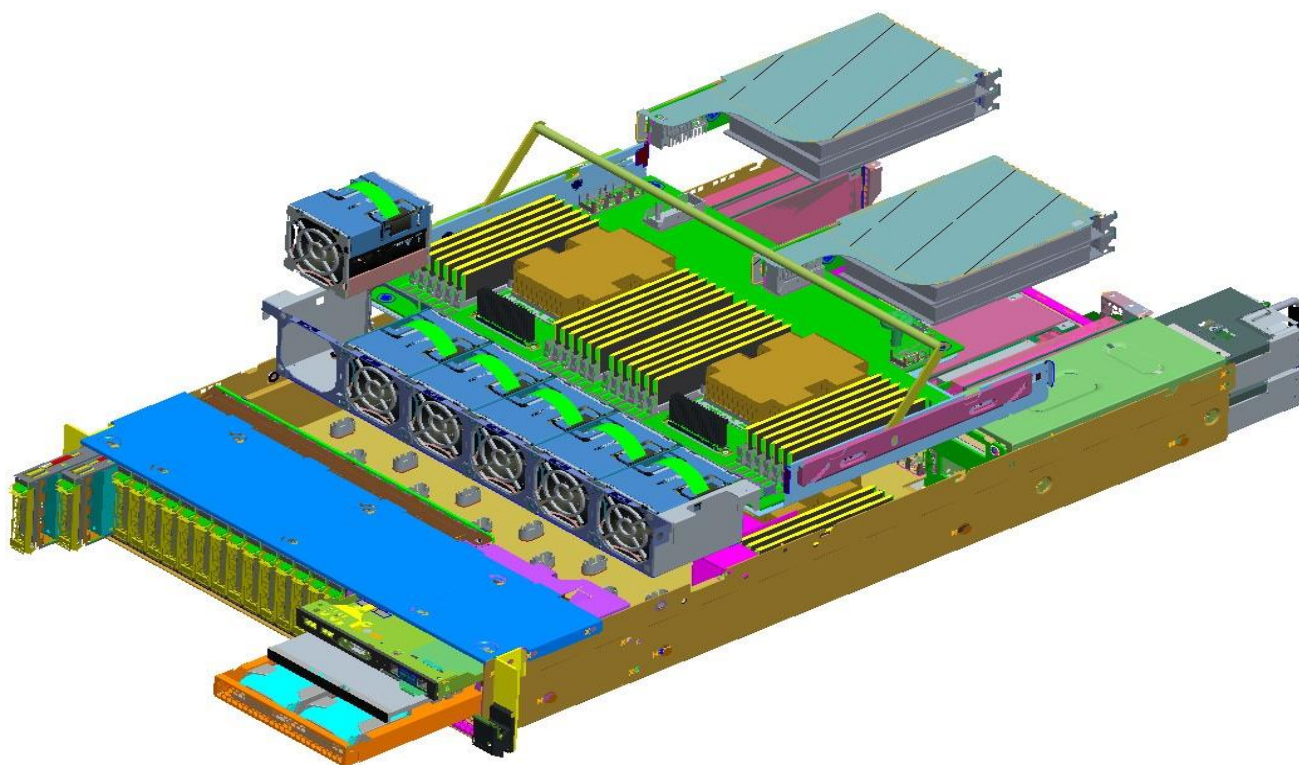
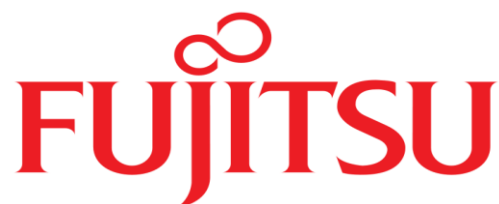


## PRIMERGY RX4770 M5 4-way / 2U Rack Server



Chapter	Folder	Content
1	Base	Base Unit
2	Rack	Rack Architecture
3	CPU	CPU
4	RAM	DDR4 System memory
5	RAID	SAS / RAID Controller
6	ODD	Optical Disk Drives
7	HDD	Hard Disk Drives
8	SSD	Solid State Drives
9	LAN	LAN Components
10	FC	Fibre Channel Controller
11	IB	Infiniband Controllers
12	OMNI	OMNI Path Controllers
13	PSU	Power supply unit, power cable
14	Energy Star	Energy Star restrictions
15	USB	iRMC, eLCM, Cool-safe, TPM, Region Kits
16	Others	Accessories

## Instructions

This document contains basic product and configuration information that supports you in more complicated configurations. In any case we recommend to use the PC-/SystemArchitect to make sure, that you configure a valid system.

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

Please follow this document step by step from the top to the bottom.

### Chapter xx - description of chapter

Text fields with grey color offer extra information for related topics (e.g prerequisites, technical back ground, configuration rules, limitations, ...)

<b>S26361-F4610-E2</b>
<b>S26361-F4610-L3</b>
PLAN 2x1Gb Ethern. Controller
i350-T2 chip (based on Intel Powerville) offers 2x1Gb RJ45 connectors
PCIe Gen2 x4 full height card
max. 6x per system

<-- order code E-part (bold) --

<-- order code L-part (bold)

<-- "name" of this part

<--description of this part, in same cases as well description of content

<--requires a free PCIe slot --> means total amount of PCIe slots reduced

<--indicates how often this part can be configured in the related Server

#### For further information see:

Link to datasheet:

[http:// xxx](http://xxx)

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

(internet)

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

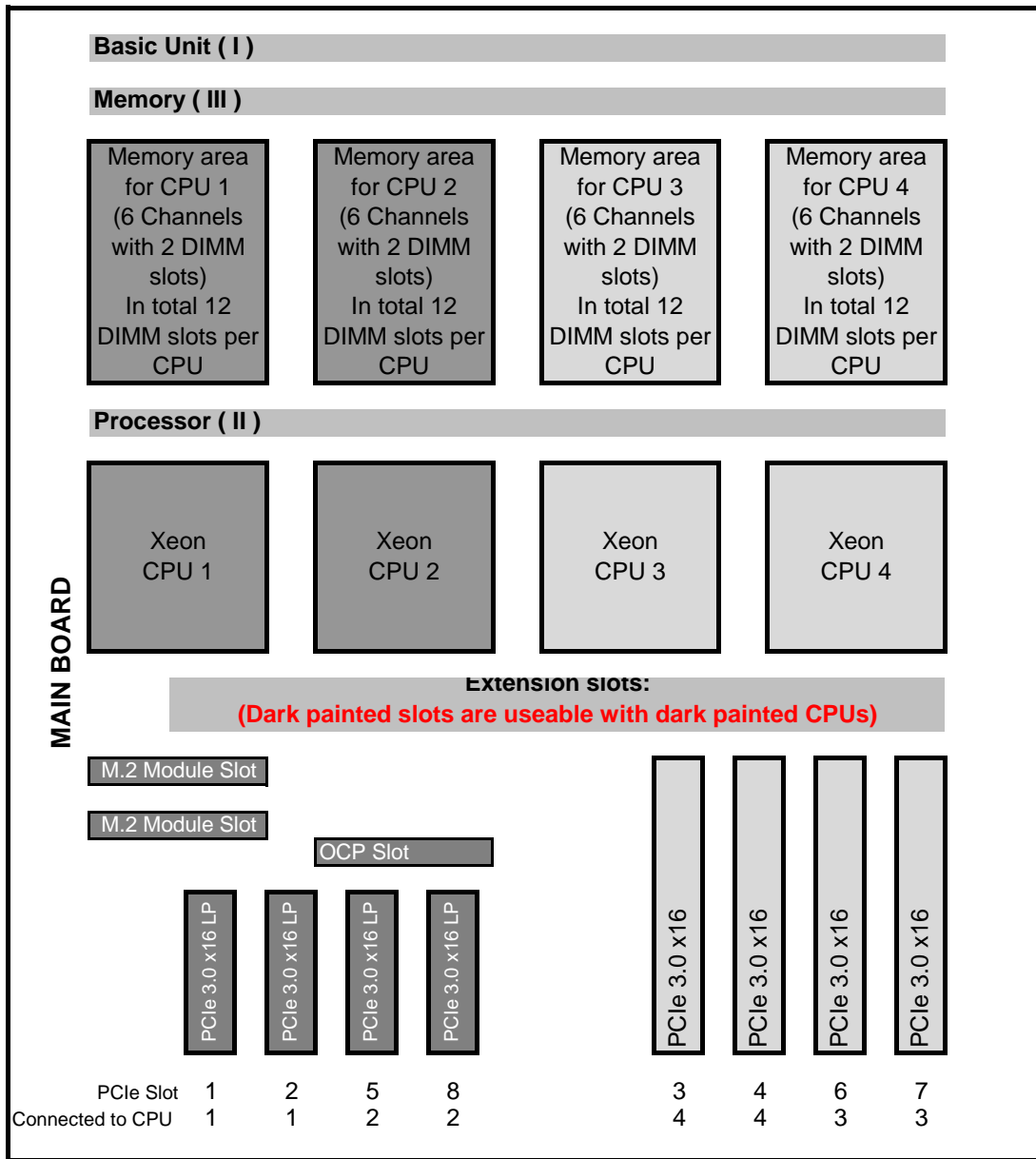
(extranet)

Fujitsu is providing the content of this document with very high accuracy. In case you identify a mistake, we would kindly encourage you to inform us. We kindly ask for understanding, that errors still may occur and that Fujitsu may change this document without notice

## Abbreviations

SAS	Drives, RAID	Serial attached SCSI Device (HDD, SSD, LTO drives); SAS2.0 = 6GBit/s; SAS3.0 = 12GBit/s
SATA	Drives, RAID	Serial ATA (HDD, SSD) current SATA speed = 6GBit/s
HDD	Drives	Hard disk drive (Non volatile storage device), 2.5" (SFF) or 3.5" (LFF)
SSD	Drives	Solid state disk (Non volatile storage device), 2.5" (SFF)
SFF	Drives	small form factor (=2.5")
CPU	Processor	central processing unit ("processor")
RAID	Drives, RAID	RAID 0 = max speed, RAID 1 = mirroring, RAID 5 = 1 out of x drives is spare
Spaces	OS	Microsoft spaces, optimized in Win2012 R2 offers software RAID and storage tiering
vSAN	OS	
storage tiering	RAID	offers optimized storage allocation (fast area for "hot data"; slower area for "cold data")
hot data	Drives	Data which are currently being processed
cold data	Drives	Data which are currently not processed (only stored)
ODD	Drives	optical disk drive (i.e. DVD-player, DVD-burner, Blu ray player, blu ray burner)
OS	operating system	OS=operating system - required for running, organize and administrating the server
E-Part	"Einbau-Part"	"e.g. S26361-F1234- <del>E</del> 240" ordercode with "E" means it is either integrated into to Server (CPU, Mem, ..) or integrated in the shipping box /Keyboard, Mouse, ..)
L-Part	"Lose Lieferung-Part"	"e.g. S26361-F1234- <del>L</del> 240" ordercode with "L" means, the part is an upgrade component and will be shipped with extra package, may be as well with extra shipment

Configuration diagram PRIMERGY RX4770 M5



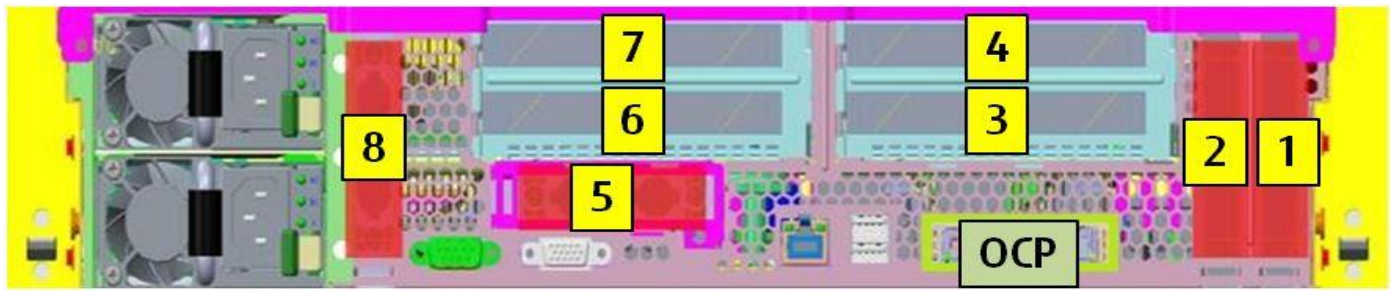
**PCIe slot restrictions on high TDP CPUs used in Performance base unit:**

If CPUs > 165W TDP are in use PCI slot 1 & 2 cannot be equipped with PCI cards (needed for improved air flow) This configuration is also reduced if on slot 3 and 6 a PCI card with 75W is in use! Only 2 PCI slots out of 4 (4, 5, 7, 8) are available then.

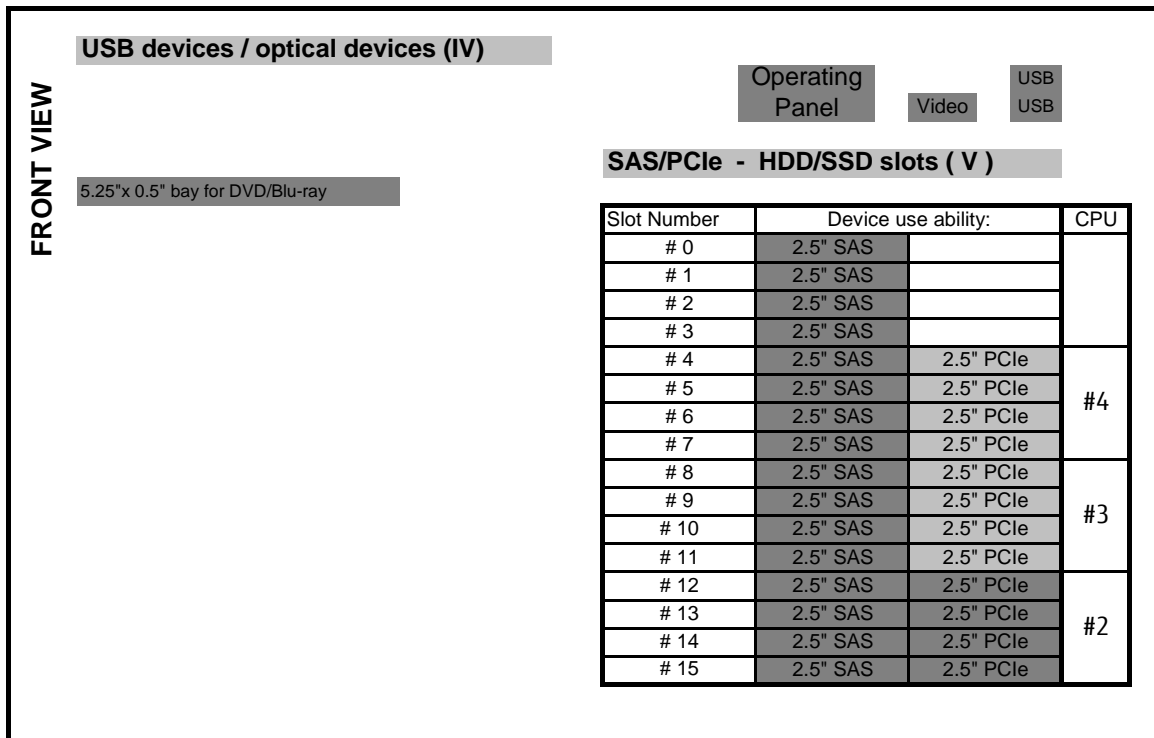
**PCIe slot restrictions while using liquid cooled base unit:**

While using liquid cooled base unit PCI slot 5, 6 & 7 are occupied.

RX4770 M5 Back view



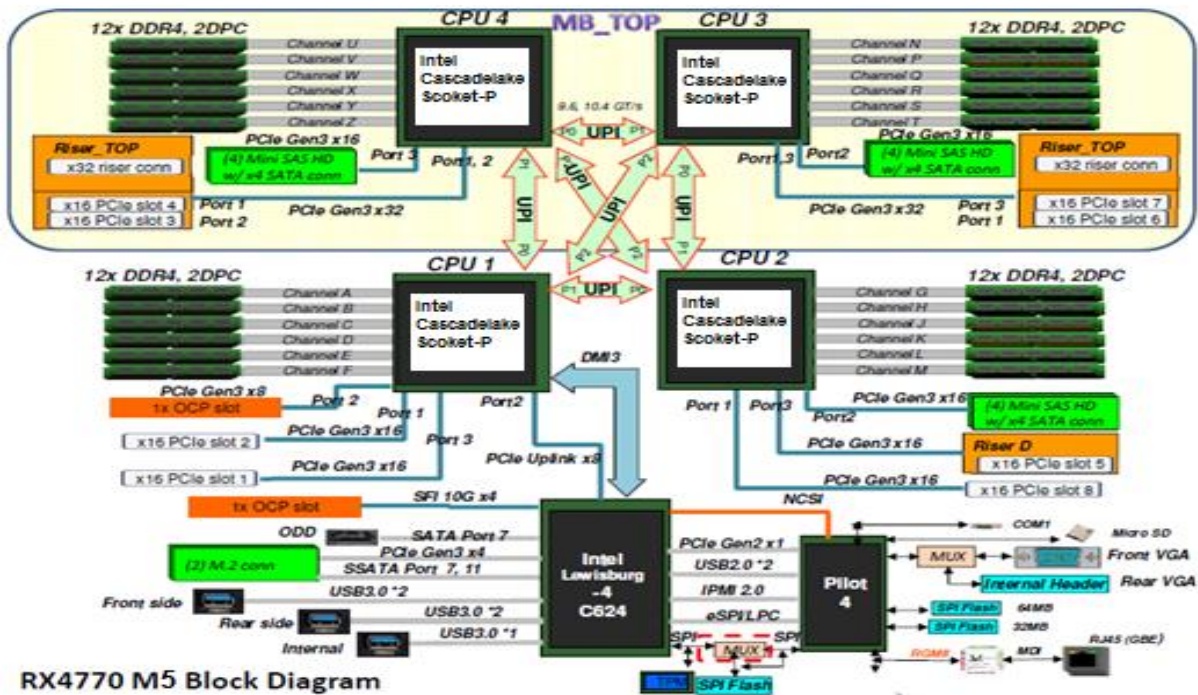
Configuration diagram PRIMERGY RX4770 M5



- Key:
- Light colored slots are use able with Light colored CPUs
  - Dark colored slots are use able with dark colored CPUs

min. components for RX4770 M5	#
Base Unit (includes 2x PSU)	1x
Processor	2x
.....Memory Mode installation	2x
DDR4 DIMM Order (according CPUs installed)	2x
Region kit APAC/EMEA/India or other	1x
iRMC S5 advanced pack (recommended)	1x
Dynamic LoM OCP PHY interface (recommended)	1x

RX4770 M5 Architecture



RX4770 M5 Block Diagram

**RX4770 M5 Processor Information's and Rules**

Two CPU must be configured as minimum, maximum 4 CPU's are possible too.  
 Memory area defined to not used CPU slots are not use able too.  
 Only 2 CPU or 4 CPU configurations are allowed, only same version, no mix!  
 Later upgrading to a 4 processor system is also possible, but may require adding Memory modules.

**Chapter 1 - Base Unit**

**Start**

**Base Unit, System Boards and Chipsets**

The two Rack Units high Base Unit includes by default:

- Base Mother boards with 2 CPU slots and 24 DIMM slots and Top Motherboard with additional 2 CPU slots and 24 DIMM slots. Intel C624 Chipset.
- Two direct attached hot plug (redundant and DPF) power supply units of 1600W each, with up to 96% efficiency.
- Place for 3 FBU for Raid Controller connection.
- One SAS expander module to support all hot plug SAS/SATA devices.
- Device Backplane for up to 16 SAS devices or up to 12 PCIe devices (a PCIe device occupies a SAS device slot and vice versa)
- Eight PCI slots (PCIe 3.0 with 16 lanes each) inclusive necessary riser cards.
- One slot for SATA ODD.
- All FANs.
- Front panel.
- All necessary cables for SAS device slots, PCIe device slots, and so on.

**Server Management**

iRMC S5 (integrated Remote Management Controller) on-board with dedicated (or shared) 10/100/1000 Service LAN-port and integrated graphics controller. With the integrated onboard indicators and controls You can highlight easily failed components via LEDs. The LEDs can be displayed during service even without mains connection by simply pressing the "indicate CSS" button.

**Platform**

Fujitsu Systemboard D3753 based on Intel® C624 chipset  
> 3 serial UPI links Universal Path Interconnect)  
> Up to four Xeon Bronze, Silver, Gold and Platinum x1xx series CPUs

**Slots:**

- Within 2 CPU populated
  - OCP slot for LoM / LAN board are active.
  - 4x PCIe card slots are on Board active.
  - 16x 2.5" SAS device slots and/or 4x PCIe 2.5" device slots are active.  
(SAS Expander module for SAS device slots #9 up to #16 are defaultly included in Base Unit!)
- Within 4 CPU populated
  - 8x PCIe card slots are on Board active.
  - 16x 2.5" SAS device slots and/or 12x PCIe 2.5" device slots are active.

Please see schematics in "description" too.

Internal SAS RAID Controller (- supports modular RAID functions) @ to first CPU  
All PCIe card Slot are PCIe-Gen3 x16

**System RAM up to DDR4 2933 MT/s**

12x DDR4 DIMM slots each CPU, connected by 6 Memory Channels each 2 DIMMs.  
Each Memory Line can be populated by 2 DIMMs **or** by 1 DIMM plus 1 AEP Flash DIMM  
48 memory slots for max. 6TB DDR4 RAM available (12 slots per CPU). Usage of up to 24 AEP Flash DIMMs possible which allows higher total memory capacity.  
Memory speed depends on CPU and configuration.

**LAN**

LAN on Motherboard based on OCP card.  
Different OCP cards are available (Copper or optic, 1 or 10 Gbit, 2 port or 4 port).

**Software**

For more information see the following links:

Connectivity	
<p><u>Interfaces at rear side</u></p> <ul style="list-style-type: none"> <li>- 1 service LAN RJ45 (1 Gbit)</li> <li>- 1 service serial COM</li> <li>- 1x VGA (15 pins)</li> <li>- 2x USB 3.0 on, no USB wakeup</li> <li>- LoM with OCP card (optional)</li> </ul> <p><u>Interfaces at front</u></p> <ul style="list-style-type: none"> <li>- 2x USB 3.0 no USB wakeup</li> <li>- 1x VGA (15 pins)</li> </ul>	<p><u>Interfaces internal</u></p> <ul style="list-style-type: none"> <li>- 2x internal M.2 connectors (SATA &amp; PCIe)</li> <li>- 1x SATA for OOD device</li> <li>- 1x USB 3.0 for ROC device (BU100)</li> <li>- 1x TPM module</li> <li>- 1x Micro SD</li> </ul>



**S26361-K1657-V200**

**RX4770 M5 Rack based Server with 16x SFF bays**

- Rack base unit with D3753-Cx systemboard
- 2 System Boards (Bottom and Top)
  - 1 bay for OCP card ( LoM/LAN )
  - up to 16 SFF bays for SAS/SATA HDD ´s/SSD ´s  
thereof up to 12 SFF bays for PCIe SSD ´s
  - 1 bay (0,5" height) for optical disc drives
  - 2 Power supply units
  - w/o Power cord for rack mounting (ICE 320 C14->C13 plug)
  - no Rack- mounting kit included



**Liquid cooling** is possible to offer as special release only, Possible Configuration together with Liquid cooling need to be checked.  
Please issue Release Request with your desired configuration.

**S26361-K1657-V210**

**RX4770 M5 Rack based Server with 16x SFF bays liquid cooled**

- Rack base unit with D3753-Cx systemboard
- 2 System Boards (Bottom and Top)
  - 1 bay for OCP card ( LoM/LAN )
  - up to 16 SFF bays for SAS/SATA HDD ´s/SSD ´s  
thereof up to 12 SFF bays for PCIe SSD ´s
  - 1 bay (0,5" height) for optical disc drives
  - 2 Power supply units
  - Liquid Cooling Set for 2 CPUs instead of Heat pipes included
  - w/o Power cord for rack mounting (ICE 320 C14->C13 plug)
  - no Rack- mounting kit included

**S26361-K1657-V300**

**RX4770 M5 Rack based Server with 8x SFF bays Performance**

- Rack base unit with D3753-Cx systemboard
- 2 System Boards (Bottom and Top)
  - 1 bay for OCP card ( LoM/LAN )
  - up to 8 SFF bays for SAS/SATA HDD ´s/SSD ´s / PCIe SSD
  - 1 bay (0,5" height) for optical disc drives
  - 2 Power supply units
  - w/o Power cord for rack mounting (ICE 320 C14->C13 plug)
  - no Rack- mounting kit included



Performance base unit always requires four CPUs. Doing so 6x PCIe card slots and 8x PCIe or SAS/SATA 2.5" device slots are available.

A



## Chapter 2 - Rack Architecture

A

Rack Architecture		Remark			
No RMK	1x	Only with loose server order	S26361-F2735-E111	n/a	no mounting in rack
Rack Mount Kit F1 QRL LV	CMA 1x	RMK for server w/max. 2U, w/CMAAdapter	S26361-F2735-E175	S26361-F2735-L175	precondition for CMArm
Bracket 1U for asymmetrical rack	1x	Mounting or enclose of RMK in asym.rack incl. 1U bracket	S26361-F4530-E11	n/a	for asymmetrical rack
Mounting of RMK in symmetrical rack	1x	Mounting or enclose of RMK in symmetrical racks w/o support bracket	S26361-F4530-E10	n/a	for symmetrical rack
Rack Mount Kit F1 LV	1x	For server max. 2 height units (U) or max. 35 kg, w/o CMAAdapter	S26361-F2735-E176n/a	S26361-F2735-L176	best choice for 3rd party racks
Rack Cable Arm 2U	1x	Cable mgmt. arm for 2U or higher	S26361-F2735-E82	S26361-F2735-L82	RMK with CMAAdapter needed
Cable mgmt. lateral for asym.racks	1x	For server/storage subsyst.2U or higher	S26361-F2735-E71	S26361-F2735-L7	occupies 1U above RMK
Cable arm 2U PCR and 3rd party racks	1x	To be mounted at right or left rack pillar behind servers higher oder equal 2U	n/a	S26361-F2201-L20	mounted above RMK -F2735-L176
Rack installation ex works	1x	Rack will be delivered completely premounted and tested ex factory	SNP:SY-F1647E301-P	n/a	to be ordered 1x per installed rack server
Adapter angle	1x	For asymm. rack, 1U, up to 15kg	n/a	S26361-F2735-L10	needed for mounting of RMK in asym. rack

B

Chapter 3 - CPU

B

There are 4 processor sockets available. Please configure 2 or 4 Processors (step of 1 & 3 is not released).  
 >> All processors have to be the same type.  
 >> With **two** processors LOM, iRMC, 4x PCIe 2.5" device, 4x PCIe card slots and 24x DIMM slots are available  
 >> With **four** processors all 48x DIMM slots, 8x PCIe card slots and 12x PCIe 2.5" device slots are available.  
 >> **Performance base unit always requires four CPUs. 6x PCIe card slots and 8x PCIe 2.5" device slots are available**  
 >> To configure 3rd and 4th CPU an additional cooler kit is required.  
 >> Each empty CPU slot have to be filled up with a CPU Dummy!

Base Units  
 Standard (-V200)  
 Liquid Cooled (-V210)  
 Performance (-V300)  
 E-Star restriction

			Standard (-V200)	Liquid Cooled (-V210)	Performance (-V300)	E-Star restriction
<b>Xeon Gold 5200 - Advanced AEP enabled (Shelf 3)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2666 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 5215 10C 2.5GHz 85W	S26361-F4082-E215	S26361-F4082-L215	X	X		
Xeon Gold 5217 8C 3.0GHz 115W	S26361-F4082-E217	S26361-F4082-L217	X	X		
Xeon Gold 5218 16C 2.3GHz 125W	S26361-F4082-E218	S26361-F4082-L218	X	X		
Xeon Gold 5220 18C 2.2GHz 125W	S26361-F4082-E220	S26361-F4082-L220	X	X		
<b>Xeon Gold 5200 - Advanced AEP enabled (Shelf 3)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 5222 4C 3.8GHz 105W	S26361-F4082-E222	S26361-F4082-L222	X	X		X
<b>Xeon Gold 5200 - Search Optimized (Shelf 3)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2666 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 5220S 18C 2.6GHz 125W	S26361-F4082-E221	S26361-F4082-L221	X	X		
<b>Xeon Gold 6200 - Advanced AEP enabled (Shelf 4)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 6226 12C 2.8GHz 125W	S26361-F4082-E326	S26361-F4082-L326	X	X		
Xeon Gold 6230 20C 2.1GHz 125W	S26361-F4082-E330	S26361-F4082-L330	X	X		
Xeon Gold 6234 8C 3.4GHz 130W	S26361-F4082-E334	S26361-F4082-L334	X	X		
Xeon Gold 6238 22C 2.1GHz 140W	S26361-F4082-E338	S26361-F4082-L338	X	X		
Xeon Gold 6240 18C 2.6GHz 150W	S26361-F4082-E340	S26361-F4082-L340	X	X		
Xeon Gold 6242 16C 2.8GHz 150W	S26361-F4082-E342	S26361-F4082-L342	X	X		
Xeon Gold 6244 8C 3.6GHz 150W	S26361-F4082-E344	S26361-F4082-L344	X	X		
Xeon Gold 6246 12C 3.3GHz 165W	S26361-F4082-E346	S26361-F4082-L346	X	X		
Xeon Gold 6248 20C 2.5GHz 150W	S26361-F4082-E348	S26361-F4082-L348	X	X		
Xeon Gold 6252 24C 2.1GHz 150W	S26361-F4082-E352	S26361-F4082-L352	X	X		
Xeon Gold 6254 18C 3.1GHz 200W	S26361-F4082-E354	S26361-F4082-L354		X	X	
<b>Xeon Gold 6200 - VM Density Optimized (Shelf 4)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 6222V 20C 1.8GHz 115W	S26361-F4082-E322	S26361-F4082-L322	X	X		
Xeon Gold 6262V 24C 1.9GHz 135W	S26361-F4082-E362	S26361-F4082-L362	X	X		
<b>Xeon Platinum 8200 Advanced AEP enabled (Shelf 5)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Platinum 8253 16C 2.2GHz 125W	S26361-F4082-E353	S26361-F4082-L353	X	X		
Xeon Platinum 8256 4C 3.8GHz 105W	S26361-F4082-E356	S26361-F4082-L356	X	X		X
Xeon Platinum 8260 24C 2.4GHz 165W	S26361-F4082-E360	S26361-F4082-L360	X	X		
Xeon Platinum 8268 24C 2.9GHz 205W	S26361-F4082-E368	S26361-F4082-L368		X	X	
Xeon Platinum 8270 26C 2.6GHz 205W	S26361-F4082-E370	S26361-F4082-L370		X	X	
Xeon Platinum 8276 28C 2.3GHz 165W	S26361-F4082-E376	S26361-F4082-L376	X	X		
Xeon Platinum 8280 28C 2.7GHz 205W	S26361-F4082-E380	S26361-F4082-L380		X	X	
<b>Xeon Gold 5200M - Advanced (Shelf 3; 2.0TB p. Socket)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2666 MHz & UPI Bus @ 10.4 GT/s						
Xeon Platinum 5215M 10C 2.5GHz 85W	S26361-F4082-E415	S26361-F4082-L415	X	X		
<b>Xeon Gold 6200M - Advanced (Shelf 4; 2.0TB p. Socket)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Gold 6238M 22C 2.1GHz 140W	S26361-F4082-E438	S26361-F4082-L438	X	X		
Xeon Gold 6240M 18C 2.6GHz 150W	S26361-F4082-E440	S26361-F4082-L440	X	X		
<b>Xeon Platinum 8200M - Advanced (Shelf 5; 2.0 TB p. Socket)</b>						
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s						
Xeon Platinum 8260M 24C 2.4GHz 165W	S26361-F4082-E460	S26361-F4082-L460	X	X		
Xeon Platinum 8276M 28C 2.3GHz 165W	S26361-F4082-E476	S26361-F4082-L476	X	X		
Xeon Platinum 8280M 28C 2.7GHz 205W	S26361-F4082-E480	S26361-F4082-L480		X	X	

B1

B1

<b>Xeon Gold 5200L - Advanced (Shelf 3; 4.5TB p. Socket)</b>							
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2666 MHz & UPI Bus @ 10.4 GT/s							
Xeon Platinum 5215L 10C 2.5GHz 85W	S26361-F4082-E515	S26361-F4082-L515	X	X			
<b>Xeon Gold 6200L - Advanced (Shelf 4; 4.5TB p. Socket)</b>							
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s							
Xeon Gold 6238L 22C 2.1GHz 140W	S26361-F4082-E538	S26361-F4082-L538	X	X			
Xeon Gold 6240L 18C 2.6GHz 150W	S26361-F4082-E540	S26361-F4082-L540	X	X			
<b>Xeon Platinum 8200L - Advanced (4.5TB p. Socket)</b>							
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s							
Xeon Platinum 8260L 24C 2.4GHz 165W	S26361-F4082-E560	S26361-F4082-L560	X	X			
Xeon Platinum 8276L 28C 2.3GHz 165W	S26361-F4082-E576	S26361-F4082-L576	X	X			
Xeon Platinum 8280L 28C 2.7GHz 205W	S26361-F4082-E580	S26361-F4082-L580		X	X		
<b>Xeon Gold 6200Y - Speed Select (Shelf 4)</b>							
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s							
Xeon Gold 6240Y 8/14/18C 2.6GHz 150W	S26361-F4082-E640	S26361-F4082-L640	X	X			
<b>Xeon Platinum 8200Y - Speed Select (Shelf 5)</b>							
64-bit Intel Xeon processor supporting HT*, DDR4 @ 2933 MHz & UPI Bus @ 10.4 GT/s							
Xeon Platinum 8260Y 16/20/24C 2.4GHz 165W	S26361-F4082-E660	S26361-F4082-L660	X	X			
<b>Cooler Kit (see comment above; please order for every additional CPU 1 additional cooler kit)</b>							
Cooler Kit for 3rd/4th CPUs	S26361-F4051-E4						
Cooler Upgrade Kit for loose delivery CPU		S26361-F4051-L870					

C

**Chapter 4 - DDR4 System memory**

**C**

Each CPU offers 12 Slots for DDR4 Memory Modules organised in 2 Banks and 6 Channels with 2 Memory Controllers (3 Channels each).  
 If you need more than 24 Slots you have to configure the 3rd and 4th CPU.  
 Depending on the amount of memory configured you can decide between 3 basic modes of operation (see explanation below).

There are different kinds of DDR4 Memory Modules available: RDIMM x4, RDIMM x8, LRDIMM.  
 Mix of these different kind of memories is not allowed.  
 In addition DCPMM (Data Center Persistent Memory) is available and can be mixed with all kind of memory modules.

Supported memory capacities per CPU:  
 768 GB DDR4 RDIMM (12x 64GB 2Rx4)  
 1.536 GB DDR4 LRDIMM (12x 128GB 4Rx4) **(CPU type with "M" at the end is required)**  
 960 GB with 6x DDR4 32 GB & 6x DCPMM 128 GB **(Standard CPU with type Gold or type Platinum is required; exception is the Xeon Silver 4215 & 4215R SKU)**  
**If DCPMM 128 GB is combined with 64 GB or 128 GB Memory module CPU type with "M" at the end is required!**  
 1.920 GB with 6x DDR4 64 GB & 6x DCPMM 256 GB **(CPU type with "M" at the end is required)**  
**If DCPMM 256 GB is combined with 128 GB Memory module CPU type with "L" at the end is required!**  
 3.840 GB with 6x DDR4 128 GB & 6x DCPMM 512 GB **(CPU type with "L" at the end is required)**

Supported memory capacities per System:  
 3.072 GB using RDIMM  
 6.144 GB using LRDIMM technology with 128GB per module  
 15.360 GB using LRDIMM technology with 128GB per module and 512 GB DCPMM

The memory speed is independent from the configuration (1DPC or 2DPC) but restricted by the CPU SKU (max. 2.933 MT/s).  
 DDR4 memory is operated at 1.2V

<b>S26361-F3694-E10</b>	Independent Mode Installation
Independent Channel Mode allows all channels to be populated in any order. No specific Memory RAS features are defined	
Requires minimum 1 memory Module per CPU	
<b>S26361-F3694-E1</b>	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. <b>Not supported with DCPMM modules! Only one DIMM type is allowed.</b>	
Requires minimum 2x 1R/2R or 1x 4R/8R modules per CPU	
<b>S26361-F3694-E3</b>	Mirrored Channel Mode Installation
BIOS preconfiguration for Mirror mode. Two or three identical memory modules are always equipped at one memory controller to use the mirrored channel mode. Half of the modules contain active data, the remaining modules contain mirrored data. See details below. <b>Not supported with DCPMM modules! Only one DIMM type is allowed.</b>	
Multiple of 6 identical modules to be configured per CPU	



Resulting memory capacity / Rank Sparing Mode, 1 Channel populated														
	RDIMM x8				RDIMM x4				LRDIMM					
	8GB	1R	16GB	2R	16GB	1R	32GB	2R	64GB	2R	64GB	4R	128GB	4R
1DPC			8GB				16GB		32GB			48GB		96GB
2DPC	8GB		24GB		16GB		48GB		96GB		112GB		224GB	



Apparently 3DS-DIMMs don't behave like 4Rx4 modules but as 2Rx4; same situation for 8Rx4 organized modules (=> 2Rx4).  
 Result is, that in rank-sparing mode the memory loss is half of one module capacity. This is shown in table above.

DDR4 rg 2933 xRx8			
8GB (1x8GB) 1Rx8 DDR4-2933 R ECC	<b>S26361-F4083-E108</b>	<b>S26361-F4083-L108</b>	
16GB (1x16GB) 2Rx8 DDR4-2933 R ECC	<b>S26361-F4083-E116</b>	<b>S26361-F4083-L116</b>	

DDR4 rg 2933 xRx4			
16GB (1x16GB) 1Rx4 DDR4-2933 R ECC	<b>S26361-F4083-E316</b>	<b>S26361-F4083-L316</b>	
32GB (1x32GB) 2Rx4 DDR4-2933 R ECC	<b>S26361-F4083-E332</b>	<b>S26361-F4083-L332</b>	
64GB (1x64GB) 2Rx4 DDR4-2933 R ECC	<b>S26361-F4083-E364</b>	<b>S26361-F4083-L364</b>	

DDR4 lr 2933			
64GB (1x64GB) 4Rx4 DDR4-2933 LR ECC	<b>S26361-F4083-E464</b>	<b>S26361-F4083-L464</b>	
128GB (1x128GB) 4Rx4 DDR4-2933 LR ECC	<b>S26361-F4083-E428</b>	<b>S26361-F4083-L428</b>	

C1
----

**DCPMM configuration section (128 GB Modules)**

C1



**Only one type of DCPMM is allowed per system!**  
**Only one DCPMM package and one Memory package is allowed per CPU!**  
**Every CPU has to have the same DCPMM & Memory configuration!**  
**Liquid cooling base unit does not support DCPMM**

DCPMM 128GB 2666 (Apache Pass)		
128GB (1x128GB) DCPMM-2666	S26361-F4083-E501	S26361-F4083-L501

Available Memory Packages		
192GB (6x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E333	
384GB (6x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E465	

DCPMM 128GB 2666 (Apache Pass)		
256GB (2x128GB) DCPMM-2666	S26361-F4083-E521	
512GB (4x128GB) DCPMM-2666	S26361-F4083-E541	
768GB (6x128GB) DCPMM-2666	S26361-F4083-E561	

Available Memory Packages		
96GB (6x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E317	
192GB (6x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E333	
384GB (6x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E465	

DCPMM 128GB 2666 (Apache Pass)		
768GB (6x128GB) DCPMM-2666	S26361-F4083-E561	

Available Memory Packages		
768GB (6x128GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E430	

DCPMM 128GB 2666 (Apache Pass)		
256GB (2x128GB) DCPMM-2666	S26361-F4083-E521	

Available Memory Packages		
64GB (4x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E318	
128GB (4x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E334	
256GB (4x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E466	
128GB (8x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E319	
256GB (8x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E335	
512GB (8x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E467	

C2

## DCPMM configuration section (256 &amp; 512 GB Modules)

C2

DCPMM 256GB 2666 (Apache Pass)		
256GB (1x256GB) DCPMM-2666		S26361-F4083-L502
512GB (2x256GB) DCPMM-2666	S26361-F4083-E522	
1024GB (4x256GB) DCPMM-2666	S26361-F4083-E542	
1536GB (6x256GB) DCPMM-2666	S26361-F4083-E562	

Available Memory Packages		
96GB (6x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E317	
192GB (6x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E333	
384GB (6x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E465	

DCPMM 256GB 2666 (Apache Pass)		
1536GB (6x256GB) DCPMM-2666	S26361-F4083-E562	

Available Memory Packages		
768GB (6x128GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E430	

DCPMM 256GB 2666 (Apache Pass)		
512GB (2x256GB) DCPMM-2666	S26361-F4083-E522	

Available Memory Packages		
64GB (4x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E318	
128GB (4x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E334	
256GB (4x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E466	
128GB (8x16GB) 1Rx4 DDR4-2933 R ECC	S26361-F4083-E319	
256GB (8x32GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E335	
512GB (8x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E467	

DCPMM 512GB 2666 (Apache Pass)		
512GB (1x512GB) DCPMM-2666		S26361-F4083-L503
2048GB (4x512GB) DCPMM-2666	S26361-F4083-E543	
3072GB (6x512GB) DCPMM-2666	S26361-F4083-E563	

Available Memory Packages		
384GB (6x64GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E465	

DCPMM 512GB 2666 (Apache Pass)		
3072GB (6x512GB) DCPMM-2666	S26361-F4083-E563	

Available Memory Packages		
768GB (6x128GB) 4Rx4 DDR4-2933 LR ECC	S26361-F4083-E430	

D



Detailed information

Min. - Max. Memory DIMM basics:

Minimum Memory DIMM basics:

- Each CPU DIMM population should be homogenous.
- Each CPU offers 6 Memory Lanes, each Memory Lane 2 DIMM slots.

Per CPU max. 12 DIMM slots use able

- with 2 CPU = max. 24 DIMM slots use able
- with 4 CPU = max. 48 DIMM slots use able

- on each CPU must be populated a minimum of Memory defined by Intel rules.

Mode	Configuration	RDIMM		Use case, advantage
		x8	LRDIMM x4	
SDDC (chipkill) support	any	no	yes	supports detecting multi-bit errors
Independant channel mode	1 or 2 Modules per Bank	yes	yes	offers max. flexibility, upgradeability, capacity
Mirrored channel mode *)	6 identical Modules / Bank	no	yes	offers maximum security
Rank sparing mode *)	min. 2 Ranks / Channel	no	yes	balances performance and capacity

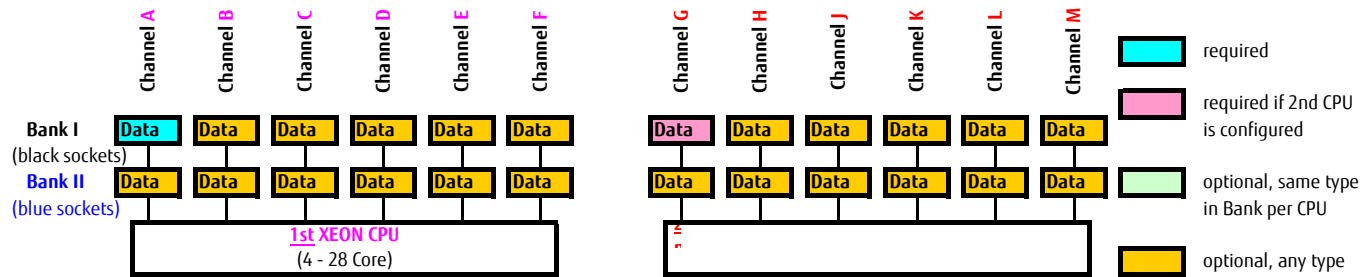
\*) For the delivery ex factory the system will be prepared with dedicated BIOS setting.

Capacity	Configuration	RDIMM	Notes
Min. Memory per CPU	1 Module / CPU	1x8GB	with one CPU
Max. Memory per CPU	12 Modules / CPU	12x64GB	with two CPU
Max. Memory per System	48 Modules / System	3,072GB	with four CPU

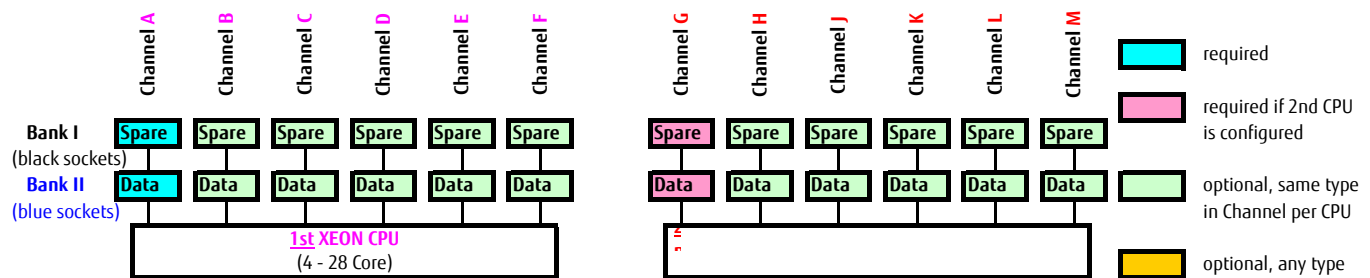
The memory sockets on the Systemboards are color coded

<b>Bank I</b>	black sockets	<b>Bank II</b>	blue sockets
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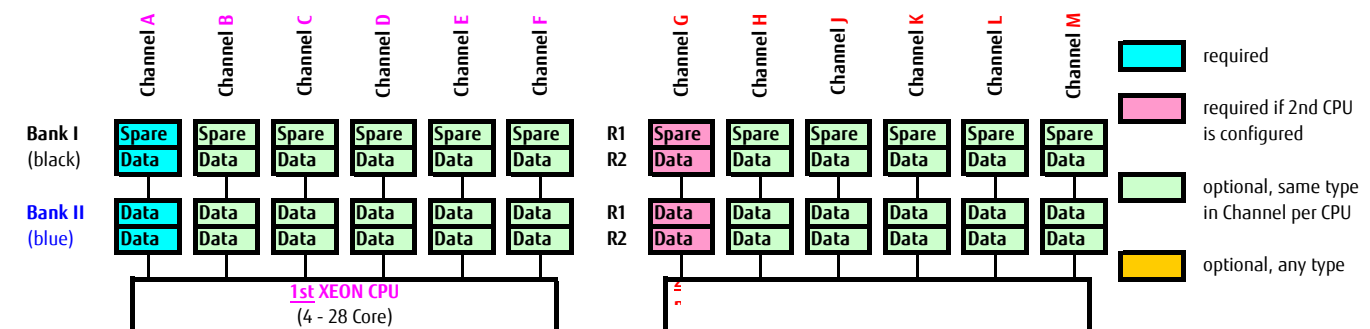
Independant channel mode



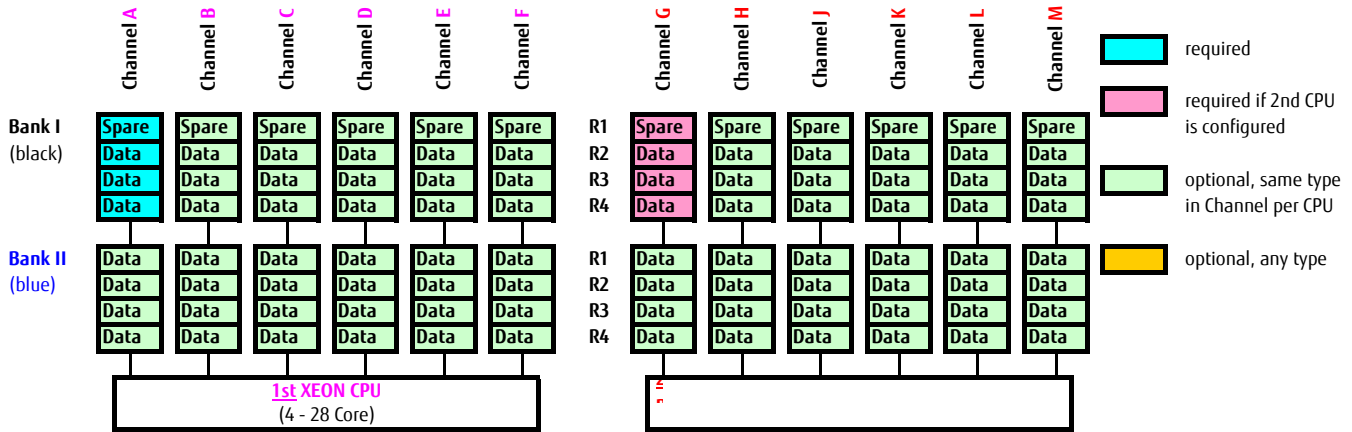
Rank sparing mode --- 1-Rank Memory modules (RDIMM)



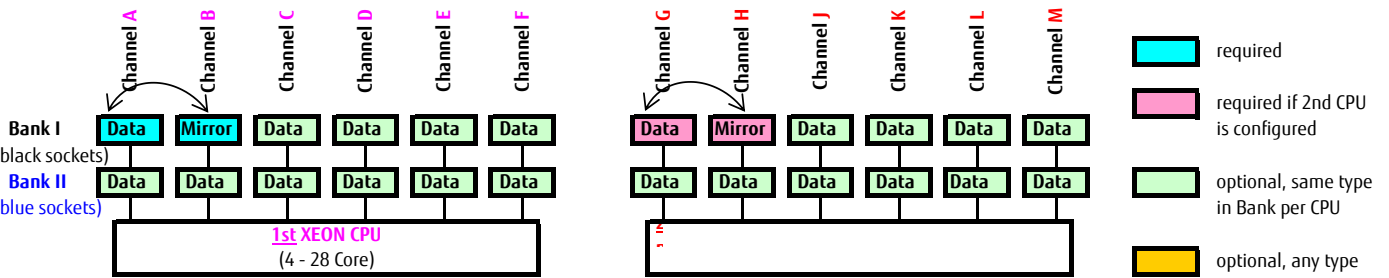
Rank sparing mode --- 2-Rank Memory modules (RDIMM)



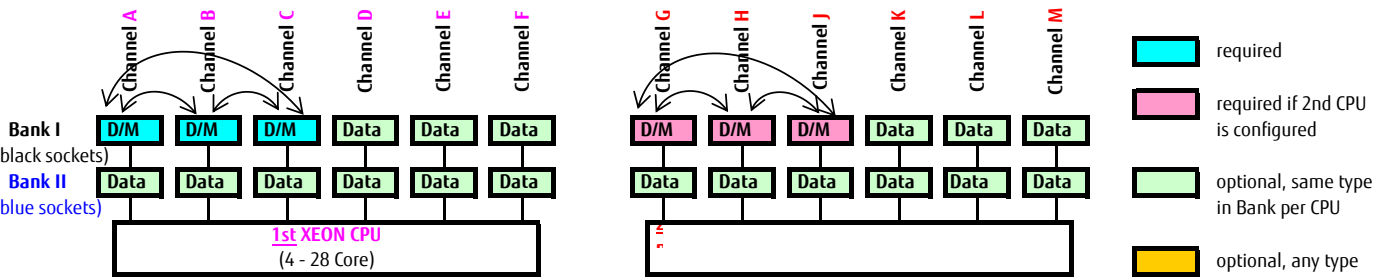
Rank sparing mode --- 4-Rank Memory modules (RDIMM 3DS)



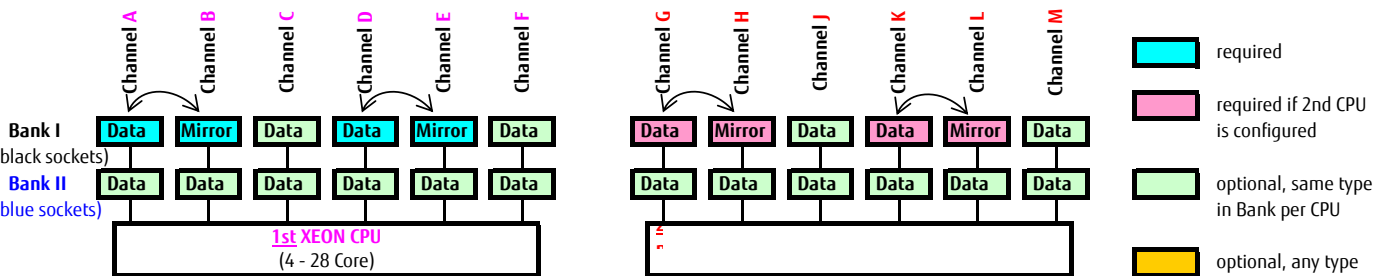
Mirror Channel Mode (2 DIMMS per CPU)



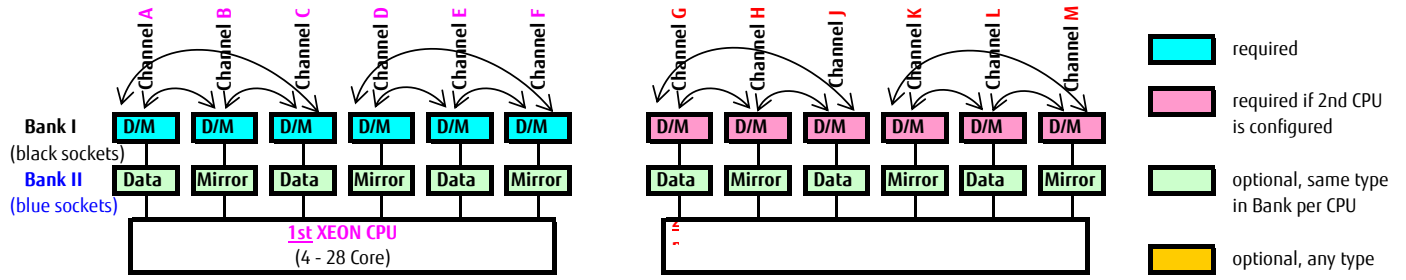
Mirror Channel Mode (3 DIMMS per CPU)



Mirror Channel Mode (4 DIMMS per CPU)

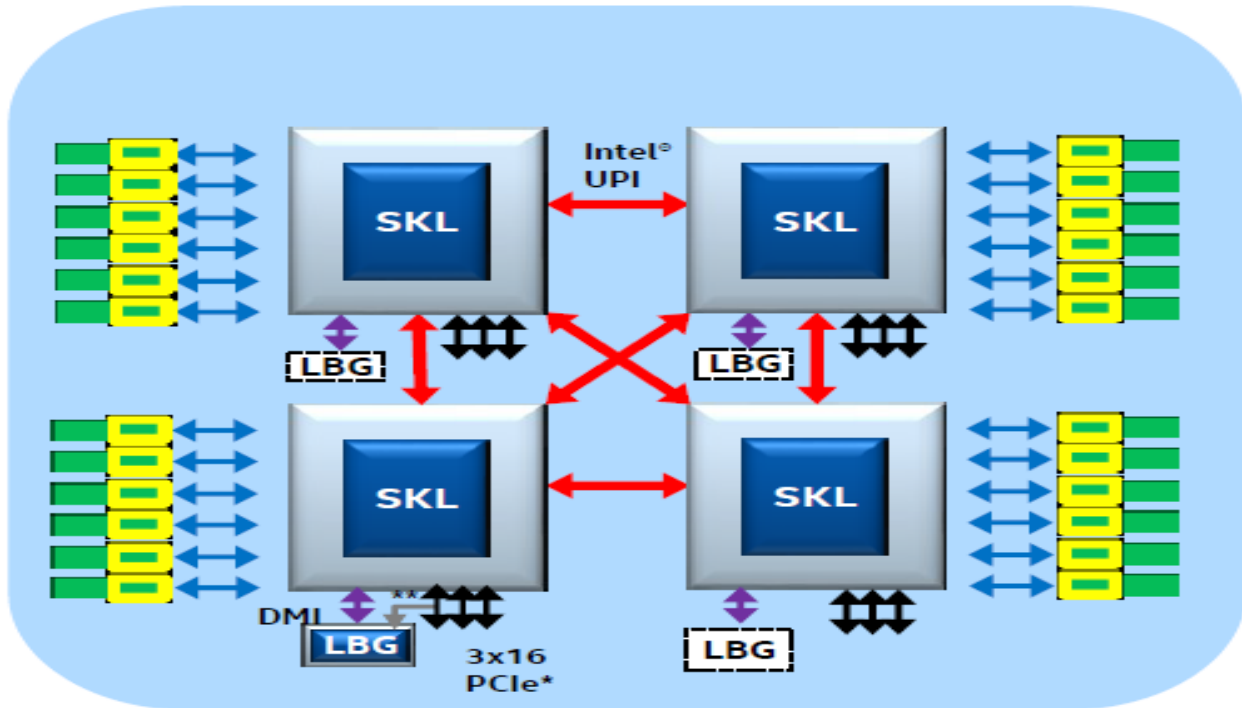


Mirror Channel Mode (6 DIMMS per CPU)



**4Socket Purley Platform; CPU, Memory and AEP Configuration Example**

# Typical 4S Configuration Cross Bar



- DDR4 DIMMs
- DDR4/Apache Pass
- LBG Optional
- PCIe\* uplink connection for Intel® QuickAssistTechnology and Intel® Ethernet
- Example DIMM population shown; please look up Apache Pass customer collateral for specific rules on DDR4/Apache Pass DIMM populations
- \*\*

**Released configurations with DCPMM modules per CPU**

Modes	iMC0						iMC1						Config
	Channel 0		Channel 1		Channel 2		Channel 0		Channel 1		Channel 2		
	Bank II	Bank I	Bank II	Bank I	Bank II	Bank I	Bank II	Bank I	Bank II	Bank I	Bank II	Bank I	
AD + MM	128	16	128	16	128	16	128	16	128	16	128	16	2-2-2
AD + MM	128	32	128	32	128	32	128	32	128	32	128	32	2-2-2
AD	128	64	128	64	128	64	128	64	128	64	128	64	2-2-2
AD	128	128	128	128	128	128	128	128	128	128	128	128	2-2-2
AD + MM	256	16	256	16	256	16	256	16	256	16	256	16	2-2-2
AD + MM	256	32	256	32	256	32	256	32	256	32	256	32	2-2-2
AD + MM	256	64	256	64	256	64	256	64	256	64	256	64	2-2-2
AD	256	128	256	128	256	128	256	128	256	128	256	128	2-2-2
AD + MM	512	64	512	64	512	64	512	64	512	64	512	64	2-2-2
AD + MM	512	128	512	128	512	128	512	128	512	128	512	128	2-2-2
AD + MM	128	16	128	16		16	128	16	128	16		16	2-2-1
AD	128	32	128	32		32	128	32	128	32		32	2-2-1
AD	128	64	128	64		64	128	64	128	64		64	2-2-1
AD + MM	256	16	256	16		16	256	16	256	16		16	2-2-1
AD + MM	256	32	256	32		32	256	32	256	32		32	2-2-1
AD	256	64	256	64		64	256	64	256	64		64	2-2-1
AD + MM	512	64	512	64		64	512	64	512	64		64	2-2-1
AD	128	16		16		16	128	16		16		16	2-1-1
AD	128	32		32		32	128	32		32		32	2-1-1
AD	128	64		64		64	128	64		64		64	2-1-1
AD + MM	256	16		16		16	256	16		16		16	2-1-1
AD	256	32		32		32	256	32		32		32	2-1-1
AD	256	64		64		64	256	64		64		64	2-1-1
AD + MM		16		16		128		16		16		128	1-1-1
AD		32		32		128		32		32		128	1-1-1
AD		64		64		128		64		64		128	1-1-1
AD + MM		16		16		256		16		16		256	1-1-1
AD + MM		32		32		256		32		32		256	1-1-1
AD		64		64		256		64		64		256	1-1-1
AD	16	16	16	16		128	16	16	16	16		128	2-2-1
AD	32	32	32	32		128	32	32	32	32		128	2-2-1
AD	64	64	64	64		128	64	64	64	64		128	2-2-1
AD	16	16	16	16		256	16	16	16	16		256	2-2-1
AD	32	32	32	32		256	32	32	32	32		256	2-2-1
AD	64	64	64	64		256	64	64	64	64		256	2-2-1
AD	128	32		32		32		32		32		32	2/1-1-1
AD	128	64		64		64		64		64		64	2/1-1-1

**Chapter 7 - SAS / RAID Controller**

F

The internal RAID controller have to be installed on PCIe slot #8  
In addition 2 external RAID controllers can be installed on PCIe slot #5, #6 or #7.  
All installed RAID controllers can have an optional FBU.

**internal HBA and RAID controller, no 2nd Level cache**

**internal drive RAID / HBA controllers for SAS, SATA HDD or SSD drives**

<b>PRAID CP400i RAID Contr.</b>	No Cache	RAID 0, 1, 1E, 10, 5, 50	1x	S26361-F3842-E1	S26361-F3842-L501
<b>PSAS CP400i HBA SAS Contr.</b>	No Cache	HBA + RAID 0, 1	1x	S26361-F3842-E2	S26361-F3842-L502
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, supports up to 8 devices without expander requires 1x LP PCIe 3.0 x8 (int.) slot, based on LSI SAS3008					
<b>PSAS CP403i HBA SAS Contr.</b>	No Cache	HBA	1x	S26361-F3842-E3	S26361-F3842-L503
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, supports up to 8 devices without expander requires 1x LP PCIe 3.0 x8 (int.) slot, based on LSI SAS3008; IT FW stack without RAID functionality; released for VMWare vSAN / vSphere in V200 base unit					

**internal RAID controller with 2nd Level cache 1GB, 2GB**

**internal drive RAID / SAS, SATA controllers with Cache and opt. TFM module + Flash Backup Unit and opt. Advanced SW Options**

<b>PRAID EP400i RAID Contr.</b>	1GB Cache	RAID 0,1,1E,10,5,50,6,60	1x	S26361-F5243-E11	S26361-F5243-L11
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, supports up to 8 devices without expander requires 1x LP PCIe 3.0 x8 (int.) slot, based on LSI SAS3108					
optional Licence Activation Key, a free of charge test licence is available at PRIMERGY-PM, FastPath is included in Controller FW					
<b>RAID Advanced SW Option CacheCade®Broadcom: SSD-cache-based HDD acceleration</b>			1x	S26361-F5243-E670	S26361-F5243-L670
optional Transportable Flash module (TFM) and Flash Backup Unit (FBU), both components required					
<b>TFM module for 1GB Cache</b>	NV-RAM & FBU control logic		1x	S26361-F5243-E100	S26361-F5243-L100
<b>FBU Option for PRAID EP4xx:</b> Supercap securing the power supply of the RAID controller in case of power failure including cable with 70cm length			1x	S26361-F5243-E171	S26361-F5243-L113
<b>PRAID EP420i RAID Contr.</b>	2GB Cache	RAID 0,1,1E,10,5,50,6,60	1x	S26361-F5243-E12	S26361-F5243-L12
<b>PRAID EP420i for SafeStore R. Contr.</b>	2GB Cache	RAID 0,1,1E,10,5,50,6,60	1x	S26361-F5243-E14*	S26361-F5243-L14*
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, supports up to 8 devices without expander requires 1x LP PCIe 3.0 x8 (int.) slot, based on LSI SAS3108					
optional Licence Activation Key, a free of charge test licence is available at PRIMERGY-PM, FastPath is included in Controller FW					
<b>RAID Advanced SW Option CacheCade®Broadcom: SSD-cache-based HDD acceleration</b>			1x	S26361-F5243-E670	S26361-F5243-L670
optional TFM module and Flash Backup Unit (FBU), both components required					
<b>TFM module for 2GB Cache</b>	NV-RAM & FBU control logic		1x	S26361-F5243-E200	S26361-F5243-L200
<b>FBU Option for PRAID EP4xx:</b> Supercap securing the power supply of the RAID controller in case of power failure including cable with 70cm length			1x	S26361-F5243-E171	S26361-F5243-L113

**internal SAS, SATA RAID controller with 2nd Level cache 2GB, 4GB, 8GB**

Remark: NVMe drives in this system are always connected directly to the CPU, not the controller

**internal drive RAID / SAS controllers for E91 and SAS, SATA HDD or SSD drives**

<b>PRAID EP540i RAID Contr. LP</b>	4GB Cache	RAID 0,1,1E,10,5,50,6,60	1x	S26361-F4042-E204	S26361-F4042-L504
<b>PRAID EP580i RAID Contr. LP</b>	8GB Cache	RAID 0,1,1E,10,5,50,6,60	1x	S26361-F4042-E208	S26361-F4042-L508
16 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, based on LSI SAS3516, supports up to 16 devices without expander or 16 ports 8Gb/s NVMe PCIe, supports up to 4 x4 NVMe devices (not supported in this system) includes Fastpath and SafeStore Advanced SW-Licence, CacheCade is no longer supported requires 1x LP PCIe 3.0 x8 (int.) slot, based on LSI SAS3516					
optional Flash Backup Unit (FBU), Transportable Flash module (TFM) is already included					
<b>FBU Option for PRAID EP5xx:</b> Supercap securing the power supply of the RAID controller in case of power failure including cable with 70cm length			1x	S26361-F4042-E171	S26361-F4042-L113

Up to 2x FBU can be integrated per System

Expander configurations: Use PRAID EPxxi for optimal performance

**Advanced SW options:**

simultaneous operation of SafeStore or CacheCade + FastPath or is supported, simultaneous operation of Safestore + CacheCade is not supported

G

**external SAS controller**

**HBA controller for ext. drives SAS, SATA HDD or SSD drives**

<b>PSAS CP400e HBA SAS Contr. LP / FH</b>	No Cache	HBA, no RAID	2x	S26361-F3845-E1/E201	S26361-F3845-L501
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, 2x SFF8644 (external Mini-SAS HD) requires 1x FH PCIe 3.0 x8 (int.) slot, based on LSI SAS3008					

**external SAS, RAID controller with 2nd Level cache 4GB**

**RAID / SAS, SATA controllers for external drives with Cache and opt. Flash Backup Unit**

<b>PRAID EP540e RAID Contr. LP</b>	4GB Cache	RAID 0,1,1E,10,5,50,6,60	2x	S26361-F4063-E4/E204	S26361-F4063-L504
8 ports 3, 6 & 12Gb/s SAS/SATA HDD/ SSD, 2x SFF8644 (external Mini-SAS HD) includes Fastpath and SafeStore Advanced SW-Licence requires 1x FH PCIe 3.0 x8 (int.) slot, based on LSI SAS3516					
optional Flash Backup Unit (FBU), Transportable Flash module (TFM) is already included					
<b>FBU Option for PRAID EP5xx:</b> Supercap securing the power supply of the RAID controller in case of power failure including cable with 55cm length			2x	S26361-F4042-E171	S26361-F4042-L113

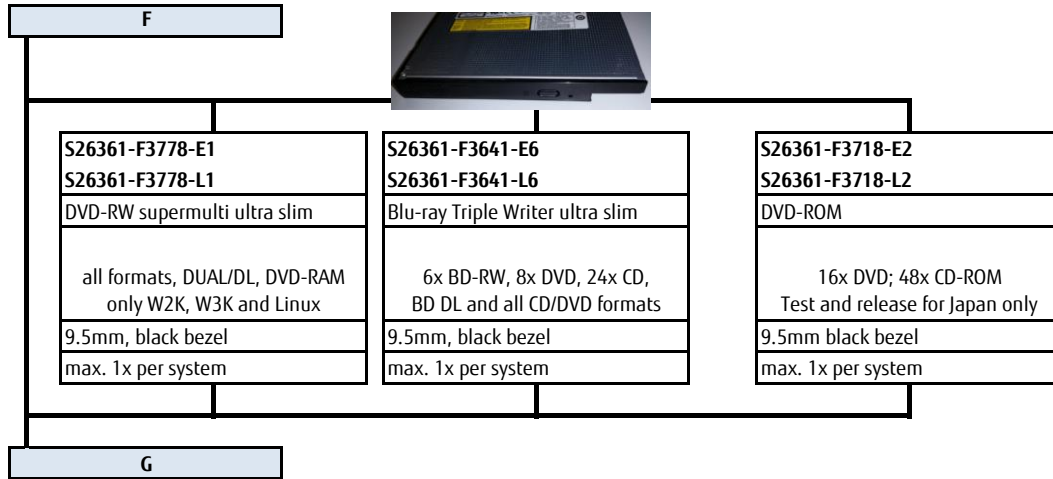
onboard Ocu Link Connector, from CPU to Backplane for intenal 2,5" NVMe SSD PCIe SSD SFF (2,5" NVMe PCIe)				
12/8 ports 8Gb/s PCIe x4	Intel CPU	No Cache	12x	onboard

H



**Chapter 6 - Optical Disk Drives**

The base units with 12x 3.5" or 24x 2.5" HDD do not offer 1x 9.5mm optical drive bay!



**Chapter 7 - storage drives**

**G**

SAS drives and SATA drives can be mixed, but cannot be used in one logical RAID volume.  
 SATA drives can be connected to the onboard Controller (max. 8x),  
 SAS drives require a dedicated SAS / RAID Controller  
 Hard Disk Sector Format Information:  
 512n HDD: 512 byte sectors on the drive media.  
 512e (e=emulation) HDD: 4K physical sectors on the drive media with 512 byte logical configuration.  
 512e HDD Disk Drives: VMware 6.0 or earlier is not supported.  
 When using SSDs with VMware ESXi, select the SSDs that meet the endurance requirement described in KB2145210 below.  
<https://kb.vmware.com/kb/2145210>  
 DWPD: Drive Writes Per Day over 5 years.  
 SED (=Self Encrypting Drives) require either a RAID controller with ®SafeStore (SED) support or an HBA and in addition a software instance, supporting SED Key Management.  
 It is strongly recommended to order SafeStore (SED) RAID controller with SED HDD or SSD devices for SafeStore (SED) functionality.  
**HDD Classes:**  
 Economic (ECO) SATA: Entry Class Drives.  
 Business-Critical (BC) -SATA=Nearline SATA Enterprise Drives / 7.2Krpm, SATA 6G.  
 Business-Critical (BC) -SAS=Nearline SAS Enterprise Drives / 7.2Krpm, SAS 12G .  
 Mission-Critical (MC)=SAS 10K and SAS 15K Enterprise Drives with max. performance and reliability.  
**Warranty:**  
 SSD and SATA DOM have a built-in Wear-Out indicator. In this case the warranty for such a component, as an exception to the system warranty, is restricted to the time period until the indicator reaches the exhaust level.

**2.5" (SFF) SAS and SATA SSD**

**SSD SAS 2.5" Write Intensive (SFF) Enterprise with hot plug/hot replace tray**  
 based on **Toshiba PM5-M** drives

Capacity	Formfactor	Interface	Endurance	DWPD		order code E-part	order code L-part
400GB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10		S26361-F5710-E400	S26361-F5710-L400
800GB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10		S26361-F5710-E800	S26361-F5710-L800
1.6TB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10		S26361-F5710-E160	S26361-F5710-L160
400GB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10	SED	S26361-F5711-E400	S26361-F5711-L400
800GB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10	SED	S26361-F5711-E800	S26361-F5711-L800
1.6TB	2.5" (SFF)	SAS 12Gb/s	Write Intensive	10	SED	S26361-F5711-E160	S26361-F5711-L160

max. 8/16x - depending on base unit & configuration

**SSD SAS 2.5" Mixed Use (SFF) Enterprise with hot plug/hot replace tray**  
 based on **Western Digital DC S5530** drives

Capacity	Formfactor	Interface	Endurance	DWPD		order code E-part	order code L-part
400GB	2.5" (SFF)	SAS 12Gb/s	Mixed Use	3		S26361-F5713-E400	S26361-F5713-L400
800GB	2.5" (SFF)	SAS 12Gb/s	Mixed Use	3		S26361-F5713-E800	S26361-F5713-L800
1.6TB	2.5" (SFF)	SAS 12Gb/s	Mixed Use	3		S26361-F5713-E160	S26361-F5713-L160
3.2TB	2.5" (SFF)	SAS 12Gb/s	Mixed Use	3		S26361-F5713-E320	S26361-F5713-L320
6.4TB	2.5" (SFF)	SAS 12Gb/s	Mixed Use	3		S26361-F5713-E640	S26361-F5713-L640

max. 8/16x - depending on base unit & configuration

**SSD SAS 2.5" Read Intensive (SFF) Enterprise with hot plug/hot replace tray**  
 based on **Western Digital DC S5530** drives

Capacity	Formfactor	Interface	Endurance	DWPD		order code E-part	order code L-part
480GB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E480	S26361-F5715-L480
960GB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E960	S26361-F5715-L960
1.92TB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E192	S26361-F5715-L192
3.84TB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E384	S26361-F5715-L384
7.68TB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E768	S26361-F5715-L768
15.36TB	2.5" (SFF)	SAS 12Gb/s	Read Intensive	1		S26361-F5715-E153	S26361-F5715-L153

max. 8/16x - depending on base unit & configuration

**SSD SATA 2.5" Mixed Use (SFF) Enterprise with hot plug/hot replace tray**  
 based on **Samsung SM883 or SM863a** drives \* 3.84TB is SM883 only

Capacity	Formfactor	Interface	Endurance	DWPD		order code E-part	order code L-part
240GB	2.5" (SFF)	SATA 6Gb/s	Mixed Use	3.6		S26361-F5733-E240	S26361-F5733-L240
480GB	2.5" (SFF)	SATA 6Gb/s	Mixed Use	3.6		S26361-F5733-E480	S26361-F5733-L480
960GB	2.5" (SFF)	SATA 6Gb/s	Mixed Use	3.6		S26361-F5733-E960	S26361-F5733-L960

1.92TB	2.5" (SFF)	SATA 6Gb/s	Mixed Use	3.6		S26361-F5733-E192	S26361-F5733-L192
3.84TB	2.5" (SFF)	SATA 6Gb/s	Mixed Use	3.6		S26361-F5588-E384	S26361-F5588-L384
max. 8/16x - depending on base unit & configuration							

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**SSD SATA 2.5" Read Intensive (SFF) Enterprise with hot plug/hot replace tray**based on **Micron 5100 PRO** or **5200 ECO** \* 240GB is 5100, others are 5200

Capacity	Formfactor	Interface	Endurance	DWPD	order code E-part	order code L-part
240GB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	1.4	S26361-F5701-E240	S26361-F5701-L240
480GB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	0.9	S26361-F5701-E480	S26361-F5701-L480
960GB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	0.9	S26361-F5701-E960	S26361-F5701-L960
1.92TB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	0.9	S26361-F5701-E192	S26361-F5701-L192
3.84TB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	1.0	S26361-F5701-E384	S26361-F5701-L384
7.68TB	2.5" (SFF)	SATA 6Gb/s	Read Intensive	0.5	S26361-F5701-E768	S26361-F5701-L768

max. 8/16x - depending on base unit &amp; configuration

**2.5" (SFF) Hard drives****HDD SAS 2.5" 15K (SFF) Enterprise Mission Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part
300GB	15,000	SAS 12Gb/s	512n	S26361-F5727-E530	S26361-F5727-L530
600GB	15,000	SAS 12Gb/s	512n	S26361-F5727-E560	S26361-F5727-L560
900GB	15,000	SAS 12Gb/s	512n	S26361-F5531-E590	S26361-F5531-L590

max. 8/16x - depending on base unit &amp; configuration

**HDD SAS 2.5" 10K 512n (SFF) Enterprise Mission Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part	
300GB	10,000	SAS 12Gb/s	512n	S26361-F5729-E130	S26361-F5729-L130	
600GB	10,000	SAS 12Gb/s	512n	S26361-F5729-E160	S26361-F5729-L160	
900GB	10,000	SAS 12Gb/s	512n	S26361-F5729-E190	S26361-F5729-L190	
1.2TB	10,000	SAS 12Gb/s	512n	S26361-F5729-E112	S26361-F5729-L112	
300GB	10,000	SAS 12Gb/s	512n	SED	S26361-F5581-E130	S26361-F5581-L130
600GB	10,000	SAS 12Gb/s	512n	SED	S26361-F5581-E160	S26361-F5581-L160
1.2TB	10,000	SAS 12Gb/s	512n	SED	S26361-F5581-E112	S26361-F5581-L112

max. 8/16x - depending on base unit &amp; configuration

**HDD SAS 2.5" 10K 512e (SFF) Enterprise Mission Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part	
600GB	10,000	SAS 12Gb/s	512e	S26361-F5730-E160	S26361-F5730-L160	
900GB	10,000	SAS 12Gb/s	512e	S26361-F5730-E190	S26361-F5730-L190	
1.2TB	10,000	SAS 12Gb/s	512e	S26361-F5730-E112	S26361-F5730-L112	
1.8TB	10,000	SAS 12Gb/s	512e	S26361-F5730-E118	S26361-F5730-L118	
2.4TB	10,000	SAS 12Gb/s	512e	S26361-F5543-E124	S26361-F5543-L124	
1.8TB	10,000	SAS 12Gb/s	512e	SED	S26361-F5582-E118	S26361-F5582-L118
2.4TB	10,000	SAS 12Gb/s	512e	SED	S26361-F5582-E124	S26361-F5582-L124

max. 8/16x - depending on base unit &amp; configuration

**HDD SAS 2.5" 7.2K 512n (SFF) Enterprise Business Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part
1TB	7,200	SAS 12Gb/s	512n	S26361-F5600-E100	S26361-F5600-L100
2TB	7,200	SAS 12Gb/s	512n	S26361-F5600-E200	S26361-F5600-L200

max. 8/16x - depending on base unit &amp; configuration

**HDD SATA 2.5" 7.2K 512n (SFF) Enterprise Business Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part
1TB	7,200	SATA 6Gb/s	512n	S26361-F3956-E100	S26361-F3956-L100
2TB	7,200	SATA 6Gb/s	512n	S26361-F3956-E200	S26361-F3956-L200

max. 8/16x - depending on base unit &amp; configuration

The HDDs not released with PRAID EP5x0i (S26361-F4042-E204/E208)

**HDD SATA 2.5" 7.2K 512e (SFF) Enterprise Business Critical with hot plug/hot replace tray**

Capacity	RPM	Interface	Sector	order code E-part	order code L-part
1TB	7,200	SATA 6Gb/s	512e	S26361-F3907-E100	S26361-F3907-L100

2TB	7,200	SATA 6Gb/s	512e		S26361-F3907-E200	S26361-F3907-L200
max. 8/16x - depending on base unit & configuration						

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M.2 SATA SSD

**SSD SATA M.2 drive for booting, non hot-plug, for VMware ESXi**

Capacity	Formfactor	Interface	Category	order code E-part	order code L-part
240GB	M.2	SATA 6Gb/s	Boot	S26361-F5707-E240	S26361-F5707-L240

M.2 drive is designed for use as a VMware ESXi boot drive.

2x M.2 drive for any Hypervisor by the onboard chipset Software RAID is not supported.

max. 1x per Server; connector located on Motherboard (Port1: 2242 or 2280; Port2: 2280 or 22110). VMware ESXi is only supported.

M.2 drive for VMware ESXi and for other OSs cannot be mixed

**SSD SATA M.2 drive for booting, non hot-plug**

Capacity	Formfactor	Interface	DWPD	Category	order code E-part	order code L-part
240GB	M.2	SATA 6Gb/s	1.4	Boot	S26361-F5706-E240	S26361-F5706-L240
480GB	M.2	SATA 6Gb/s	1.4	Boot	S26361-F5706-E480	S26361-F5706-L480

M.2 drive is designed for use as a boot drive with the Endurance Spec. above.

2x M.2 drive for any Hypervisor by the onboard chipset Software RAID is not supported.

max. 1x per Server; connector located on Motherboard (Port1: 2242 or 2280; Port2: 2280 or 22110). VMware is not supported.

Dual M.2

Dual microSD, PRAID CP200 and M.2 drive cannot be mixed

**PRAID CP200, dual M.2 for booting, non hot-plug**

Capacity	Formfactor	Interface	Category	order code E-part	order code L-part
n/a	AIC	PCIe	Boot LP	S26361-F4065-E201	S26361-F4065-L501
n/a	AIC	PCIe	Boot FH	S26361-F4065-E1	S26361-F4065-L501

PDUAL CP200 is a carrier 2x M.2 SATA modules and offers RAID1 with 2x M.2 modules.

PDUAL CP200 is designed for use as a Hardware-mirrored (RAID1) boot device for Hypervisor, which cannot be supported by M.2 via the onboard chipset Software RAID.

Supported RAID level : RAID1 only, Supported M.2 Modules : SSD SATA M.2 240GB (S26361-F5706-E240/L240 or S26361-F5707-E240/L240 for VMware ESXi) or SSD SATA M.2 480GB (S26361-F5706-E480/L480)

2x M.2 modules (S26361-F5706-E240/L240 or S26361-F5706-E480/L480 or S26361-F5707-E240/L240) need to be ordered separately.

max. 1x per Server, requires 2x SSD SATA M.2 drives.

Dual microSD

Dual microSD, PRAID CP200 and M.2 drive cannot be mixed

**Dual microSD Enterprise for booting, non hot-plug, for VMware ESXi**

Capacity	Formfactor	Interface	Category	order code E-part	order code L-part
64GB	microSD	USB	Boot	S26361-F4045-E64	S26361-F4045-L64

Dual microSD is designed for use as a VMware ESXi boot drive. Only the standardly equipped microSD are supported.

Dual microSD offers Hardware-mirrored (RAID1) flash boot device for VMware ESXi, which cannot be supported by M.2.

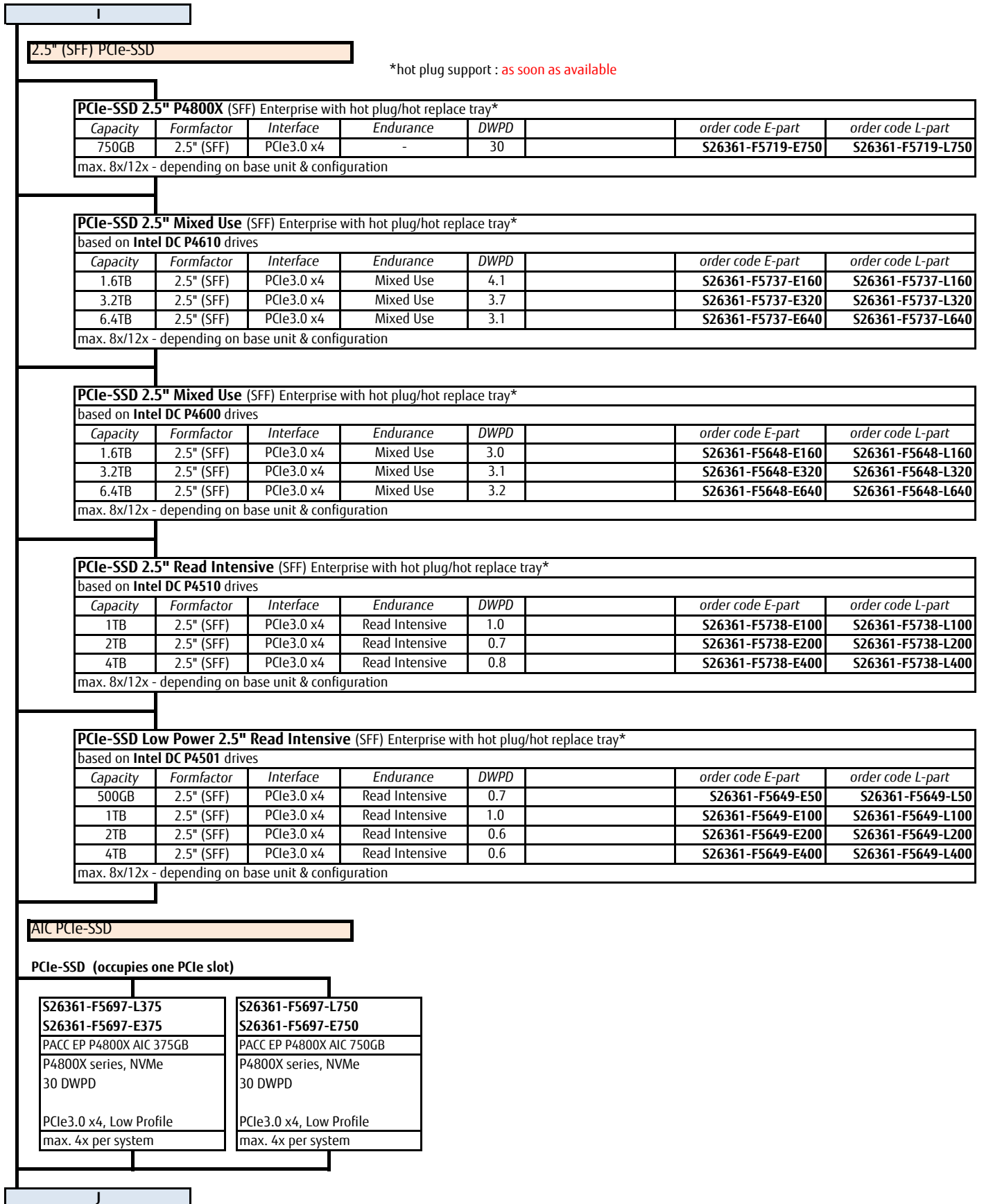
vSAN can be booted in case ESXi host has 512 GB of memory or less. Even in case 512 GB or more, if vSAN is 6.5 or later, it can be

booted by resizing the core dump partition on ESXi hosts. For more information, see the VMware knowledge base article at

<http://kb.vmware.com/kb/2147881>.

max. 1x per Server; connector located on Motherboard. VMware ESXi is only supported.

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## Chapter 9 - LAN Components

J

Default: 1x RJ45 for 1Gbit Server Management LAN is available

DynamicLoM OCP PHY interface cards

## Interface card to provide the external connectors for on-board LAN

PLAN EM 4x 1Gb T OCP interface Intel	4x RJ45 plug for 1000BASE-T	S26361-F3953-E401	S26361-F3953-L401
PLAN EM 2x 10Gb T OCP interface Intel	2x RJ45 plug for 10GBASE-T	S26361-F3953-E210	S26361-F3953-L210
PLAN EM 2x 10Gb SFP+ OCP interface Intel	2x SFP+ cages for SFP+ optical transceivers or twinax cables	S26361-F3953-E211	S26361-F3953-L211
PLAN EM 4x 10Gb SFP+ OCP interface Intel	4x SFP+ cages for SFP+ optical transceivers or twinax cables	S26361-F3953-E411	S26361-F3953-L411

## Optional for products with SFP+ cages: SFP+ optical transceiver modules or twinax cables

SFP+ Optical Transceiver 10G/1G Dual Rate SR	2x .. 4x	LC, MMF / SR SFP+ module, up to 400m, Intel	S26361-F3986-E5	S26361-F3986-L5
SFP+ Optical Transceiver 10G/1G Dual Rate LR	2x .. 4x	LC, SMF / LR SFP+ module, up to 10km, Intel	S26361-F3986-E6	S26361-F3986-L6
SFP+ Optical Transceiver 10G Single Rate SR	2x .. 4x	LC, MMF / SR SFP+ module, up to 400m, Finisar	S26361-F3986-E3	S26361-F3986-L3
SFP+ Optical Transceiver 10G Single Rate LR	2x .. 4x	LC, SMF / LR SFP+ module, up to 10km, Finisar	S26361-F3986-E4	S26361-F3986-L4
"Virtual Connector" for DAC/AOC cables	2x .. 4x	Enablement for System Architect	V:TWX CONNECTOR-PY	
SFP+ active Twinax Cable Fujitsu	2x .. 4x	customized cable length	S26361-F3989-E600	see table at the bottom of this page
SFP+ active Twinax Cable Brocade	2x .. 4x	(best fitting cable length is defined during rack installation at the factory)	S26361-F3873-E500	
SFP+ passive Twinax Cable Cisco - Sold Out	2x .. 4x		S26361-F4571-E500	

max. 1x per cage

max. 1x per system

1Gb Ethernet network components

## 1Gb Ethernet network adapters with RJ45 interface (1000BASE-T)

PLAN CP 4x1Gbit Cu Intel I350-T4	4x	4 port NIC, Intel I350-T4	S26361-F4610-E4	S26361-F4610-L504
PLAN CP 4x1Gbit Cu Intel I350-T4 LP	4x		S26361-F4610-E204	

max. 7x adapters per server system

10/1Gb Ethernet network components

10GBASE-T

## 10/1Gb Ethernet network adapters with RJ45 interface (10GBASE-T)

Dual speed support, auto-sense: supports 10Gbps and 1Gbps line rate per-port.

Only Cavium adapters provide Universal RDMA capabilities, both iWARP and RoCE. Intel adapters don't provide any.

PLAN EP QL41112 2x10GBASE-T FH	4x	2 port NIC with Universal RDMA, Marvell FastLinQ® QL41112HLRJ	S26361-F4068-E2	S26361-F4068-L502
PLAN EP QL41112 2x10GBASE-T LP	4x		S26361-F4068-E202	
PLAN EP QL41134 4x10GBASE-T FH	4x	4 port NIC with Universal RDMA, Marvell FastLinQ® QL41134HLRJ	S26361-F4068-E4	S26361-F4068-L504
PLAN EP QL41134 4x10GBASE-T LP	4x		S26361-F4068-E204	
PLAN EP X550-T2 2x10GBASE-T FH	4x	2 port NIC, Intel X550-T2	S26361-F3948-E2	S26361-F3948-L502
PLAN EP X550-T2 2x10GBASE-T LP	4x		S26361-F3948-E202	
PLAN EP X710-T4 4x10GBASE-T FH	4x	4 port NIC, Intel X710-T4	S26361-F3948-E4	S26361-F3948-L504
PLAN EP X710-T4 4x10GBASE-T LP	4x		S26361-F3948-E204	

max. 7x adapters per server system

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**10G SFP+**

<b>10/1Gb Ethernet network adapters with SFP+ cage. Adapter ships with empty cages.</b>				
Each cage consumes 1x optical SFP+ transceiver per port, or 1x twinax cable per port, or 1x DAC cable per port. Dual rate 10G/1G support requires 10G/1G Dual Rate SFP+ Optical Transceiver Modules. Only Cavium adapters provide Universal RDMA capabilities, both iWARP and RoCE. Intel adapters don't provide any. For Converged Network Adapter features such as iSCSI, iSCSI Offload, FCoE please select the PCNA EP QL41262.				
PLAN EP QL41132 2x10Gb SFP+ FH	4x	2 port NIC with Universal RDMA,	S26361-F4069-E2	S26361-F4069-L502
PLAN EP QL41132 2x10Gb SFP+ LP	4x	Marvell FastLinQ® QL41132HLCU	S26361-F4069-E202	
PLAN EP QL41134 4x10Gb SFP+ FH	4x	4 port NIC with Universal RDMA,	S26361-F4069-E4	S26361-F4069-L504
PLAN EP QL41134 4x10Gb SFP+ LP	4x	Marvell FastLinQ® QL41134HLCU	S26361-F4069-E204	
PLAN EP X710-DA2 2x10Gb SFP+ FH	4x	2 port NIC,	S26361-F3640-E2	S26361-F3640-L502
PLAN EP X710-DA2 2x10Gb SFP+ LP	4x	Intel X710-DA2	S26361-F3640-E202	
PLAN EP X710-DA4 4x10Gb SFP+ FH	4x	4 port NIC,	S26361-F3640-E4	S26361-F3640-L504
PLAN EP X710-DA4 4x10Gb SFP+ LP	4x	Intel X710-DA4	S26361-F3640-E204	
PCNA EP QL41262 2x10/25Gb SFP+/SFP28	4x	2 port CNA with Universal RDMA, iSCSI Offload, FCoE.	S26361-F4070-E2	S26361-F4070-L502
PCNA EP QL41262 2x10/25Gb SFP+/SFP28 LP	4x	Marvell FastLinQ® QL41262HLCU	S26361-F4070-E202	
<b>Optional, 10Gb SFP+ optical transceiver module, select one per cage.</b>				
<b>Both brands (Finisar, Intel) are supported with all (Intel, Marvell) adapter brands.</b>				
SFP+ Optical Transceiver 10G Single Rate SR	2x ,, 4x	LC, MMF / SR SFP+ module, up to 400m, <b>Finisar</b>	S26361-F3986-E3	S26361-F3986-L3
SFP+ Optical Transceiver 10G Single Rate LR	2x ,, 4x	LC, SMF / LR SFP+ module, up to 10km, <b>Finisar</b>	S26361-F3986-E4	S26361-F3986-L4
SFP+ Optical Transceiver 10G/1G Dual Rate SR	2x ,, 4x	LC, MMF / SR SFP+ module, up to 400m, <b>Intel</b>	S26361-F3986-E5	S26361-F3986-L5
SFP+ Optical Transceiver 10G/1G Dual Rate LR	2x ,, 4x	LC, SMF / LR SFP+ module, up to 10km, <b>Intel</b>	S26361-F3986-E6	S26361-F3986-L6
"Virtual Connector" for Twinax cables	2x .. 4x	Enablement for System Architect	V:TWX CONNECTOR-PY	
SFP+ active Twinax Cable Fujitsu	2x .. 4x	Customized length. Best fitting length selected at rack factory installation.	S26361-F3989-E600	see table at the bottom of this page
SFP+ active Twinax Cable Brocade	2x .. 4x		S26361-F3873-E500	
<i>Max. 2x SFP+, DAC, or Twinax Cable per 2 port adapter. Max. 4x SFP+, DAC, or Twinax Cable per 4 port adapter.</i>				
max. 7x adapters per server system				

**K1**

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25/10Gb Ethernet network components

10G SFP+

25G SFP28

**25/10Gb Ethernet network adapters with 2x SFP28 cages. Adapter ships with empty cages.**

Multiple speed support, auto-sense: All adapters support 25Gbps, and 10Gbps.  
 Intel adapters support 1Gbps line rate per-port in addition, with the Intel-branded 10G/1G Dual Rate SFP+ Optical Transceiver Modules.  
 Only Cavium adapters provide Universal RDMA capabilities, both iWARP and RoCE. Mellanox adapters just provide RoCE RDMA capabilities.  
 For Converged Network Adapter features such as FCoE, iSCSI, iSCSI Offload please select the PCNA EP QL41262. If you wish to get support for FCoE please submit a Release Request with the desired PRIMERGY server system configuration SAR/XLSX file attachment as described in the process. Other adapters do not support CNA features.

PLAN EP QL41212 25Gb 2p SFP28 FH	4x	2 port NIC with Universal RDMA,	S26361-F4056-E2	S26361-F4056-L502
PLAN EP QL41212 25Gb 2p SFP28 LP	4x	Marvell FastLinQ® QL41212HLCU	S26361-F4056-E202	
PLAN EP MCX4-LX 25Gb 2p SFP28 FH	4x	2 port NIC with RoCE RDMA,	S26361-F4054-E2	S26361-F4054-L502
PLAN EP MCX4-LX 25Gb 2p SFP28 LP	4x	Mellanox ConnectX4-LX	S26361-F4054-E202	
PLAN EP XXV710-DA2 2x25Gb FH	4x	2 port NIC,	S26361-F4055-E2	S26361-F4055-L502
PLAN EP XXV710-DA2 2x25Gb LP	4x	Intel XXV710-DA2	S26361-F4055-E202	
PLAN EP QL41262 25Gb 2p SFP28 FH	4x	2 port CNA with Universal RDMA, iSCSI Offload, FCoE.	S26361-F4070-E2	S26361-F4070-L502
PLAN EP QL41262 25Gb 2p SFP28 LP	4x	Marvell FastLinQ® QL41262HLCU	S26361-F4070-E202	

**Optional, 25Gb SFP28 optical transceiver module with LC connector, each cage consumes one. Both brands (Mellanox, Intel) are supported with all (Marvell, Mellanox, Intel) adapter brands.**

SFP28 Optical Transceiver 25G SR MMA2P00-AS LC	2x	MMF / SR SFP28 module, Mellanox. Max reach supported 100m	S26361-F4054-E701	S26361-F4054-L701
SFP28 Optical Transceiver 25G SR E25GSFP28SR LC	2x	MMF / SR SFP28 module, Intel. Max reach supported 30m	S26361-F4055-E701	S26361-F4055-L701
"Virtual Connector" for DAC/AOC cables	2x	Enablement for System Architect	V:DAC/AOC-CONNECTOR-25	
25G DAC - Brocade	2x	DAC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		
25G DAC - Cisco	2x			
25G DAC - Intel	2x			
25G AOC - Brocade	2x			
25G AOC - Cisco	2x			
25G AOC - Intel	2x			

Max. 2x SFP28, 25G DAC, or 25G AOC per adapter

**Optional, 10Gb SFP+ optical transceiver module, each cage consumes one. Both brands (Finisar, Intel) are supported with all (Marvell, Mellanox, Intel) adapter brands.**

SFP+ Optical Transceiver 10G Single Rate SR	2x	LC, MMF / SR SFP+ module, up to 400m, Finisar	S26361-F3986-E3	S26361-F3986-L3
SFP+ Optical Transceiver 10G Single Rate LR	2x	LC, SMF / LR SFP+ module, up to 10km, Finisar	S26361-F3986-E4	S26361-F3986-L4
SFP+ Optical Transceiver 10G/1G Dual Rate SR	2x	LC, MMF / SR SFP+ module, up to 400m, Intel	S26361-F3986-E5	S26361-F3986-L5
SFP+ Optical Transceiver 10G/1G Dual Rate LR	2x	LC, SMF / LR SFP+ module, up to 10km, Intel	S26361-F3986-E6	S26361-F3986-L6
"Virtual Connector" for Twinax cables	2x	Enablement for System Architect	V:TWX CONNECTOR-PY	
SFP+ active Twinax Cable Fujitsu	2x	Customized length. Best fitting length selected at rack factory installation.	S26361-F3989-E600	see table at the bottom of this page
SFP+ active Twinax Cable Brocade	2x		S26361-F3873-E500	

Max. 2x SFP+, DAC, or Twinax Cable per adapter

max. 7x adapters per system

40Gb Ethernet network components

**40Gb Ethernet controller with QSFP cages. Adapter ships with empty cages.**

Supports 40Gbps line rate per-port

PLAN EP MCX4-EN 40Gb 2p QSFP FH	4x	Dual Port NIC, RoCE RDMA,	S26361-F4053-E2	S26361-F4053-L502
PLAN EP MCX4-EN 40Gb 2p QSFP LP	4x	Mellanox ConnectX4-EN	S26361-F4053-E202	

**Optional, 40Gb QSFP Optical Transceiver module with MPO connector for PLAN EP MCX4-EN 40Gb 2p QSFP**

QSFP 40G SR4L MPO 850nm 30m MC2210411-SR4L	2x	MMF / SR4L QSFP module, Mellanox. Max reach supported 30m	S26361-F4053-E701	S26361-F4053-L701
QSFP 40G SR4 MPO 850nm 150m MC2210411-SR4	2x	MMF / SR4 QSFP module, Mellanox. Max reach supported 150m	S26361-F4053-E702	S26361-F4053-L702
QSFP 40G SR4 MPO 850nm 150m MMA1B00-B150D	2x	MMF / SR4 QSFP module, Mellanox. Max reach supported 150m	S26361-F4053-E703	S26361-F4053-L703
"Virtual Connector" for DAC/AOC cables	2	Enablement for System Architect	V:DAC/AOC-CONNECTOR-40	
40G DAC - Cisco	2x	DAC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		
40G DAC - Mellanox	2x			
40G AOC - Cisco	2x			
40G AOC - Mellanox	2x	AOC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		

rmax. 2x QSFP or DAC, AOC per adapter

max. 4x adapters

K2

K2

## 100Gb Ethernet network components

**100Gb Ethernet controller with 1x QSFP28 cage. Adapter ships with empty cage.**

Each cage consumes 1x optical QSFP28 transceiver per port, or 1x twinax cable per port, or 1x DAC cable per port.  
Multiple speed support, auto-sense on Cavium adapters only: 100Gbps, and with a Splitter DAC also 4X25Gbps, 4X10Gbps.

PLAN EP QL45611 100Gb 1p QSFP28 FH	4x	Single Port NIC, RoCE RDMA,	S26361-F4057-E1	S26361-F4057-L501
PLAN EP QL45611 100Gb 1p QSFP28 LP	4x	Marvell FastLinQ® QL45611HLCU	S26361-F4057-E201	
PLAN EP MCX4-EN 100Gb 1p QSFP28 FH	4x	Single Port NIC, RoCE RDMA,	S26361-F4052-E1	S26361-F4052-L501
PLAN EP MCX4-EN 100Gb 1p QSFP28 LP	4x	Mellanox ConnectX4-EN	S26361-F4052-E201	

**Optional, 100Gb QSFP28 Optical Transceiver module.**

The Mellanox brand is supported with all (Marvell, Mellanox) adapter brands.

QSFP28 100G SR4 MPO 850nm 100m MMA1B00-C100D	1x	MMF / SR4 QSFP28 module, Mellanox. Max reach supported 100m	S26361-F4052-E701	S26361-F4052-L701
QSFP28 100G PSM4 1310nm 500m MMS1C10-CM	1x	MMF / SR QSFP28 module, Mellanox. Max reach supported 500m	S26361-F4052-E801	S26361-F4052-L801
"Virtual Connector" for DAC/AOC cables	1x	Enablement for System Architect	V:DAC/AOC-CONNECTOR-100	
100G DAC - Cisco	1x	DAC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		
100G DAC - Mellanox	1x	AOC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		
100G AOC - Mellanox	1x	AOC are not in Fujitsu's portfolio yet. Thus, test only and purchase from switch vendors.		

Max. 1x QSFP28 or DAC/AOC Cable per adapter

max. 4x adapters

## Network cables for later upgrade

**Fujitsu active SFP+ Twinax 10Gb cable**

SFP+ active Twinax Cable Fujitsu 2m	S26361-F3989-L102
SFP+ active Twinax Cable Fujitsu 5m	S26361-F3989-L105
SFP+ active Twinax Cable Fujitsu 10m	S26361-F3989-L110

**Brocade active SFP+ Twinax 10Gb cable**

SFP+ active Twinax Cable Brocade 1m	S26361-F3873-L501
SFP+ active Twinax Cable Brocade 3m	S26361-F3873-L503
SFP+ active Twinax Cable Brocade 5m	S26361-F3873-L505

L

## Chapter 10 - Fibre Channel Controller

K

**32Gb Fibre Channel adapter with LC interface for 50µm optical cables (OM4 or OM3)**

These components ship with optical transceiver modules equipped for all ports. Supported line rates: 32, 16, and 8Gbps.

PFC EP LPe32000 1x 32Gb	4x	1 port, full height, Broadcom Emulex®	S26361-F4044-E1	S26361-F4044-L501
PFC EP LPe32000 1x 32Gb LP	4x	1 port, low profile, Broadcom Emulex®	S26361-F4044-E201	
PFC EP LPe32002 2x 32Gb	4x	2 port, full height, Broadcom Emulex®	S26361-F4044-E2	S26361-F4044-L502
PFC EP LPe32002 2x 32Gb LP	4x	2 port, low profile, Broadcom Emulex®	S26361-F4044-E202	
PFC EP QLE2740 1x 32Gb	4x	1 port, full height, Marvell Qlogic®	S26361-F4043-E1	S26361-F4043-L501
PFC EP QLE2740 1x 32Gb LP	4x	1 port, low profile, Marvell Qlogic®	S26361-F4043-E201	
PFC EP QLE2742 2x 32Gb	4x	2 port, full height, Marvell Qlogic®	S26361-F4043-E2	S26361-F4043-L502
PFC EP QLE2742 2x 32Gb LP	4x	2 port, low profile, Marvell Qlogic®	S26361-F4043-E202	

**16Gb Fibre Channel adapter with LC interface for 50µm optical cables (OM4 or OM3)**

These components ship with optical transceiver modules equipped for all ports. Supported line rates: 16, 8, and 4Gbps.

PFC EP LPe31000 1x 16Gb	4x	1 port, full height, Broadcom Emulex®	S26361-F5596-E1	S26361-F5596-L501
PFC EP LPe31000 1x 16Gb LP	4x	1 port, low profile, Broadcom Emulex®	S26361-F5596-E201	
PFC EP LPe31002 2x 16Gb	4x	2 port, full height, Broadcom Emulex®	S26361-F5596-E2	S26361-F5596-L502
PFC EP LPe31002 2x 16Gb LP	4x	2 port, low profile, Broadcom Emulex®	S26361-F5596-E202	
PFC EP QLE2690 1x 16Gb	4x	1 port, full height, Marvell Qlogic®	S26361-F5580-E1	S26361-F5580-L501
PFC EP QLE2690 1x 16Gb LP	4x	1 port, low profile, Marvell Qlogic®	S26361-F5580-E201	
PFC EP QLE2692 2x 16Gb	4x	2 port, full height, Marvell Qlogic®	S26361-F5580-E2	S26361-F5580-L502
PFC EP QLE2692 2x 16Gb LP	4x	2 port, low profile, Marvell Qlogic®	S26361-F5580-E202	

max. 7 Controller per system (mixed configurations are supported)

L

**Chapter 11 - Infiniband Controllers**

L

Max. 4x IB Controller per System  
(configuration of different  
Controllers NOT supported )

<b>S26361-F5717-E102/E202</b>
<b>S26361-F5717-L102/L202</b>
IB HCA 100Gb 1channel EDR with PCI riser
100Gbit 1/2channel Infiniband Controller EDR technology (8.0GT/s) with PCI short riser
1x Q-SFP+ connector/2x Q-SFP+ connector
PCIe Gen3 x16 Full Hight Card, 170mm
max. 4x per system

<b>S26361-F5724-E102/E202</b>
<b>S26361-F5724-I102/L202</b>
IB HCA 100Gb 1/2channel HDR with PCI riser
100Gbit 1/2channel Infiniband Controller HDR technology (8.0GT/s) with PCI short riser
1x Q-SFP+ connector/2x Q-SFP+ connector
PCIe Gen3 x16 Full Hight Card, 170mm
max. 4x per system

The following card can not be mixed Infiniband card(S26361-F5717-E102/E202)  
S26361-F4054-E302/S26361-F4052-E201/S26361-F4052-E1/S26361-F4053-E2/S26361-F4053-E202

The following card can not be mixed Infiniband card(S26361-F5724-E102/E202)  
S26361-F4054-E302/S26361-F4052-E201/S26361-F4052-E1/S26361-F4053-E2/S26361-F4053-E202

**For loose delivery and in Rack customizing**

<b>Cables for Mellanox 100Gbit Controller:(S26361-F5717-E102/E202)</b>
S26361-F5549-L561/ -E561
MELLANOX COP. CABLE, 100GB/S, QSFP, LSZH, 1M
S26361-F5549-L563/ -E563
MELLANOX COP. CABLE, 100GB/S, QSFP, LSZH, 3M

**For loose delivery and in Rack customizing**

<b>Cables for Mellanox 100Gbit Controller:(S26361-F5724-E102/E202)</b>
S26361-F5748-E571 (To HDR SW)
MELLANOX COP. Y-CABLE, 100GB/S, QSFP, LSZH, 1M

M

**Chapter 12 - OMNI Path Controllers**

M

<b>S26361-F5562-E10 / -L10</b>
POP EP 100Gb 1port Omni Path
100GBit 1channel HFI Card
Q-SFP+ connector
PCIe Gen3 x16 Card
max. 4 per system

Max. 4x Omni Path Card per System (configuration of different Controllers NOT supported )

<b>Cables for Omni Path 100Gbit Controller:</b>
S26361-F5563-L150 / -E150
Omni Passive Copper Cable , 100GB/S, QSFP, 1.5M
S26361-F5563-L200 / -E200
Omni Passive Copper Cable , 100GB/S, QSFP, 2M
S26361-F5563-L300 / - E300
Omni Passive Copper Cable , 100GB/S, QSFP, 3M

N



**Chapter 13 - Power supply unit, power cable**

**N**

<b>no order number required</b>
<b>no order number required</b>
1600W platinum power supply unit
1600W PSU module platinum 1st or 2nd PSU for redundancy and DPF. 94% efficiency
100-240V, 50-60Hz
hot plug
<b>2 pieces available in BU</b>

<b>S26113-F574-E477I-L477</b>
<b>Dummy module instead PSU</b>
Dummy module for closing the 2nd PSU hole, in case only 1 PSU is required, max. 1x per system
<b>On special release request only</b>

**Rack**

<b>Power cord option for Rack Server, 4m, grey (1x per PSU)</b>	
<b>T26139-Y1968-E100</b>	Powercord for rack, IEC 320 C14 connector
<b>T26139-Y1741-E90</b>	USA, Canada, 1.8m, black, 15A
<b>T26139-Y1757-E/L10</b>	Taiwan, 1.8m
<b>T26139-Y3850-E10</b>	Option "no powercord", for Countries without specific cable orderable like e.g. China

**0**

**Chapter 14 - Energy Star**

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<b>S26361-F3301-E572</b>
E-Star Fam4 Certification for RX4770 M5
Limits configuration in accordance with Energy Star requirements
max. 1x per system

limitations for E-Star Fam4 certification:

Please make sure to follow the guidelines below in order to meet ENERGY STAR V3.0 Fam4 requirements:

Always 4 CPUs have to be installed  
CPU restriction according to CPU page

ENERGY STAR-configurationen will be labeled:  
non ENERGY STAR-configurationen will be labeled:

**PRIMERGY RX4770 M5 E-Star Fam4**  
**PRIMERGY R4770 M5**

P

**Chapter 15 - iRMC, eLCM, Cool-safe, TPM, Region Kits**

P

**i** iRMC S5 (integrated Remote Management Controller) onboard server management with dedicated 10/100/1000 LAN-port and integrated graphics controller.

**S26361-F1790-E243**  
**iRMC S5 advanced pack**  
 integrated remote management controller  
 activation key for  
 Advanced Video Redirection (AVR)  
 and Remote Media  
 max. 1x per system

**i** Loose delivery  
 iRMC S4 advanced pack  
 (Node Locked License)  
**S26361- F1790-L244**

**i** Executing system updates, controlling the hardware setup or running diagnostic tests on components are frequent tasks of IT administrators to ensure a continuous 24x7 server operation. ServerView embedded Lifecycle Management (eLCM) for Fujitsu PRIMERGY servers greatly supports such routine tasks by consolidating and enhancing management functions directly available ("embedded") within the server.

**S26361-F1790-E311**  
**embedded Lifecycle Management (eLCM)**  
 Server Online Update  
 OS driver Update  
 Hardware firmware update  
 Server Offline Update  
 Hardware update via Update Manager Express  
 PrimeCollect  
 Autonomous creation of Primecollect archives  
 Creation and use of PrimeCollect archives over AIS connect  
 Custom Image (Jukebox function)  
 Automatic and manual download of CD and DVD Images  
 Automatic and manual start of CD and DVD Images  
 max. 1x per system

**i** Loose delivery  
 eLCM Activation Pack  
 (Node Locked License)  
**BDL:ELCM-PACK**  
**options contains:**  
 - 16GB SD card  
 - Paper with TAN for Licensekey

Advanced Thermal design 40°C can be combined with Standard base unit(S26361-K1657-V200) and LC base unit (S26361-K1587-V210) only!

Advanced Thermal design 45°C can be combined with LC base unit (S26361-K1587-V210) only!

**S26361-F3776-E440**  
 Cool-safe® Advanced Thermal design 40°C  
 enables the PRIMERGY Server to cope with temperatures from 5-40° in operating mode due to extended Fan settings  
 this setting can be activated ex factory only  
 max. 1x per system

**S26361-F3776-E445**  
 Cool-safe® Advanced Thermal design 45°C  
 enables the PRIMERGY Server to cope with temperatures from 5-45° in operating mode due to extended Fan settings  
 this setting can be activated ex factory only  
 max. 1x per system

Q

**Q**

<b>S26361-F3552-E100</b>
<b>S26361-F3552-L100</b>
TPM 2.0 Module SPI
Trusted Platform Module on Motherboard
Use according to import restrictions
max. 1x per system

<b>S26361-F3552-E101</b>
TPM 1.2 Module SPI
Trusted Platform Module on Motherboard
Use according to import restrictions
max. 1x per system

<b>Region Kits, required to order one of them, 1x per System</b>	build-in order code	loose delivery order code
Region Kit APAC/EMEA/India, Contains warranty sheet and safety instructions for APAC, EMEA and India	<b>S26361-F1452-E100</b>	-
Region Kit America, Contains warranty sheet, registration hints and safety instructions for America	<b>S26361-F1452-E130</b>	-
Region Kit Europe, Contains warranty sheet and safety instructions in German, English, French, Spanish, Italian, Polish, Russian and Welsh language, need to be included always into the order from EU and EFTA	<b>S26361-F1452-E140</b>	-
Region Kit China for CCC option not required systems (N/A CCC systems for more than 1300W PSU or, systems printing CCC mark always), Contains warranty sheet and safety instructions for China, need to be included always into the order from China country	<b>S26361-F1452-E102</b>	-

(Sales region for EMEA only)  
  
(Sales region for APAC only)

<b>Certifications, optional 1x per system</b>	build-in order code	loose delivery order code
Certification for India, (BIS), Reduced component selection possible, only with no power cord option	<b>S26361-F3301-E123</b>	-

**Your Server is ready**

## Chapter 16 - Accessories

<http://www.fujitsu.com/fts/products/computing/peripheral/accessories/index-facts.html>

### USB Mouse:

Mouse M520 Black	S26381-K467-E100	S26381-K467-L100
Mouse M520 Grey	S26381-K467-E101	S26381-K467-L101
Mouse M530 Black	n/a	S26381-K468-L100
Mouse M530 Grey	n/a	S26381-K468-L101

### USB Memory Sticks - Available until August 2020. No successor planned.

ADATA UC350 USB3.1 Type C OTG Flash Drive 64GB	S26391-F6048-L464
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### USB Keyboards for Tower Servers for following countries:

USB professional Keyboard KBPC PX ECO	Country version	FUJITSU Keyboard KB521 USB (grey)
	JS/ int 105 keys (UK keyboard + US int. Layout)	S26381-K521-E102
S26381-K341-E104	Czech/Slovak	S26381-K521-E104
S26381-K341-E110	US 104 keys (US keyboard + US layout)	S26381-K521-E110
S26381-K341-E120	Germany	S26381-K521-E120
S26381-K341-E122	Germany / Int	S26381-K521-E122
S26381-K341-E140	France	S26381-K521-E140
S26381-K341-E154	Sweden / Finland	S26381-K521-E154
S26381-K341-E165	United Kingdom	S26381-K521-E165
S26381-K341-E170	Switzerland	S26381-K521-E170
S26381-K341-E180	Spain	S26381-K521-E180
S26381-K341-E185	Italy	S26381-K521-E185

### USB Optical Disc Drive

External Ultra Slim Portable DVD Writer (Hitachi)	S26341-F103-L142
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Please find the layout of all Fujitsu keyboards here:  
<http://abg0355a.abg.fsc.net/>

Date of change	Folder / order code / description	Name	What has been changed / comment
2020/7/2	Description	Satomi Fujita	Updated "Block Diagram"
2020/7/2	RAID	Satomi Fujita	removed "PRAID CP400i is not released for expander configurations"
2020/6/9	CPU	Atsushi Iwata	removed Xeon Gold 6250/Gold 6256
2020/5/29	Others	Yuri Okubo	removed Made in Germany sticker
2020/4/2	Others	Takahiro Konno	added restriction to Advanced Thermal Design 40°C
2020/3/30	Others	Takahiro Konno	Remove M4Y
2020/3/26	Others	Atsushi Iwata	Added region kit China
2020/3/12	RAM	Klaus-Dieter Ruf	Removed performance mode description
2020/2/27	CPU	Klaus-Dieter Ruf	Added restriction to new CLX Refresh SKUs (as soon as avail.) Change the cable
2020/2/18	IB	Takaoka Masanori	S26361-F5549-E561/-E563 -> S26361-F5748-E57
2020/2/14	CPU	Klaus-Dieter Ruf	Added E-Star restriction to new CLX Refresh SKUs
2020/2/3	CPU	Klaus-Dieter Ruf	Added Cascade Lake-SP Refresh SKUs
2020/1/27	HD_SSD / Dual M.2	Tatsuya Sudou	added 480GB as supported M.2 Modules
2019/12/6	HD_SSD	Yuichi Sugiyama	updated the description about Hard Disk Sector Format Information
2019/1/17	Accessories	Y. Narita	added the comment on USB Memory Sticks. No longer 32GB.
2019/10/30	RAM	Klaus-Dieter Ruf	DCPMM section updated
2019/10/2	HDD_SSD / S26361-F5737/F5738-* / updated	Yuichi Sugiyama	add the "*" for hot-plug support
2019/9/17	Energy Star	Klaus-Dieter Ruf	Energy Star Fam4 added
2019/8/13	RAM	Klaus-Dieter Ruf	DCPMM configuration possibilities update
2019/7/26	HDD_SSD / S26361-F5737/F5738-* / updated	Yuichi Sugiyama	removed the description as "as soon as available"
2019/7/17	LAN	Ulrich Lösch	S26361-F4053-E703, -L703 Transceiver 40G added
2019/7/3	LAN	Ulrich Lösch	Missing PLAN CP 4x1Gbit Cu Intel I350-T4 added
2019/7/2	HDD_SSD / S26361-F5738-* / added	Yuichi Sugiyama	added PCIe-SSD 2.5" Read-Intensive
2019/6/26	IB	Takaoka Masanori	Add ConnectX6(Infiniband card)
2019/5/7	CPU	Klaus-Dieter Ruf	Added missing Xeon Gold 6246 SKU
2019/4/30	RAM	Klaus-Dieter Ruf	DCPMM configuration possibilities update
2019/4/14	Description	Christian Fey	Removed RAS description
2019/4/12	RAM	Klaus-Dieter Ruf	RAM & DCPMM Description on top updated
2019/4/2	RAM	Klaus-Dieter Ruf	Rank sparing mode table updated
2019/4/2	USB	Ulrich Lösch	Memory Sticks - Revised products and order numbers
2019/3/28	LAN	Ulrich Lösch	Cosmetic: trademarks added
2019/3/28	FC	Ulrich Lösch	Cosmetic: trademarks added
2019/3/19	RAM	Sven Pilz	PSAS CP403i added
2019/3/12	RAM	Sven Pilz	top section (corrected total capa from 2.048 to 1.920)
2019/3/11	RAM	Klaus-Dieter Ruf	Updated modes within released DCPMM configurations
2019/3/7	Raid	Fey, Christian	Removed FBU restriction for ATD
2019/3/6	RAM	Klaus-Dieter Ruf	Added Memory Packages for easy AEP configuration
2019/3/1	HD_SSD / S26361-F5737-* / added	Yuichi Sugiyama	added
2019/2/25	RAM	Klaus-Dieter Ruf	Further AEP configuration update (added step 3)
2019/2/12	RAM	Klaus-Dieter Ruf	Added AEP configurations for 1st & 2nd step
2019/2/12	HD_SSD / S26361-F3907-* / added the exclusion	Yuichi Sugiyama	added the exclusion for HDD SATA 2.5" 7.2K 512e and PRAID EP5x0i
2019/2/8	IB	Takaoka Masanori	removed FDR card and change EDR card parts number
2019/2/8	OMNI	Takaoka Masanori	remove the comment.
2019/2/4	RAID	Johannes Linne	removed PRAID EP420e as PRAID EP540e is available
2019/2/4	HD_SSD	Yuichi Sugiyama	removed the description as "as soon as available" because of availat
2019/2/4	HD_SSD	Yuichi Sugiyama	added the description about supplier / ModelName of SSD
2018/12/18	RAM	Klaus-Dieter Ruf	LRDIMM 3DS removed; minor update on description
2018/12/11	CPU	M.Pentney-Schmidt	Xeon Gold 5222S changed to Xeon Gold 5220S
2018/12/10	CPU	M.Pentney-Schmidt	slot "Base Units" updated
2018/12/10	RAM	M.Pentney-Schmidt	order codes and specifications added
2018/12/3	HDD_SSD / S26361-F5734/F5735-* / removed	Yuichi Sugiyama	removed
2018/11/28	CPU	M.Pentney-Schmidt	CPU page updated
2018/11/19	HDD_SSD / S26361-F5735-* / add the order codes	Yuichi Sugiyama	add the order codes for PCIe-SSD 2.5" Read Intensive
2018/11/19	HDD_SSD / S26361-F5734-* / add the order codes	Yuichi Sugiyama	add the order codes for PCIe-SSD 2.5" Mixed Use
2018/11/19	HDD_SSD / HDD SAS 2.5" 10K 512e / changed order	Yuichi Sugiyama	changed from F5543-* to F5730-* w/o 2.4TB for WS2019SDDC-AQ
2018/11/19	HDD_SSD / HDD SAS 2.5" 10K 512n / changed order	Yuichi Sugiyama	changed from F5550-* to F5729-* for WS2019SDDC-AQ cert
2018/11/19	HDD_SSD / HDD SAS 2.5" 15K / changed order codes	Yuichi Sugiyama	changed from F5531-* to F5727-* w/o 900GB for WS2019SDDC-AQ
2018/11/19	HDD_SSD / SSD SATA 2.5" Mixed Use / changed	Yuichi Sugiyama	changed from F5675/F5588-* to F5733-* w/o 3.84TB for
2018/11/13	LAN - PLAN/PCNA QL41XXX adapters	Ulrich Lösch	Added: Order Numbers
2018/11/13	LAN - PLAN EP QL41112 2X10GBASE-T	Ulrich Lösch	Name change reflected
2018/11/13	LAN - PCNA EP QL41262 2x25G SFP28	Ulrich Lösch	Name change reflected
2018/9/26	HD_SSD / S26361-F5650-*	Yuichi Sugiyama	removed PACC EP P4600 AIC 2/4TB
2018/9/26	HDD_SSD / PCIe-SSD 2.5" Mixed Use	Yuichi Sugiyama	added PCIe SSD 2.5" MU 1.6/3.2/6.4TB
2018/9/26	HDD_SSD / PCIe-SSD Low Power 2.5" Read-Int.	Yuichi Sugiyama	added PCIe SSD 2.5" RI 960GB/1.92TB/3.85TB
2018/9/26	HDD_SSD / S26361-F5694-*	Yuichi Sugiyama	removed SSD SATA MU S4600
2018/9/26	HDD_SSD / S26361-F5588-E384/L384	Yuichi Sugiyama	added SSD SATA MU 3.84TB
2018/8/1	HD_SSD	Yuichi Sugiyama	Updated
2018/7/4	RAID	Johannes Linne	copy from M4
2018/5/7	LAN	Ulrich Lösch	Typo QL41112 --> QL41132, QL41114 --> QL41134
2018/4/23	HD_SSD	Sudou, Tatsuya	Updated
2018/4/23	FC - First Draft reviewed	Ulrich Lösch	Changed: Max no per line
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Deleted: PLAN EP QL45212 2x25Gb
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PCNA EP QL41262 2x10/25Gb
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Deleted: PCNA EP OCe14102 2x10Gb
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PLAN EP QL41114 4x10Gb SFP+
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PLAN EP QL41112 2x10GbSFP+

2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Deleted: PLAN EP OCe14102 2x10Gb
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PLAN EP X710-T4 4x10GBASE-T
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PLAN EP QL41114 4x10GBASE-T
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Added: PLAN EP QL41112 2x10GBASE-T
2018/4/23	LAN - Corrections on first draft	Ulrich Lösch	Deleted: PLAN EP OCe14102 2x 10GBase-T
2018/4/11	First Draft Configurator PY RX4770 M5	Christian Fey	Initial Draft RX4770M5