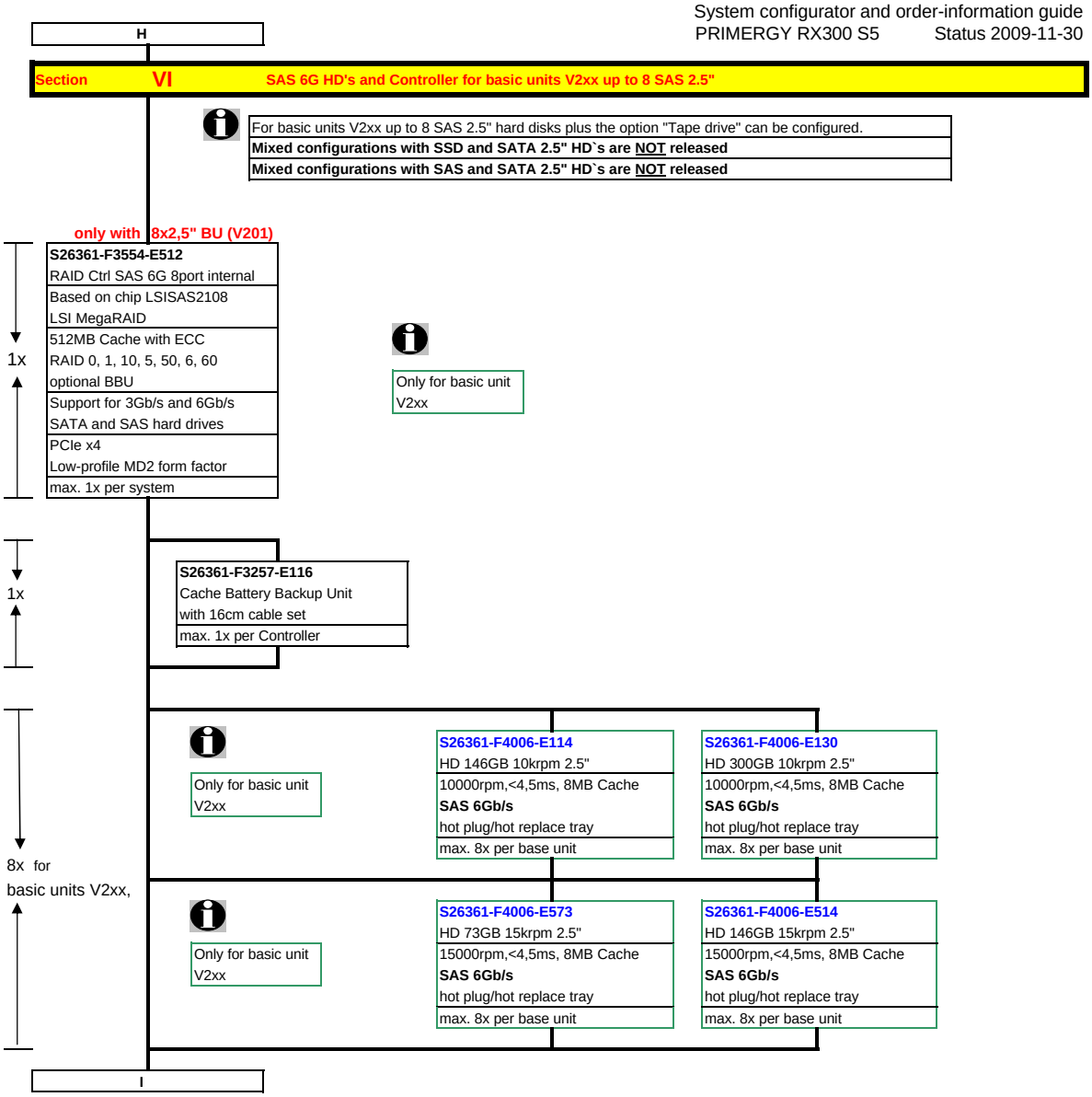
Section VI Hard disks drives
Modular Raid controller is connected to internal HDDs
For basic units V1xx up to 6 SAS 3.5" hard disks can be configured also in mixed configuration.
If the option "Tape drive" is configured only 4 bays for hard disks are available
Mixed configurations with SAS (F3291) and BC-SATA 3.5" HD`s (F3294) are released
No mix between HD and SSD possible
S26361-F3293-E160
HD 160GB 7.2krpm 3.5"
7200rpm,<9.0 ms, 8MB Cache
SATA 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
6x / 4x with tape for basic units V1xx
S26361-F3294-E250
HD 250GB 7.2krpm 3.5"
7200rpm,<9.0 ms, 8MB Cache
SATA 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3294-E500
HD 500GB 7.2krpm 3.5"
7200rpm,<9.0 ms, 8MB Cache
SATA 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3294-E750
HD 750GB 7.2krpm 3.5"
7200rpm,<9.0 ms, 8MB Cache
SATA 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3294-E100
HD 1TB 7.2krpm 3.5"
7200rpm,<9.0 ms, 8MB Cache
SATA 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3291-E573
HD 73GB 15krpm 3.5"
15.000rpm,<4ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3291-E514
Hard disk 146GB 15krpm 3.5"
15.000rpm,<4ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3291-E530
HD 300GB 15krpm 3.5"
15.000rpm,<4ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
S26361-F3291-E545
HD 450GB 15krpm 3.5"
15.000rpm,<4ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 6x (or 4x) per system
For basic units V2xx up to 8 SAS 2.5" hard disks plus the option "Tape drive" can be configured.
For basic units V3xx up to 12 SAS 2.5" hard disks can be configured.
Mixed configurations with SSD and SATA 2.5" HD`s are NOT released
Mixed configurations with SAS and SATA 2.5" HD`s are NOT released
With 0/1/1E RAID Controller
F3257-E4 & -E8 only
Release with 5/6 RAID Contoller
F3257-E256 -E512 will follow soon
S26361-F3298-E32
SSD 32GB
SATA 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3298-E64
SSD 64GB
SATA 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3297-E160
HD 160GB 5.4krpm 2.5"
5.400rpm,<10,5ms, 8MB Cache
SATA
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3297-E320
HD 320GB 5.4krpm 2.5"
5.400rpm,<10,5ms, 8MB Cache
SATA
hot plug/hot replace tray
max. 8x or 12x per base unit
8x for basic units V2xx, 12x for V3xx
S26361-F3292-E173
HD 73GB 10krpm 2.5"
10000rpm,<4,5ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3292-E114
HD 146GB 10krpm 2.5"
10000rpm,<4,5ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3292-E130
HD 300GB 10krpm 2.5"
10000rpm,<4,5ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3292-E573
HD 73GB 15krpm 2.5"
15000rpm,<4,5ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
S26361-F3292-E514
HD 146GB 15krpm 2.5"
15000rpm,<4,5ms, 8MB Cache
SAS 3Gb/s
hot plug/hot replace tray
max. 8x or 12x per base unit
I


H
Section VI SAS 6G HD's and Controller for basic units V2xx up to 8 SAS 2.5"
For basic units V2xx up to 8 SAS 2.5" hard disks plus the option "Tape drive" can be configured.
Mixed configurations with SSD and SATA 2.5" HD`s are NOT released
Mixed configurations with SAS and SATA 2.5" HD`s are NOT released
only with 8x2,5" BU (V201)
1x
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 x4
Low-profile MD2 form factor
max. 1x per system
Only for basic unit V2xx
1x
S26361-F3257-E116
Cache Battery Backup Unit
with 16cm cable set
max. 1x per Controller
8x for basic units V2xx,
Only for basic unit V2xx
S26361-F4006-E114
HD 146GB 10krpm 2.5"
10000rpm,<4,5ms, 8MB Cache
SAS 6Gb/s
hot plug/hot replace tray
max. 8x per base unit
S26361-F4006-E130
HD 300GB 10krpm 2.5"
10000rpm,<4,5ms, 8MB Cache
SAS 6Gb/s
hot plug/hot replace tray
max. 8x per base unit
Only for basic unit V2xx
S26361-F4006-E573
HD 73GB 15krpm 2.5"
15000rpm,<4,5ms, 8MB Cache
SAS 6Gb/s
hot plug/hot replace tray
max. 8x per base unit
S26361-F4006-E514
HD 146GB 15krpm 2.5"
15000rpm,<4,5ms, 8MB Cache
SAS 6Gb/s
hot plug/hot replace tray
max. 8x per base unit
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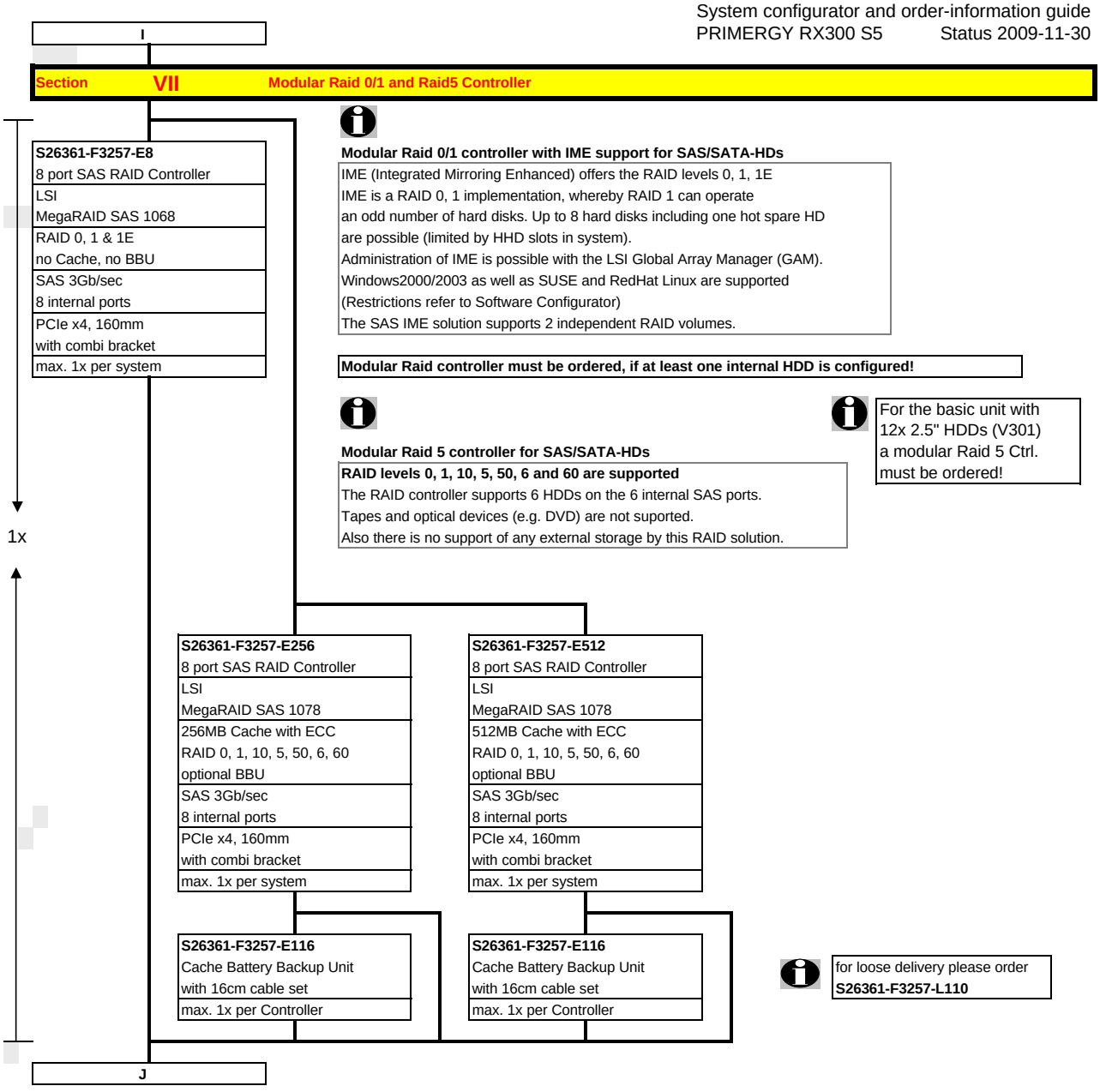
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Section VII Modular Raid 0/1 and Raid5 Controller
S26361-F3257-E8
8 port SAS RAID Controller
LSI
MegaRAID SAS 1068
RAID 0, 1 & 1E
no Cache, no BBU
SAS 3Gb/sec
8 internal ports
PCIe x4, 160mm
with combi bracket
max. 1x per system
Modular Raid 0/1 controller with IME support for SAS/SATA-HDs
IME (Integrated Mirroring Enhanced) offers the RAID levels 0, 1, 1E
IME is a RAID 0, 1 implementation, whereby RAID 1 can operate
an odd number of hard disks. Up to 8 hard disks including one hot spare HD
are possible (limited by HHD slots in system).
Administration of IME is possible with the LSI Global Array Manager (GAM).
Windows2000/2003 as well as SUSE and RedHat Linux are supported
(Restrictions refer to Software Configurator)
The SAS IME solution supports 2 independent RAID volumes.
Modular Raid controller must be ordered, if at least one internal HDD is configured!
For the basic unit with
12x 2.5" HDDs (V301)
a modular Raid 5 Ctrl.
must be ordered!
Modular Raid 5 controller for SAS/SATA-HDs
RAID levels 0, 1, 10, 5, 50, 6 and 60 are supported
The RAID controller supports 6 HDDs on the 6 internal SAS ports.
Tapes and optical devices (e.g. DVD) are not suported.
Also there is no support of any external storage by this RAID solution.
1x
S26361-F3257-E256
8 port SAS RAID Controller
LSI
MegaRAID SAS 1078
256MB Cache with ECC
RAID 0, 1, 10, 5, 50, 6, 60
optional BBU
SAS 3Gb/sec
8 internal ports
PCIe x4, 160mm
with combi bracket
max. 1x per system
S26361-F3257-E512
8 port SAS RAID Controller
LSI
MegaRAID SAS 1078
512MB Cache with ECC
RAID 0, 1, 10, 5, 50, 6, 60
optional BBU
SAS 3Gb/sec
8 internal ports
PCIe x4, 160mm
with combi bracket
max. 1x per system
S26361-F3257-E116
Cache Battery Backup Unit
with 16cm cable set
max. 1x per Controller
S26361-F3257-E116
Cache Battery Backup Unit
with 16cm cable set
max. 1x per Controller
for loose delivery please order
S26361-F3257-L110
J

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SAS-/SCSI-/ Fibre-Channel Controller Low Profile

* 2 PCIe-2 slots wired x8 and 5 PCIe-2 slots wired x4:
Slot 7 and 6 are wired x 8 and notched
Slot 5 is wired x8 if slot 4 is not populated
Slot 3 is wired x8 if slot 2 is not populated
Slot 1 is wired x 4

A PCIe-2 x4 card can also be plugged in a PCIe-2 x8 slot
A PCIe-2 x8 card can also be plugged in a PCIe-2 x4 slot (mechanical x8)
A PCIe-2 x16 card can be plugged in a notched PCIe-2 x8 slot

SAS-controller for external backup drives

S26361-F3271-E201
SAS Controller 3Gb/s 8 port LP
LSI SAS3442E-R Low Profile
PCIe x4,
int: 4 port ext: 4 port
max. 3x per system

SCSI controllers for external backup drives

S26361-F3270-E201
SCSI U320 Controller
Adaptec SCSI Card 29320LPE Low Profile
PCIe x1,
int: LVD HD68 ext: VHDCI 68pin
max. 2x per system

Fibre Channel Controller for external storage systems

4x

S26361-F3306-E201
4GBit/s FC Controller
Emulex LPe1150, Low Profile bracket
1 channel 4GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

S26361-F3306-E202
4GBit/s FC Controller
Emulex LPe11002, Low Profile bracket
2 channel 4GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

S26361-F3483-E201
4GBit/s FC Controller
Qlogic QLE2460, low profile bracket
1 channel 4GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

S26361-F3483-E202
4GBit/s FC Controller
Qlogic QLE2462, low profile bracket
2 channel 4GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

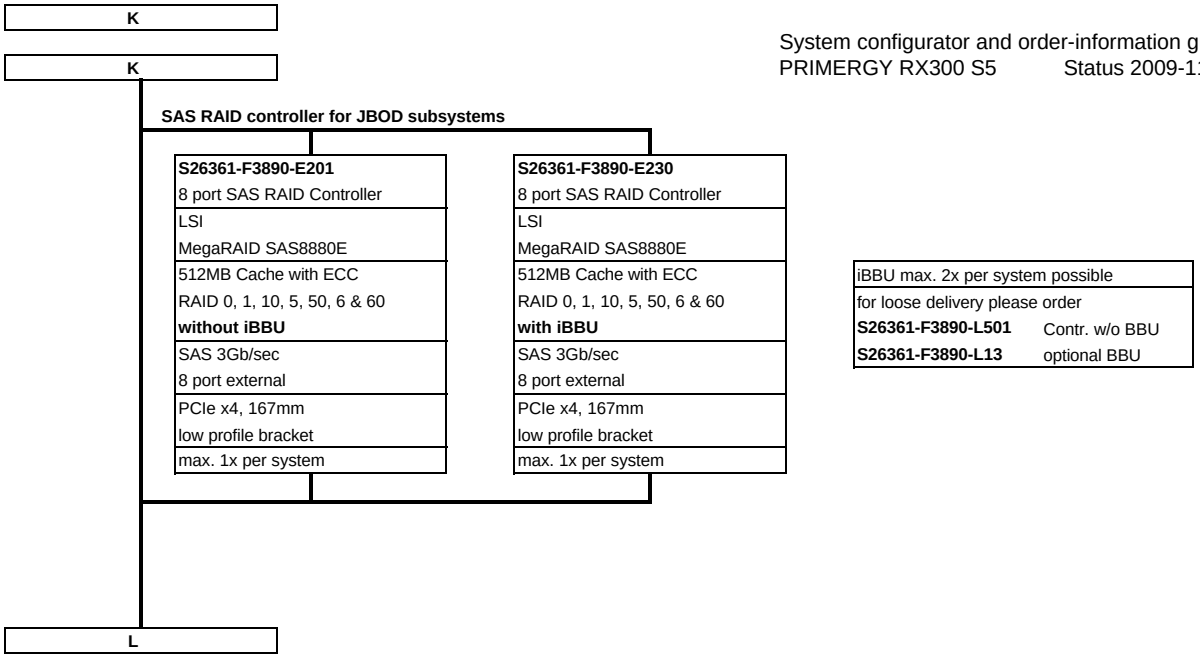
S26361-F3961-E201
8GBit/s FC Controller
Emulex LPe1250, low profile bracket
1 channel 8GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

S26361-F3961-E202
8GBit/s FC Controller
Emulex LPe12002, low profile bracket
2 channel 8GBit/sec FC Controller LC Interface for 50µm Fiber
PCIe x4, 170mm
max. 4x per system

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.

For Fibre Channel SAN also other componets like switches, SFPs and optical wires are orderable (for details see price liste)

A mix of differt controller types is not supported.
e.g. LPe1250 and LPe12002 are same controller types and a combination is supported



iBBU max. 2x per system possible	
for loose delivery please order	
S26361-F3890-L501	Contr. w/o BBU
S26361-F3890-L13	optional BBU

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Section VIII Communication / Network

Dual Port GBit on-board LAN Controller

Gigabit Ethernet Controller on-board
Dual Port GBit LAN controller
Intel 82575EB (Zoar) *
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.
Two onboard LAN ports can likewise educate a team.

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

* 2 PCIe-2 slots wired x8 and 5 PCIe-2 slots wired x4:
Slot 7 and 6 are wired x 8 and notched
Slot 5 is wired x8 if slot 4 is not populated
Slot 3 is wired x8 if slot 2 is not populated
Slot 1 is wired x 4

A PCIe-2 x4 card can also be plugged in a PCIe-2 x8 slot
A PCIe-2 x8 card can also be plugged in a PCIe-2 x4 slot (mechanical x8)
A PCIe-2 x16 card can be plugged in a notched PCIe-2 x8 slot

PCI-Express Adapter 1000TX/SX

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-F3241-E201 (Glyndon)
Gigabit Ethernet Contr. 1000TX
Eth Ctrl 1x1Gbit PCI-e Pro/1000PT Cu LP
Intel PRO/1000 PT Server Adaptor
PCIe x1
ext: for RJ45-connector, Cat 5
max.4x per system

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

2-Port Copper PCIe Adapter 1000TX

S26361-F3228-E201 (Redwater)
Gigabit Ethernet Controller Dual 1000TX
Eth. Ctrl 2x1Gbit PCIe PRO/1000PT Cu LP
Intel Pro/1000 PT dual Server Adapter
PCIe x4
ext: for RJ45-plug, Cat 5
max.4x per system

4x

Quad Port PCIe Adapter 1000TX

S26361-F3462-E201 (Kirkwood 2)
Gigabit Ethernet Controller Quad 1000TX
Eth. Ctrl 4x1Gbit PCIe PRO/1000PT Cu LP
Intel Pro/1000 PT quad Server Adapter
PCIe x4
ext: for RJ45-plug, Cat 5
max.3x per system

10GbE 2-Port MMF

S26361-F3505-E201 (Green Fountain SR)
10 Gigabit Ethernet Controller dual port LC lp
Eth Ctrl 2x10Gbit PCIe x8 XF SR LC lp
Intel 10 Gigabit XF SR Dual Port Server Ad.
PCIe x8, low profile
ext:LC-connector
max. 2x per system

Released in PCIe x8 slot only!

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Section IX System Management Products (RemoteView)

S26361-F1790-E241
iRMC S2 advanced pack
integrated remote management controller
activation key for
graphical console redirection
and remote media redirection
max. 1x per system

S26361-F1790-E221
RemoteView Software V5.0
Installation and configuration of
RemoteView Web and LAN FrontEnd
BMC-Manager, RTDS and FreeDOS
Online manuals

1x

S26361-F2557-E205
Local Service Panel incl. mount. kit
Customer Self Service
LSP module incl. mounting kit
0.5" x 5.25"
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

Section X Miscellaneous

Section XI Country specific power cord

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.

Country specific power cords are not required for rack versions, except for USA&Canada.
Power cords are shipped in a rack version with inlet connector for non-heating apparatus.
Description in englisch. Both included in basic unit.
(1x with Standard PSU, 2x with hot plug upgrade)

T26139-Y1742-E10 USA, Canada
For shipments to USA&Canada, you have to order
one power cord (1,8m, grey) per power supply.

End PRIMERGY RX300 S5

Change Report

Date	Order number	Changes
2009-10-01	S26361-F3299-E32/64	new SSD HD drives - as soon as available
2009-09-01	S26361-F3554-E/L512	New SAS Modular RAID Controller 6Gb/s - now available
2009-09-01	S26361-F4006-E*	New SAS HDDs 6Gb/s - now available
2009-08-01	S26361-F3324-E7	New Tape drive DDS 5 USB - now available
2009-08-01	S26361-F3857-E7	New Tape drive RDX USB - now available
2009-06-30	S26113-F555-E10	New 2nd Gold PSU
2009-06-30	S26361-K1237-V701	New base unit with Gold PSU
2009-06-30	S26361-K1237-V601	New base unit with Gold PSU
2009-06-30	S26361-K1237-V501	New base unit with Gold PSU
2009-06-17	S26361-F2748-E633	New graphics card released
2009-03-30		First release