



PRIMEQUEST 3800E2

System Configuration Guide

April 2020, Ver.5.1

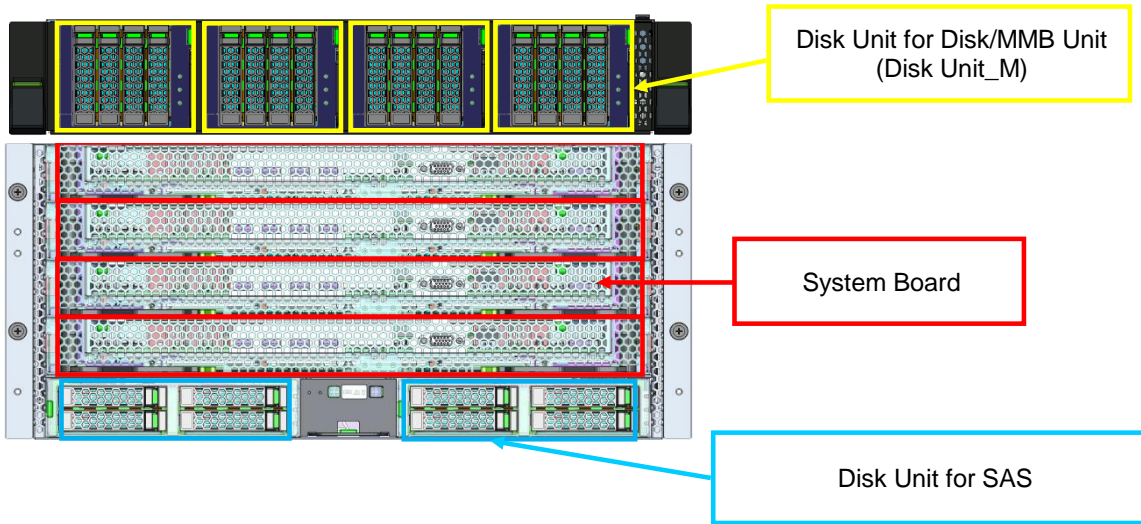
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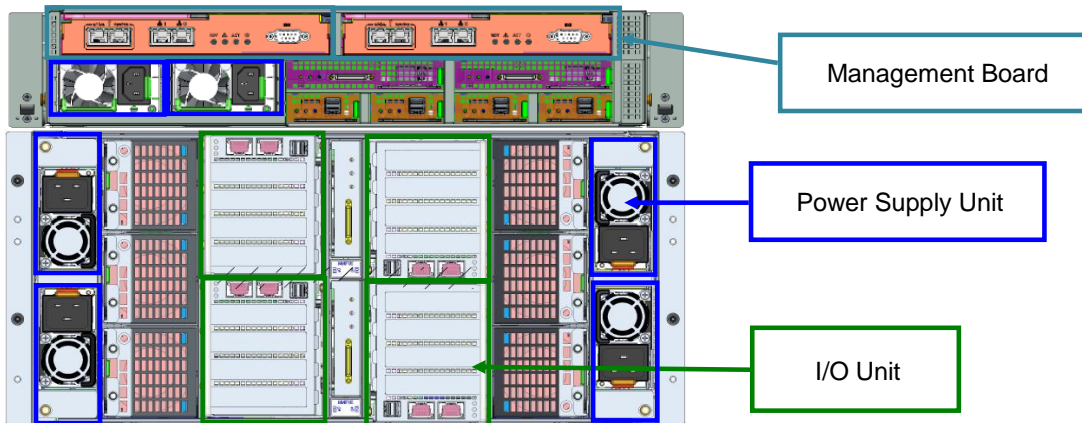
1.Overview

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Front side

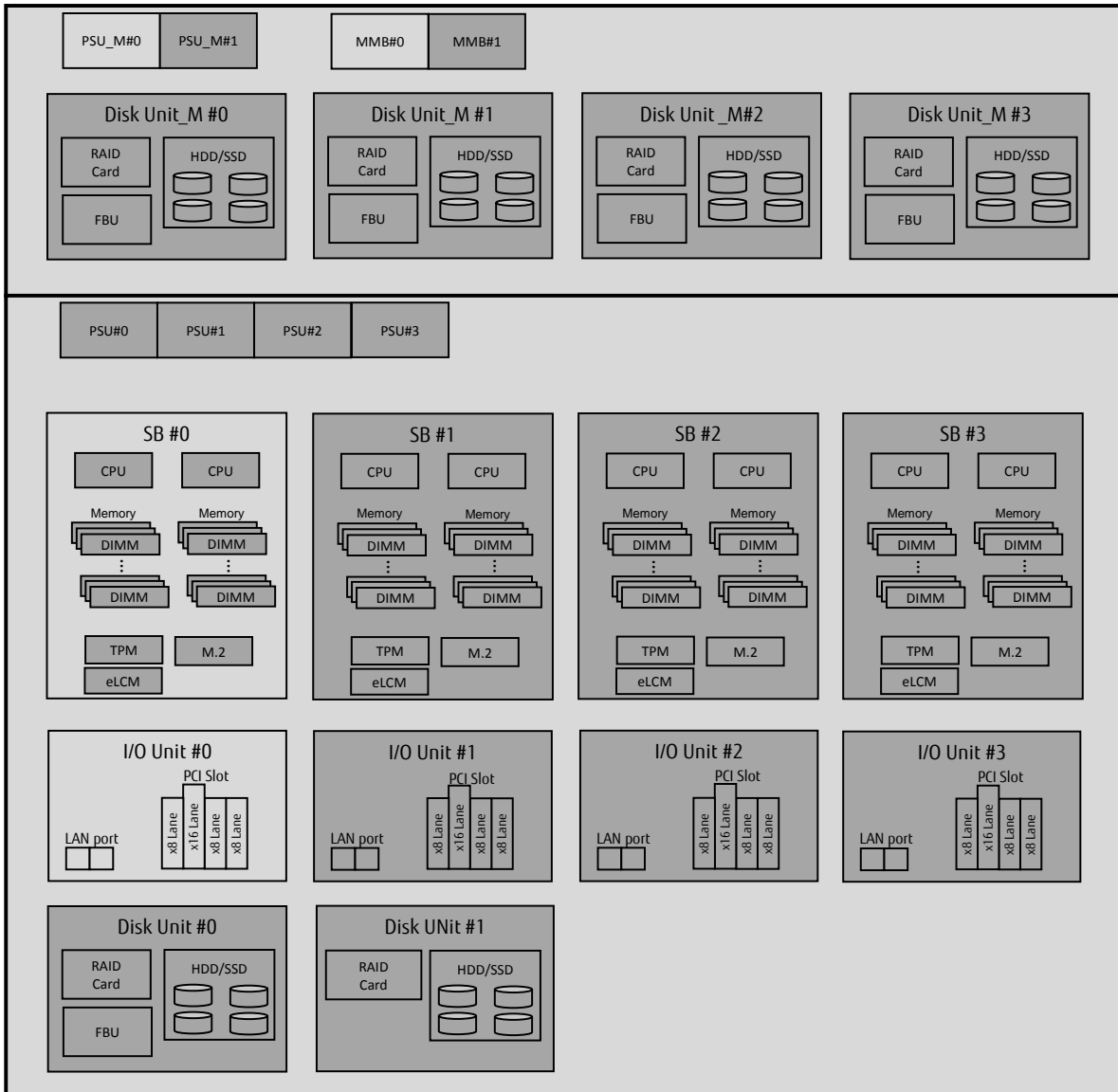



Rear side




Configuration Diagram

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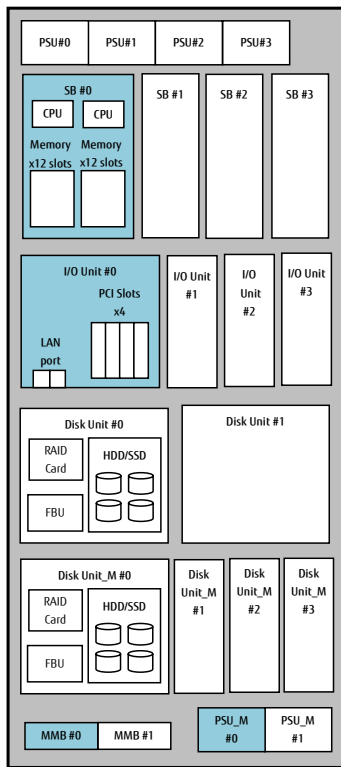


 Light gray color components Included in Base Unit.

 Dark gray color components are optional.

2.Base Unit

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Part Numbers Legend:

Part numbers:

MX-***** is a Build-to-Order (BTO) option to be assembled with Base Unit

MCX***** is an option to be shipped separately from Base Unit (Loose Delivery)

The following options are NOT included in the Base Unit.
 - CPU, Memory, PSU, power cord

The following components are included in the Base Unit.
 - 1x System Board
 - 1x I/O Unit
 - 1x PSU_M
 - 1x Rack Mount Kit
 - 1x MMB

PRIMEQUEST 3800E2 Base Unit
MCK3AC111

- Rack mount type
- 1x System Board is included in the Base Unit, Max. 4x System Boards can be mounted.
- 1x I/O Unit is included in the Base Unit, Max. 4x I/O Units can be mounted.
- Max. 4 x PCI Boxes can be connected.
- 1 x MMB is included. An additional MMB can be mounted for redundancy.
- 2 x LAN ports per MMB
- PSUs need to be ordered, Max. 4x PSUs can be mounted.
- 1x PSU_M is included in the Base Unit, Max. 2x PSU_Ms can be mounted.
- Power cords need to be ordered. The quantity is equal to the quantity of PSUs and PSU_Ms.
- Rack space : 7U

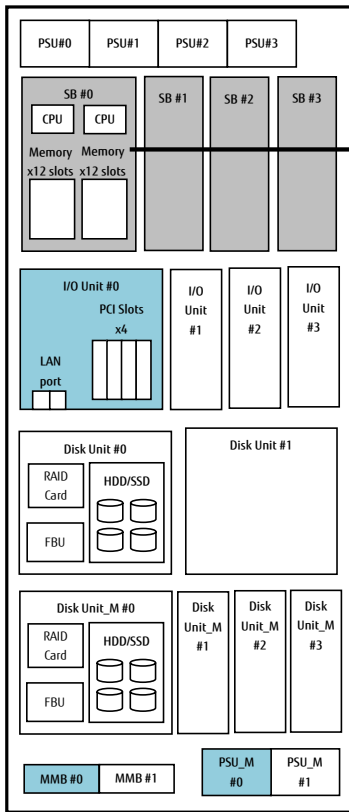
Advanced Thermal Design Option
MC-0PTH2
 Operating temperature of up to 40°C

When this option is selected, CPUs exceeding 165W can not be installed.

→ System Board

3. System Board (SB)

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1x System Board is included in the Base Unit.
Max. 4x System Board can be mounted per Base Unit.

System Board
MC-3HSBD1 / MCX3HSBD1 (LD)

- Min. 1 x SB needs to be mounted. Max. 4 x SB can be mounted per Base Unit.
- The System Board does not include a security chip called TPM.
- Neither CPU nor memory module is included. CPU and memory need to be ordered separately.
- Min. 2 x CPU and 2 x memory module need to be mounted on each System Board.
- Max. 12 x memory modules (24 x DIMMs) can be mounted.

The following options can be installed only in System Board #0.

eLCM Activation License (no load)
MC-6KMA11 / MCX6KMA11 (LD)

- For PRIMEQUEST 3800E2
- One License per system

The following functions are NOT available for the System Board with TPM.

- Reserved SB

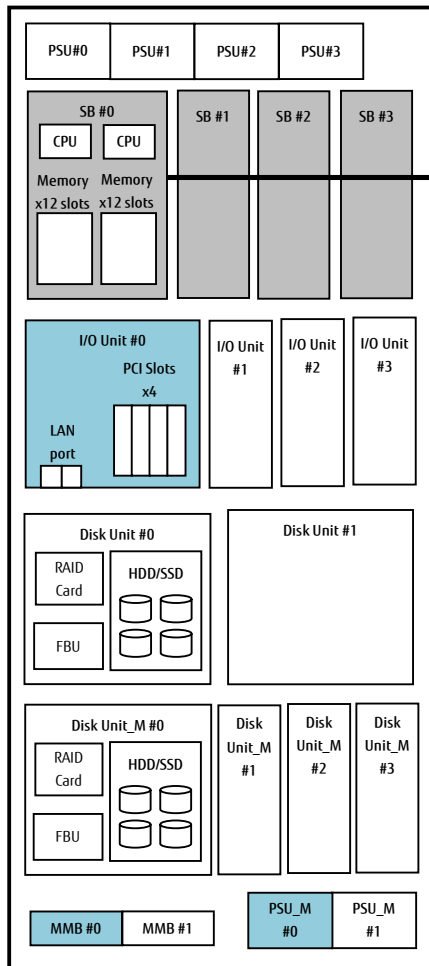
TPM module V2.0
MC-6HTP31 / MCX6HTP31(LD)

- Available except for China
- One for System Board

→ **USB Flash Device & M.2 Flash Device**

USB Flash Device & M.2 Flash Device

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Only one type of the following options can be installed on each System Board.

USB Flash Device 64GB Dual
MC-5FA411 / MCX5FA411(LD)
 - 2x 64GB micro SD card, HW mirrored
 - Cannot be mounted with MC*5FB751

M.2 Flash Device (VMware, 240GB)
MC-5FB741 / MCX5FB741 (LD)
 - M.2 SATA 240GB for VMware boot only
 - 1 x M.2 Flash Devices can be mounted.
 - DWPD : 1.5

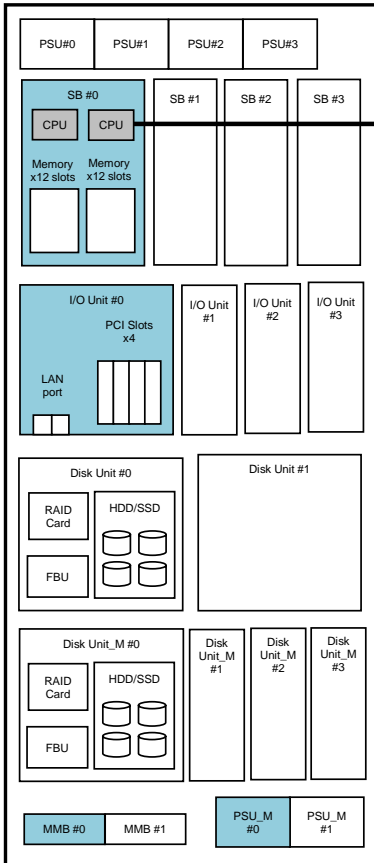
M.2 Flash Device 480GB
MC-5FB771 / MCX5FB771 (LD)
 - M.2 SATA 480GB except VMware
 - Max 2 x M.2 Flash Device can be mounted.
 - DWPD : 1.5
 - Cannot be mounted with MC*5FA411

M.2 Flash Device 240GB (except ESXI)
MC-5FB751 / MCX5FB751 (LD)
 - M.2 SATA 240GB except VMware
 - Max 2 x M.2 Flash Device can be mounted.
 - DWPD : 1.5
 - Cannot be mounted with MC*5FA411

CPU

4.CPU

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- 2x CPUs required for one System board except PPAR with 1SB.
- Combinatios of PPAR is only "SB#0 and SB#1" or "SB#2 and SB#3" when Gold 62xx is mounted on SB.
- Can not mix different CPUs in one partition.
- CPUs with number 'xxxxL' support up to 4.5TB of memory.
- CPUs with number 'xxxxM' support up to 2TB of memory.

*(Number of cores / Frequency / Max. memory per CPU / TDP)

Intel Xeon Platinum 8280L Processor (28C/2.7GHz/4.5TB/205W)	
MC-3BJA41 / MCX3BJA41 (LD)	
Intel Xeon Platinum 8280M Processor (28C/2.7GHz/2TB/205W)	
MC-3BJA21 / MCX3BJA21 (LD)	
Intel Xeon Platinum 8280 Processor (28C/2.7GHz/1TB/205W)	
MC-3BJA11 / MCX3BJA11 (LD)	
Intel Xeon Platinum 8276L Processor (28C/2.2GHz/4.5TB/165W)	
MC-3BKA41 / MCX3BKA41 (LD)	
Intel Xeon Platinum 8276M Processor (28C/2.2GHz/2TB/165W)	
MC-3BKA21 / MCX3BKA21 (LD)	
Intel Xeon Platinum 8276 Processor (28C/2.2GHz/1TB/165W)	
MC-3BKA11 / MCX3BKA11 (LD)	
Intel Xeon Platinum 8270 Processor (26C/2.7GHz/1TB/205W)	
MC-3BKB11 / MCX3BKB11 (LD)	
Intel Xeon Platinum 8268 Processor (24C/2.9GHz/1TB/205W)	
MC-3BJC11 / MCX3BJC11 (LD)	
Intel Xeon Platinum 8260L Processor (24C/2.4GHz/4.5TB/165W)	
MC-3BKC41 / MCX3BKC41 (LD)	
Intel Xeon Platinum 8260M Processor (24C/2.4GHz/2TB/165W)	
MC-3BKC21 / MCX3BKC21 (LD)	
Intel Xeon Platinum 8260 Processor (24C/2.4GHz/1TB/165W)	
MC-3BKC11 / MCX3BKC11 (LD)	
Intel Xeon Platinum 8253 Processor (16C/2.2GHz/1TB/125W)	
MC-3BKG11 / MCX3BKG11 (LD)	
Intel Xeon Platinum 8256 Processor (4C/3.8GHz/1TB/105W)	
MC-3BKN11 / MCX3BKN11 (LD)	

CPU mounting condition

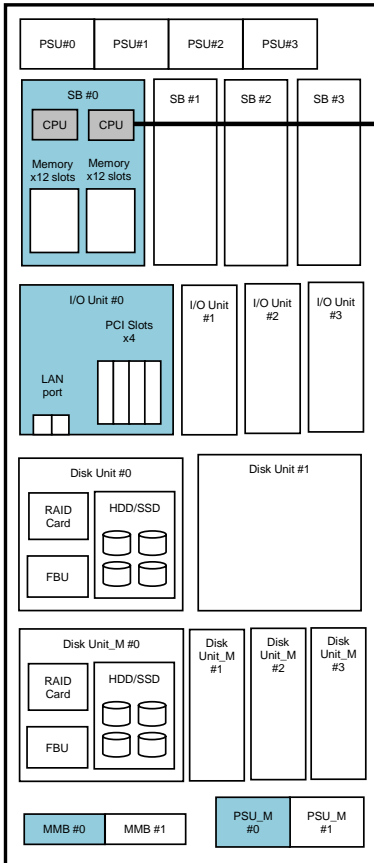
# of SBs in one PPAR	# of CPUs in one PPAR
1SB	1 or 2
2SB	4
3SB	6
4SB	8

- 1 CPU/SB can be configured PPAR that has 1SB only.
- 1CPU/PPAR can be connected IOU0 and/or IOU1 only.
- Only the same kind of CPU can be installed in the partition.
- Different types of CPUs can be installed in the different partitions.

→ CPU(2)

4.CPU

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- 2x CPUs required for one System board except PPAR with 1SB.
- Combinatios of PPAR is only "SB#0 and SB#1" or "SB#2 and SB#3" when Gold 62xx is mounted on SB.
- Can not mix different CPUs in one partition.
- CPUs with number 'xxxxL' support up to 4.5TB of memory.
- CPUs with number 'xxxxM' support up to 2TB of memory.

*(Number of cores / Frequency / Max. memory per CPU / TDP)

CPU mounting condition

# of SBs in one PPAR	# of CPUs in one PPAR
1SB	1 or 2
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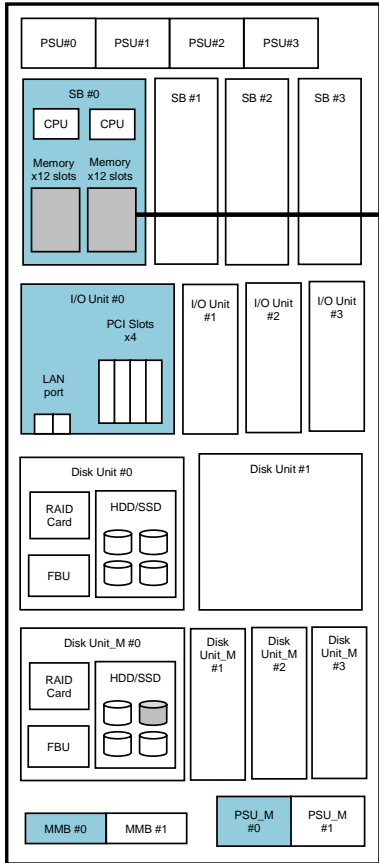
- 1 CPU/SB can be configured PPAR that has 1SB only.
- 1CPU/PPAR can be connected IOU0 and/or IOU1 only.
- Only the same kind of CPU can be installed in the partition.
- Different types of CPUs can be installed in the different partitions.

Intel Xeon Gold 6262V Processor (24C/1.9GHz/1TB/135W)		
MC-3BRC11 / MCX3BRC11 (LD)		
Intel Xeon Gold 6254 Processor (18C/3.1GHz/1TB/200W)		
MC-3BMF11 / MCX3BMF11 (LD)		
Intel Xeon Gold 6252 Processor (24C/2.1GHz/1TB/150W)		
MC-3BNC11 / MCX3BNC11 (LD)		
Intel Xeon Gold 6248 Processor (20C/2.5GHz/1TB/150W)		
MC-3BNE11 / MCX3BNE11 (LD)		
Intel Xeon Gold 6246 Processor (12C/3.3GHz/1TB/165W)		
MC-3BSJ11 / MCX3BSJ11 (LD)		
Intel Xeon Gold 6244 Processor (8C/3.6GHz/1TB/150W)		
MC-3BNL11 / MCX3BNL11 (LD)		
Intel Xeon Gold 6242 Processor (16C/2.8GHz/1TB/150W)		
MC-3BNG11 / MCX3BNG11 (LD)		
Intel Xeon Gold 6240L Processor (18C/2.6GHz/4.5TB/150W)		
MC-3BNF41 / MCX3BNF41 (LD)		
Intel Xeon Gold 6240M Processor (18C/2.6GHz/2TB/150W)		
MC-3BNF21 / MCX3BNF21 (LD)		
Intel Xeon Gold 6240 Processor (18C/2.6GHz/1TB/150W)		
MC-3BNF11 / MCX3BNF11 (LD)		
Intel Xeon Gold 6238L Processor (22C/2.1GHz/4.5TB/140W)		
MC-3BND41 / MCX3BND41 (LD)		
Intel Xeon Gold 6238M Processor (22C/2.1GHz/2TB/140W)		
MC-3BND21 / MCX3BND21 (LD)		
Intel Xeon Gold 6238 Processor (22C/2.1GHz/1TB/140W)		
MC-3BND11 / MCX3BND11 (LD)		
Intel Xeon Gold 6234 Processor (8C/3.3GHz/1TB/130W)		
MC-3BPL11 / MCX3BPL11 (LD)		
Intel Xeon Gold 6230 Processor (20C/2.1GHz/1TB/125W)		
MC-3BRE11 / MCX3BRE11 (LD)		
Intel Xeon Gold 6226 Processor (12C/2.7GHz/1TB/125W)		
MC-3BNJ11 / MCX3BNJ11 (LD)		
Intel Xeon Gold 6222V Processor (20C/1.8GHz/1TB/115W)		
MC-3BPE11 / MCX3BPE11 (LD)		

Memory

5.Memory

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- At least one set of memory (2 DIMMs) must be installed for each CPU.
- Max 6 sets of memory (12 DIMMs) can be installed for each CPU.

32GB Memory (16GB 1Rx4 DDR4 RDIMM x2) MC-3CE611 / MCX3CE611 (LD)	
64GB Memory (32GB 2Rx4 DDR4 RDIMM x2) MC-3CE711 / MCX3CE711 (LD)	
128GB Memory (64GB 2Rx4 DDR4 RDIMM x2) MC-3CE811 / MCX3CE811 (LD)	
128GB Memory (64GB 4Rx4 DDR4 LRDIMM x2) MC-3CE821 / MCX3CE821 (LD)	
256GB Memory (128GB 8Rx4 DDR4 LRDIMM 3DS x2) MC-3CE911 / MCX3CE911 (LD)	
512GB Memory (256GB 8Rx4 DDR4 LRDIMM 3DS x2) MC-3CEA11 / MCX3CEA11 (LD)	
* 256GB 8R LRDIMM can not be installed on a CPU with a memory limit of 1TB.	
128GB DDR-T DCPMM(NVM/LRDIMM) MC-3CK811 / MCX3CK811(LD)	
256GB DDR-T DCPMM(NVM/LRDIMM) MC-3CK911 / MCX3CK911(LD)	
512GB DDR-T DCPMM(NVM/LRDIMM) MC-3CKA11 / MCX3CKA11(LD)	

If configuration of PRIMEQUEST3800E2 includes a DCPMM, it is necessary to check validity of DCPMM installation.
For request of configuration check, please submit request to the contact point for PRIMEQUEST.

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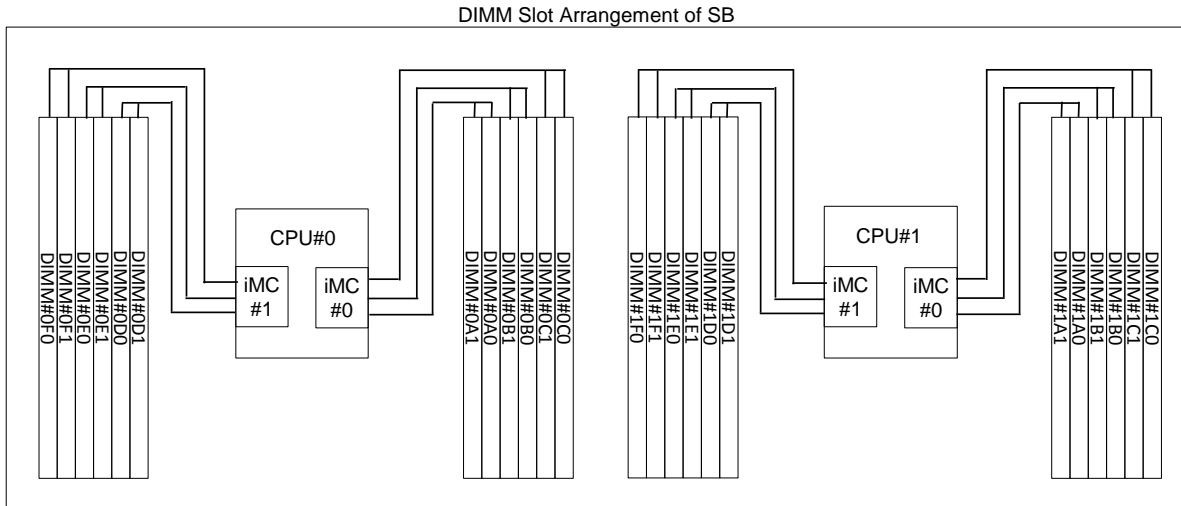
→ Memory Mounting

Memory Mounting

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1. Memory and DIMM slots

- (1) Memory module for PRIMEQUEST is composed of 2 x DIMMs.
- (2) At least 2 DIMMs have to be installed in one CPU (4 DIMMs in one SB) in Normal mode and Spare mode, 4 DIMMs have to be installed in one CPU (8 DIMMs in one SB) in Mirror mode.
- (3) Up to 12 DIMMs can be installed in each CPU.
- (4) DIMM Slot Arrangement of SB is shown below.
DIMM#xx0 is farther Slots and DIMM#xx1 is nearer Slots among the six DIMM Slots connected to the iMC.



MSC : Memory Scale-up Controller on MSB
iMC : Memory Controller

2. Memory Mounting Conditions

- (1) A mixture of different type of memory is not possible in the system.
The exception is a combination of 16GB RDIMM and 32GB RDIMM, which is possible to mix in the system.
- (2) Units of memory expansions : One set (2 DIMMs) for one CPU in Normal Mode and Spare Mode, 2 sets (4 DIMMs) for one CPU in Mirror Mode.

3. Memory Support for Operating Systems of PRIMEQUEST 3800E2

Operating System	Max. Memory Capacity (TB)
Microsoft® Windows Server® 2016 (Standard / Datacenter) Microsoft® Hyper-V Server 2016	3
Microsoft® Windows Server® 2019 (Standard / Datacenter) Microsoft® Hyper-V Server 2019	3
Red Hat® Enterprise Linux® 7	12
SUSE® Linux Enterprise Server 12	24
SUSE® Linux Enterprise Server 15	24
VMware vSphere® 6.5	4
VMware vSphere® 6.7	4



Memory Mounting 2

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DIMM mounting order on System Board

At least one AEP DIMMs have to be installed in one CPU.

DDR4 DIMM installation order

The order of DIMM installation is shown in the following table. DIMMs are installed in order from one with small number.

Memory Mode	Lockstep	CPU#0						CPU#1						Remark
		iMC#0			iMC#1			iMC#0			iMC#1			
		0A0	0B0	0C0	0D0	0E0	0F0	1A0	1B0	1C0	1D0	1E0	1F0	
Normal	Disabled	0A1	0B1	0C1	0D1	0E1	0F1	1A1	1B1	1C1	1D1	1E1	1F1	(*3)
		1	2	4(*1),8	1	2	4(*1),8	1	3	5(*1),9	1	3	5(*1),9	
	6	6(*2)	10	6	6(*2)	10	7	7(*2)	11	7	7(*2)	11		
	1	4	8	2	6	10	1	5	9	3	7	11		
Spare	Disabled	1	4	8	2	6	10	1	5	9	3	7	11	(*3)
		1	4	8	2	6	10	1	5	9	3	7	11	
	-	-	-	-	-	-	-	-	-	-	-	-		
	-	-	-	-	-	-	-	-	-	-	-	-		
Full Mirror/ Address Range Mirror	Disabled	1	1	4	1	1	4	1	1	5	1	1	5	(*4)
		2	2	4	2	2	4	3	3	5	3	3	5	
	1	1	2	1	1	2	1	1	3	1	1	3		
	-	-	-	-	-	-	-	-	-	-	-	-		
	-	-	-	-	-	-	-	-	-	-	-	-		
	-	-	-	-	-	-	-	-	-	-	-	-		

(*1)(*2) In the case of four DIMMs in iMC, remove DIMM installed in (*1) slot and then install DIMM to (*2) slot.

(*3) When the CPU which memory capacity is 768GB is installed, 128GB DIMM can be installed up to number 5 and cannot be installed after number 6.

(*4) Only when the CPU which memory capacity is 768GB and 128GB DIMM are installed together, this installation order is applied.

Memory Mixed Condition

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Which size of DIMM can be installed together in a DDR CH or an SB are shown in the following tables.

The type of the DIMM mixed installation condition for each DIMM.

	16GB 1R RDIMM	32GB 2R RDIMM	64GB 2R RDIMM	64GB 4R LRDIMM	128GB 8R LRDIMM (3DS)	256GB 8R LRDIMM (3DS)
16GB 1R RDIMM	-	YES (*1)	YES (*1)			
32GB 2R RDIMM	YES (*1)	-	YES (*1)			
64GB 2R RDIMM	YES (*1)	YES (*1)	-			
64GB 4R LRDIMM				-		
128GB 8R LRDIMM(3DS)					-	YES
256GB 8R LRDIMM(3DS)					YES	-

YES: Mixable in DDR CH/SB/Partition

Blank: Not Mixable in DDR CH/SB/Partition

"-": Same DIMM

(*1) When RDIMM or LRDIMM other than 3DS with different rank number is populated together within a DDR channel, the DIMM with largest rank number must be populated at far side and the DIMM with smallest rank number must be populated at near side.

Mixable conditions

	Yes (Mixable in DDR CH)	"-" (Mixable in DDR CH)	Blank (Not Mixable in Partition)
DDR CH	YES	YES	
SB	YES	YES	
Partition	YES	YES	
System	YES	YES	YES

YES: Mixable in DDR CH/SB/Partition

Blank: Not mixable in DDR CH/SB/Partition

Memory Mixed Installation Condition

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DIMM mixed installation conditions are shown in the following table.
 Same symbols mean that same DIMMs can be installed which is defined in the table below.
 Different symbols mean that different DIMMs can be mixed.

DIMM mixed installation condition.

Memory Mode	Lockstep	CPU#0						CPU#1					
		iMC#0			iMC#1			iMC#0			iMC#1		
		0A0	0B0	0C0	0D0	0E0	0F0	0A0	0B0	0C0	0D0	0E0	0F0
Normal	Disabled	□	△	○	☆	▽	◇	■	▲	●	★	▼	◆
	Enabled	♠	♥	♣	♞	♟	♚	♠	♠	♣	♞	♟	♚
Sparing	Disabled	□	△	○	☆	▽	◇	■	▲	●	★	▼	◆
	Enabled	Not Supported											
Full Mirror (Mirror Keep) / Address Range Mirror	Disabled	□	□	□	△	△	△	■	■	■	▲	▲	▲
	Enabled	○	○	○	☆	☆	☆	●	●	●	★	★	★
Full Mirror (Capacity Keep)	Disabled	□	□	□	□	□	□	□	□	□	□	□	□
	Enabled	Not Supported											

Mixing condition shown contains installation conditions about near side and far side in DDR CH.
 When RDIMM or LRDIMM other than 3DS with different rank number is populated together within a DDR channel, the DIMM with largest rank number must be populated at far side and the DIMM with smallest rank number must be populated at near side.

DCPMM(NVM/LRDIMM) installation pattern

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The mountable number of DCPMM is in the range of one to six per CPU.

The following table shows the installation pattern of DDR4 DIMMs and DCPMMs allowed by Fujitsu.

DCPMM installation pattern within CPU

Mode	Pattern	CPU#0						Remark
		iMC#0			iMC#1			
		0A0	0B0	0C0	0D0	0E0	0F0	
AD	2-2-2	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	(*1) Symmetric
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	Any DRAM
MM	2-2-2	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	(*1) Symmetric
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	Any DRAM
AD+MM	2-2-2	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	(*1) Symmetric
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	Except for 3DS LRDIMM
AD	2-1-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	(*1) Symmetric
		DCPMM1	-	-	DCPMM1	-	-	Any DRAM
MM	2-1-1	DRAM2	DRAM2	DRAM2	DRAM2	DRAM2	DRAM2	(*1) Symmetric
		DCPMM1	-	-	DCPMM1	-	-	RDIMM only (16 or 32GB)
AD+MM	2-1-1	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	(*1) Symmetric
		DCPMM1	-	-	DCPMM1	-	-	Except for 3DS LRDIMM
AD	2-2-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	(*1) Symmetric
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	Any DRAM
MM	2-2-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	(*1) Symmetric
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	Any DRAM
AD+MM	2-2-1	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	(*1) Symmetric
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	Except for 3DS LRDIMM

Mode	DDR4 Type	Capacity
DRAM1	RDIMM	Any Capacity
	3DS LRDIMM	
	LRDIMM	
	3DS LRDIMM	
DRAM2	RDIMM	16GB or 32GB
	-	
	-	
	-	
DRAM3	RDIMM	Any Capacity
	3DS LRDIMM	
	LRDIMM	
	-	
DCPMM1	-	Any Capacity

AD: App Direct Mode

MM: Memory Mode (100%)

AD+MM: Memory Mode (Except for 100%)

(*1) Symmetric Population across all CPU.

If configuration of PRIMEQUEST3800E2 includes a DCPMM, it is necessary to check validity of DCPMM installation. For request of configuration check, please submit request to the contact point for PRIMEQUEST.

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Datacenter Persistent Memory Modules (DCPMM)

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DCPMM Firmware

As of November 15, 2019

Size	DCPMM Firmware	Unified Firmware
128GB DDR-T DCPMM(NVM/LRDIMM)	01.02.00.5395	PB19092 or later
256GB DDR-T DCPMM(NVM/LRDIMM)		
512GB DDR-T DCPMM(NVM/LRDIMM)		

Support DCPMM Modes

OS	Memory Mode	App Direct Mode	Mixed Mode
Windows Server 2019	●	▲	—
SUSE SLES 12 SP4	—	●	—
SUSE SLES 15 SP1	▲	●	▲
Red Hat EL 7.6	●	●	▲
Red Hat EL 8.0	●	●	▲

- : Available
- ▲ : Planned
- : Not Available

Support of OS Boot from DCPMM Modules

OS	Mode
Windows Server 2019	App Direct Mode
Red Hat EL 7.6	App Direct Mode

Boot from DCPMM namespace is not supported by ServerView Installation Manager.

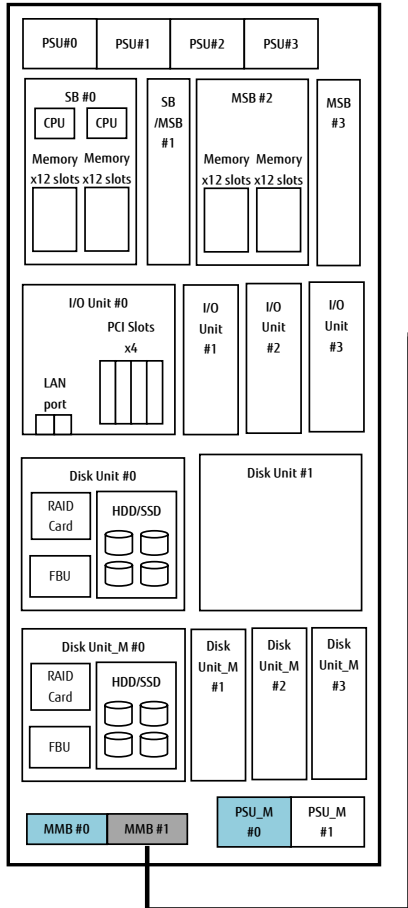
Please do manual installation of OS if boot from DCPMM is required.

Notes

- Please always keep both DCPMM and BIOS firmware to the latest version.
- Please keep aware that Fujitsu provides only integrated firmware for PRIMEQUEST 3800E2. This means the customers must apply such integrated firmware if they are going to update the firmware for DCPMM.
- To update the integrated firmware, you must power off the entire server.
- DCPMM must be reconfigured if DCPMM is added or replaced while in App Direct Mode. Refer to the DCPMM manuals at the <http://manuals.ts.fujitsu.com/> for the configuration of DCPMM.
- As memory cells of DCPMM are wearing parts, an DCPMM can only tolerate a limited number of write jobs. PBW (PetaBytes Written) is an indicator which specifies write endurance of an DCPMM. Depending on how the product is used, the number of writing times may reach the end of write endurance within the product lifespan. Percentage of data written to the lifetime can be confirmed in MMB Web-UI. Refer to the following documents for how to check the status of write endurance of DCPMM.
 "Lifecycle monitoring of DCPMM on PRIMEQUEST 3000 series"
<http://manuals.ts.fujitsu.com/index.php?id=5406-14274-18399-18783>
 Select x86 Servers > PRIMEQUEST Servers > PRIMEQUEST 3000 Series > Common

6.Management Board (MMB)

April 2020, Ver.5.1



1x MMB is included in the Base Unit.
Max. 2x MMBs can be mounted in a Base unit.

Management Board (MMB)

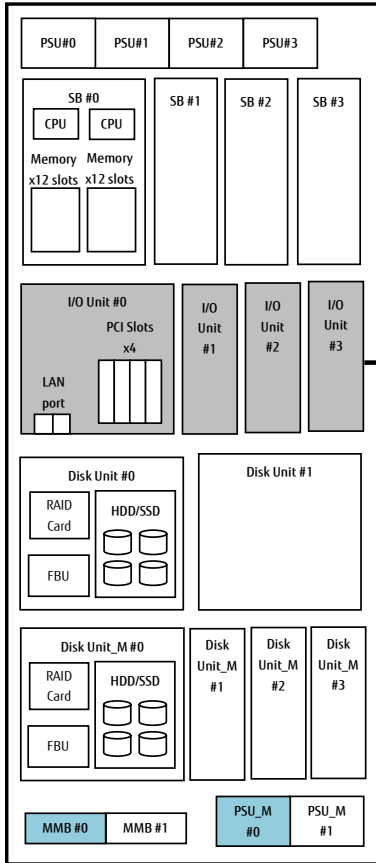
MC-5HMM41 / MCX5HMM41 (LD)

- Max. 2 x MMBs can be mounted.
- 1 x MMB is included in the Base Unit.
- An additional MMB can be mounted as an option.
- MMB can be redundant with 2 x MMB configuration.
- Each MMB has 4 x LAN ports for server administration and maintenance. (2 x user ports, 1 x REMCS port and 1 x maintenance port)

→ I/O Unit

7.I/O UNIT

April 2020, Ver.5.1



1x I/O Unit is included in the Base Unit.
 Max. 4x I/O Units can be mounted per Base Unit.

I/O Unit
MC-5HUX71 / MCX5HUX71 (LD)

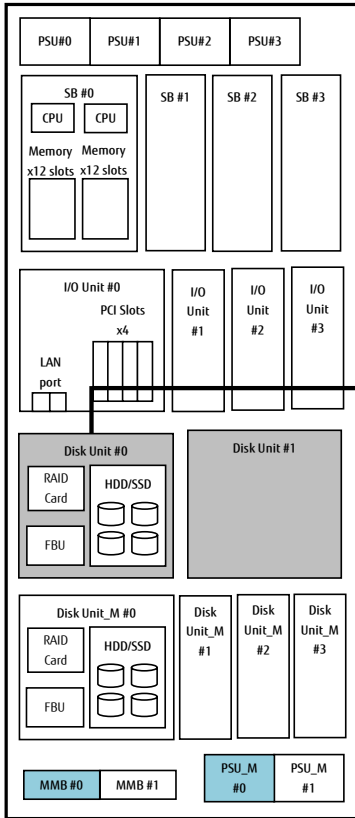
- 1x I/O Unit is included in the Base Unit.
 Max. 4 x I/O Units can be mounted.
- 2 x 10GBASE-T LAN ports per I/O Unit.
- 4x Low Profile PCIe slots per I/O Unit.
- PCI Express 3.0 x16 Lane x1 slot, x8 Lane x3 slots
- 12 PCIe slots in the PCI Box are available using PCI Box connection card.
- PCI hot plug is not supported. PCI hot plug is available on PCI Box.

With PSU 2 + n configuration, IOU can only be installed with a maximum of 2 units.
 Please refer to 'Power Supply Unit' for details.

→ **Disk Unit**

8.Disk Unit

April 2020, Ver.5.1



Disk Unit

- Max. 2 of the following Disk Units can be mounted on the Base Unit.
- In order to mount Disk Unit #1, I/O Unit #1 is required.

Disk Unit for SAS (SAS3.0)
MC-5HDU71 / MCX5HDU71 (LD)
 - Max. 2x Disk Units per Base Unit.
 - 1x RAID Controller card per Disk Unit needs to be mounted.
 - Max 4x HDD/SSD can be mounted per Disk Unit.

Option for Disk Unit SAS (SAS3.0)

SAS RAID Controller Card (EP420i)
MC-0JSRA1 / MCX0JSRA1 (LD)
 - One RAID Controller card enables to mount 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 2GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

Flash Back-up Unit
MC-0JFB61 / MCX0JFB61 (LD)
 - Flash Backup Unit for RAID Controller EP420i with cache memory.

RAID Advanced Software Options
MC-0KLA51 / MCX0KLA51 (LD)
 License Activation Key for CacheCade 2.0 for PRAID EP420i / 420e

SAS RAID Controller Card (EP540i)
MC-0JSR71 / MCX0JSR71 (LD)
 - One RAID Controller card enables to mount 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 4GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

Flash Back-up Unit for EP5x0i
MC-0JFB41 / MCX0JFB41 (LD)
 - Flash Backup Unit for RAID Controller EP540i/EP580i with cache memory.

SAS RAID Controller Card (EP580i)
MC-0JSR81 / MCX0JSR81 (LD)
 - One RAID Controller card enables to mount 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 8GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

Flash Back-up Unit for EP5x0i
MC-0JFB41 / MCX0JFB41 (LD)
 - Flash Backup Unit for RAID Controller EP540i/EP580i with cache memory.

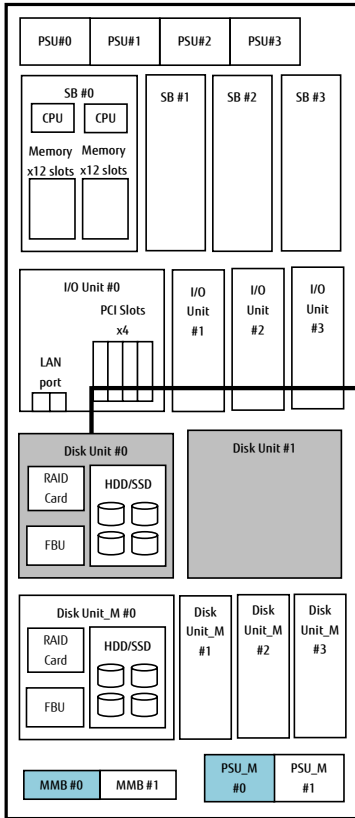
- Connection between I/O Unit and Disk Unit

I/O Unit	Disk Unit
I/O Unit #0	Disk Unit #0
I/O Unit #1	Disk Unit #1

→ Disk for HDD or SSD

8.Disk Unit

April 2020, Ver.5.1



Disk Unit

- Max. 2 of the following Disk Units can be mounted on the Base Unit.
- In order to mount Disk Unit #1, I/O Unit #1 is required.

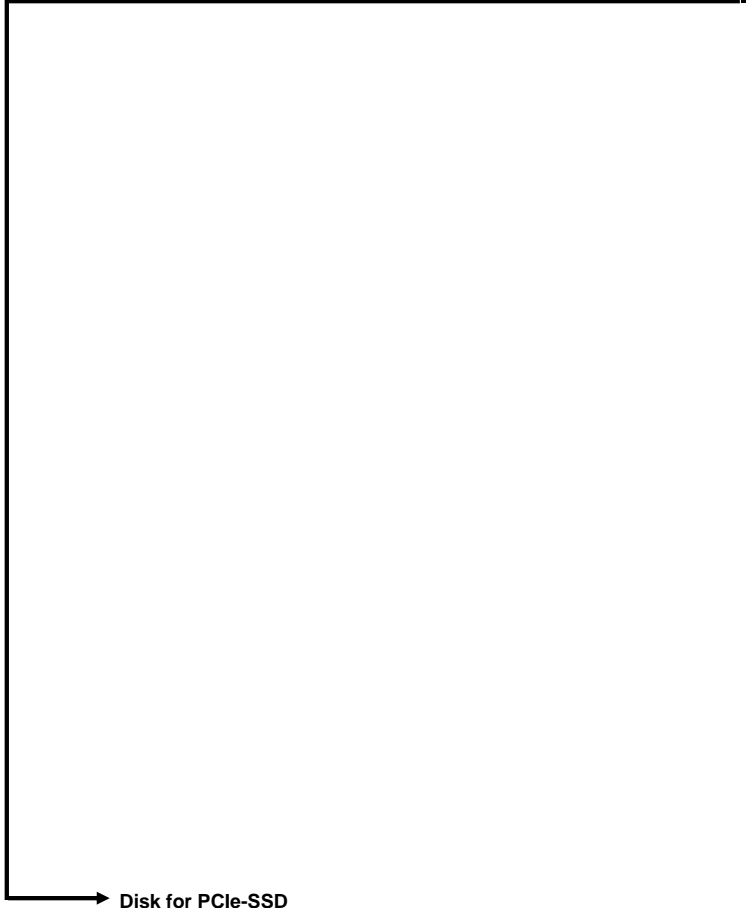
Disk Unit for PCIe SFF (DU_PCIEA)
MC-5HDU61 / MCX5HDU61 (LD)
 - Max. 2x Disk Units per Base Unit.
 - 1x RAID Controller card per Disk Unit needs to be mounted.
 - Max 4x PCIe-SSD SFFs can be mounted per Disk Unit.

SAS RAID Controller Card (EP540i)
MC-0JSR71 / MCX0JSR71 (LD)
 - One RAID Controller card enables to mount
 Max 4x PCIe-SSD SFFs
 - 12Gbps for each disk drive. 4GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

SAS RAID Controller Card (EP580i)
MC-0JSR81 / MCX0JSR81 (LD)
 - One RAID Controller card enables to mount
 Max 4x PCIe-SSD SFFs
 - 12Gbps for each disk drive. 8GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

- Connection between I/O Unit and Disk Unit

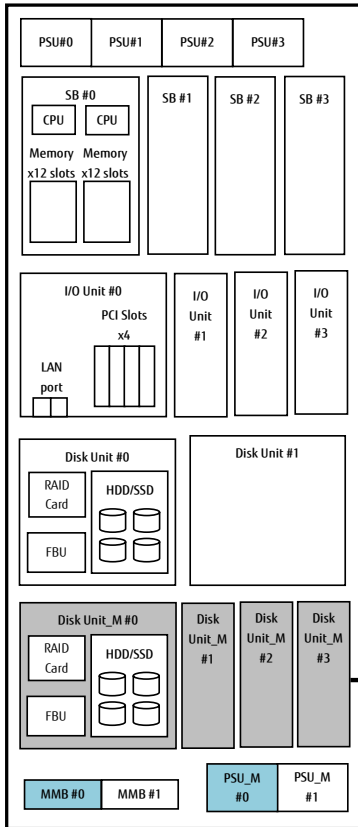
I/O Unit	Disk Unit
I/O Unit #0	Disk Unit #0
I/O Unit #1	Disk Unit #1



Disk for PCIe-SSD

Disk Unit for DMBU(Disk/MMB Unit) (DU_M)

April 2020, Ver.5.1



Disk Unit for DMBU(Disk/MMB Unit) (DU_M)

- Max. 4 Disk Units can be mounted on the Disk/MMB Unit
 - In order to mount Disk Unit #1, #2 and #3, I/O Unit #1, #2 and #3 is required respectively.

Disk Unit for DMBU(Disk/MMB Unit) (DU_M)
MC-5HDU51 / MCX5HDU51 (LD)
 - Max. 4x Disk Units per Disk/MMB Unit.
 - 1x RAID Controller card is required per Disk Unit.
 - Max 4x SAS HDD/SSD can be mounted per Disk Unit.

SAS RAID Controller Card (EP420i)
MC-0JSRA1 / MCX0JSRA1 (LD)
 - One RAID Controller card allows mounting of 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 2GB of cache memory
 - RAID 0/1/1E/5/6/10 and hot spare supported

RAID Advanced Software Options
MC-0KLA51 / MCX0KLA51 (LD)
 License Activation Key for CacheCade 2.0

Flash Back-up Unit
MC-0JFB61 / MCX0JFB61 (LD)
 - Flash Backup Unit for RAID Controller (2GB Cache)

- Connection between I/O Unit and Disk Unit_M

I/O Unit	Disk Unit
I/O Unit #0	Disk Unit_M#0
I/O Unit #1	Disk Unit_M#1
I/O Unit #2	Disk Unit_M#2
I/O Unit #3	Disk Unit_M#3

SAS RAID Controller Card (EP540i)
MC-0JSR71 / MCX0JSR71 (LD)
 - One RAID Controller card allows mounting of 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 4GB of cache memory
 - RAID 0/1/5/6/10 and hot spare supported
 - No RAID Software License required.

Flash Back-up Unit for EP5x0i
MC-0JFB41 / MCX0JFB41 (LD)
 - Flash Backup Unit for RAID Controller

SAS RAID Controll Card (8GB Cache)
MC-0JSR81 / MCX0JSR81 (LD)
 - One RAID Controller card allows mounting of 4x disk drives such as HDD or SSD.
 - 12Gbps for each disk drive. 8GB of cache memory
 - RAID 0/1/5/6/10 and hot spare supported
 - No RAID Software License required.

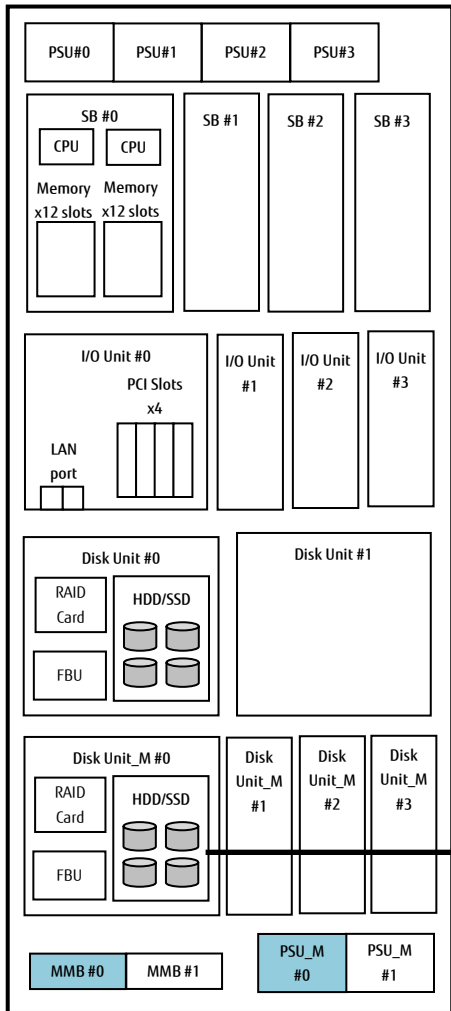
Flash Back-up Unit for EP5x0i
MC-0JFB41 / MCX0JFB41 (LD)
 - Flash Backup Unit for RAID Controller

→ Disk for HDD or SSD

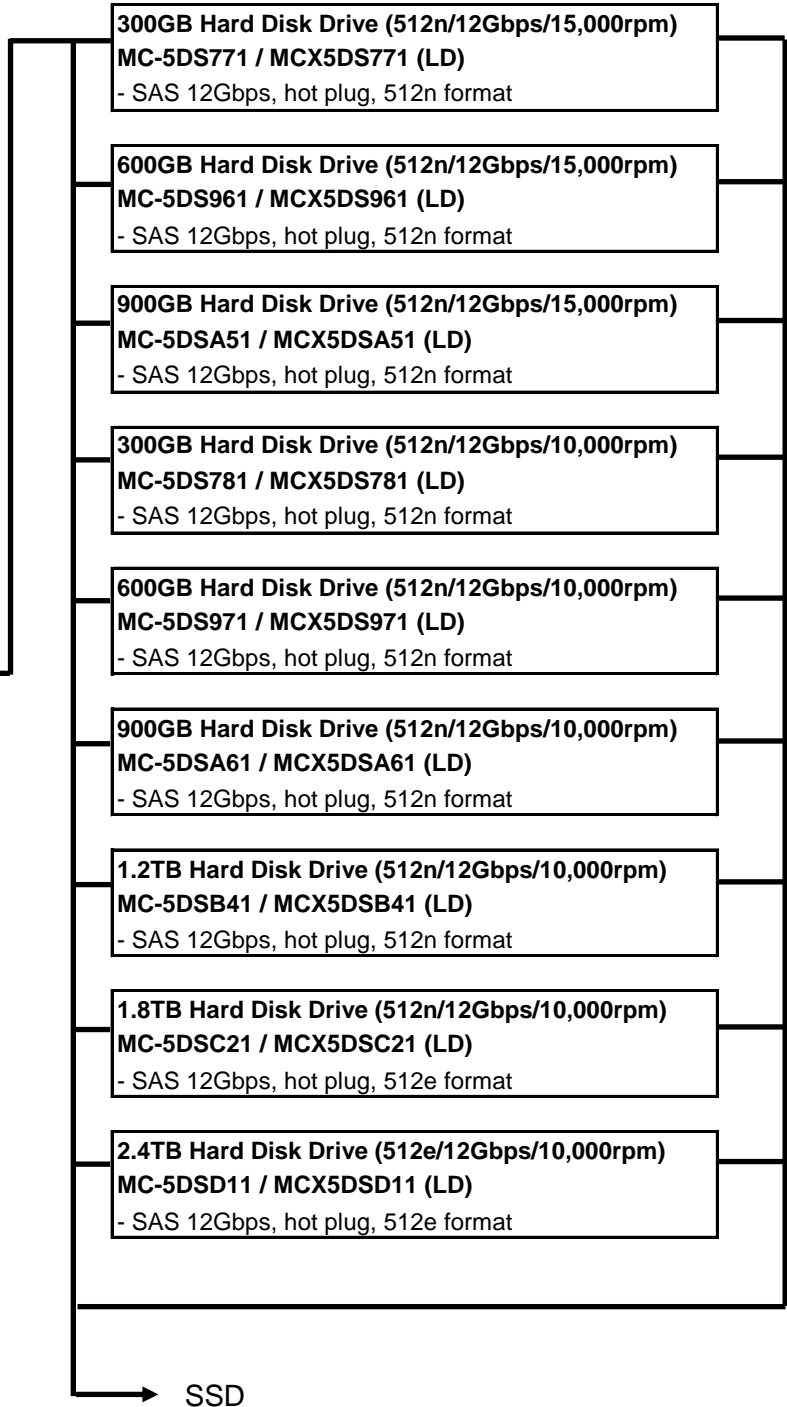
9.HDD

April 2020, Ver.5.1

Max. 4 pcs of HDD/SSD can be mounted per the Disk Unit or the Disk Unit for DMBU(Disk/MMB Unit) (DU_M).

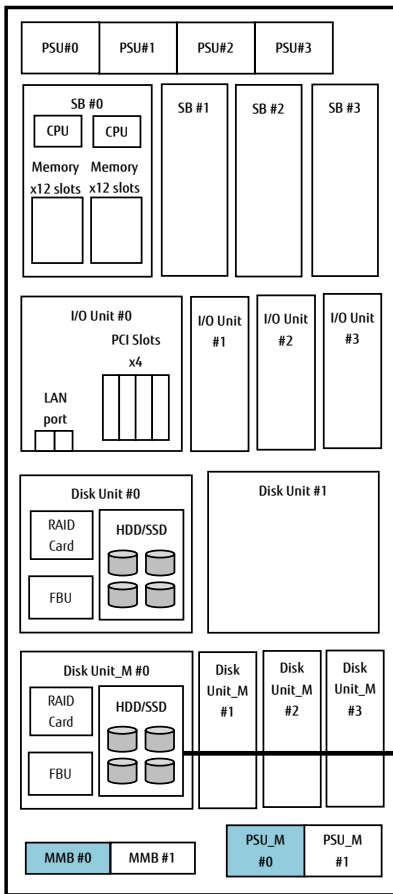


HDD



9.SSD

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Max. 4 pcs of HDD/SSD can be mounted per the Disk Unit or the Disk Unit for DMBU(Disk/MMB Unit) (DU_M).

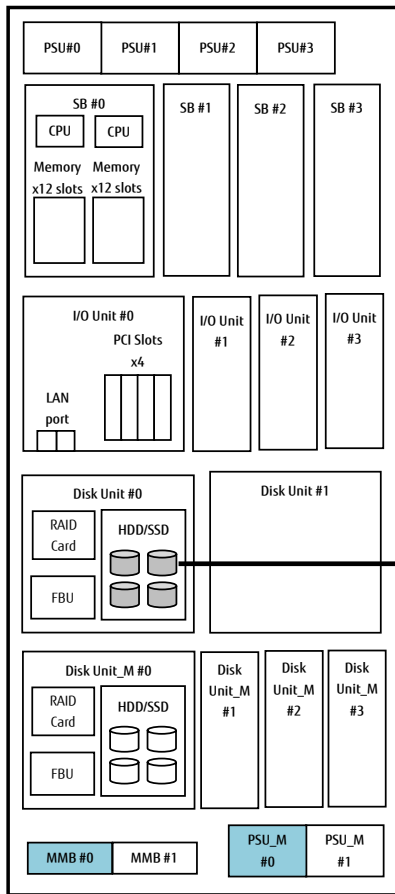
- 400GB Solid State Drive (512n / 12Gbps / 10DWPD)**
MC-5DG821 / MCX5DG821 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 10
- 800GB Solid State Drive (512n / 12Gbps / 10DWPD)**
MC-5DG921 / MCX5DG921 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 10
- 1.6TB Solid State Drive (512n / 12Gbps / 10DWPD)**
MC-5DGA21 / MCX5DGA21 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 10
- 400GB Solid State Drive (512n / 12Gbps / 3DWPD)**
MC-5DH821 / MCX5DH821 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 3
- 800GB Solid State Drive (512n / 12Gbps / 3DWPD)**
MC-5DH921 / MCX5DH921 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 3
- 1.6TB Solid State Drive (512n / 12Gbps / 3DWPD)**
MC-5DHA21 / MCX5DHA21 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 3
- 3.2TB Solid State Drive (512n / 12Gbps / 3DWPD)**
MC-5DHB21 / MCX5DHB21 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 3
- 6.4TB Solid State Drive (512n / 12Gbps / 3DWPD)**
MC-5DKG21 / MCX5DKG21 (LD)
 - SAS 12Gbps, MLC, hot plug, DWPD: 3

As flash memory cells are wearing parts, an SSD can only tolerate a limited number of write jobs. DWPD (Drive Write Per Day) is an indicator which specifies write endurance of an SSD. Depending on how the product is used, the number of writing times may reach the end of write endurance within the product lifespan. Product status can be confirmed by management tools such as iRMC Web-UI and Server View RAID Manager (SVRM).

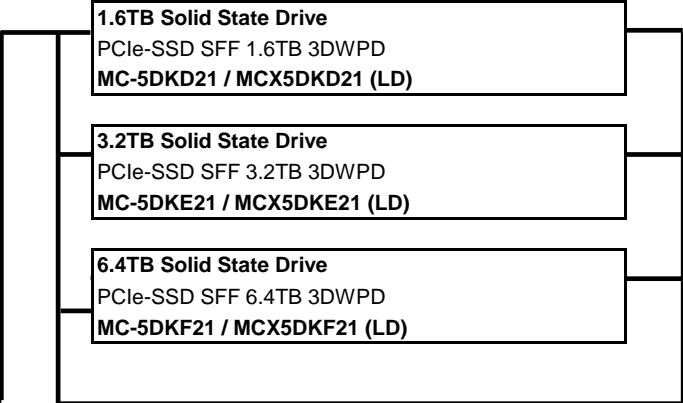
→ PCIe-SSD

9.PCIE-SSD

April 2020, Ver.5.1



Max. 4 pcs of PCIe-SSD can be mounted per the Disk Unit for PCIe SFF.

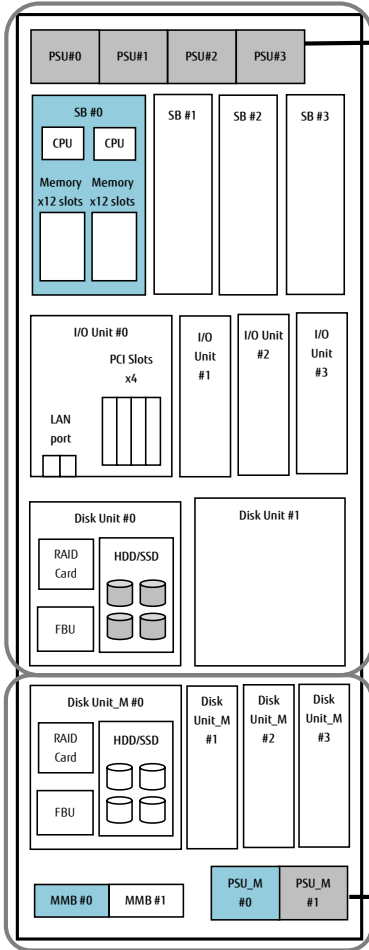


As flash memory cells are wearing parts, an SSD can only tolerate a limited number of write jobs. DWPD (Drive Write Per Day) is an indicator which specifies write endurance of an SSD. Depending on how the product is used, the number of writing times may reach the end of write endurance within the product lifespan. Product status can be confirmed by management tools such as iRMC Web-UI and Server View RAID Manager (SVRM).

→ Power Supply Unit (PSU)

10. Power Supply Unit (PSU)

April 2020, Ver.5.1



No PSU is included in the Base unit,
At least two PSU's need to be mounted per system.
Max. 4x PSUs can be mounted for PSU redundancy.

200V Normal PSU
MC-5HPS71 / MCX5HPS71 (LD)
- Max. 4x PSUs can be mounted for PSU redundancy.
- 80PLUS® Platinum certified

Due to power supply voltage fluctuations when operating with two high-power PSUs
Performance may be reduced to approximately 10% for up to 2 seconds to avoid system
down.
When using a high-output power supply, use a UPS or CVCF to prevent power supply
voltage fluctuations..

200V High Power PSU
MC-5HPS81 / MCX5HPS81 (LD)
- Max. 4x PSUs can be mounted for PSU redundancy.
- 80PLUS® Platinum certified
- Not supported advanced thermal design option

One PSU_M is included for Disk/MMB Unit.
Max. 2x PSU_Ms can be mounted for PSU redundancy.

200V Normal PSU for DMBU
MC-5HPS91 / MCX5HPS91 (LD)
- 1x PSU_M is included for Disk/MMB Unit.
- Max. 2x PSU_Ms can be mounted for PSU redundancy.
- 80PLUS® Platinum certified

Power Cords

AC Power input	# of components					# of PSUs		Dual Power feed
	CPU (W)	DIMM	IOU	PCIeSSD	DCPMM	PSU	PSU_M	
Normal PSU 240V	>=200	96 slots (Max. 12TB)	4	8	0	3 + 1 (*1)	1 + 1 (*1)	No
	<=165		4	8		3 + 1 (*1)	1 + 1 (*1)	No
	>=200		2	2		2 + 1 (*2) / 2 + 2 (*3)	1 + 1 (*2, *3)	Yes
	<=165		2	2		2 + 1 (*2) / 2 + 2 (*3)	1 + 1 (*2, *3)	Yes

AC Power input	# of components					# of PSUs		Dual Power feed
	CPU	DIMM	IOU	PCIeSSD	DCPMM	PSU	PSU_M	
High Power PSU	8	96 slots (Max. 12TB)	4	8	48	2 + 1	1 + 1	No
						2 + 2	1 + 1	Yes

*1: At least 3 PSUs and 1 PSU_M are required. No installation restriction of components.
4 PSUs and 2 PSU_Ms configuration is resistant to failure of one power supply unit. Dual power feed is not possible.
*2: At least 2 PSUs and 1 PSU_M are required. The maximum number of I/O unit is 2.
3 PSUs and 2 PSU_Ms configuration is resistant to failure of one power supply unit.
*3: At least 2 PSUs and 1 PSU_M are required. The maximum number of I/O unit is 2.
4 PSUs and 2 PSU_Ms configuration is dual power feed configuration.
Dual power feed configuration is resistant to one data center power feed failure and PSU failure.

10.Power Cords for Base Unit

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power cord

* The same quantity of Power Cords need to be ordered as that of PSU.

No powercord as order option
MC-0HCB81

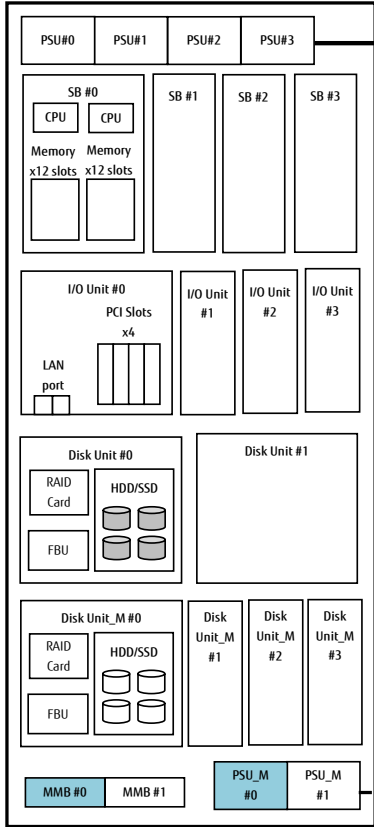
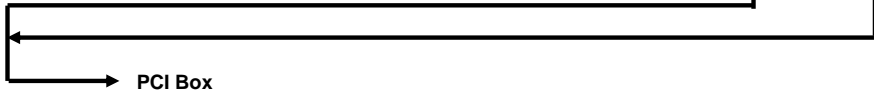
IEC AC 200V Cable(3m)
MC-0HCB13 / MCX0HCB13 (LD)
- IEC60320 C20, 3m
- power cord x 1

IEC AC 200V Cable(1m)
MC-0HCB11 / MCX0HCB11 (LD)
- IEC60320 C20, 1m
- power cord x 1

* The same quantity of Power Cords need to be ordered as that of PSU_M.

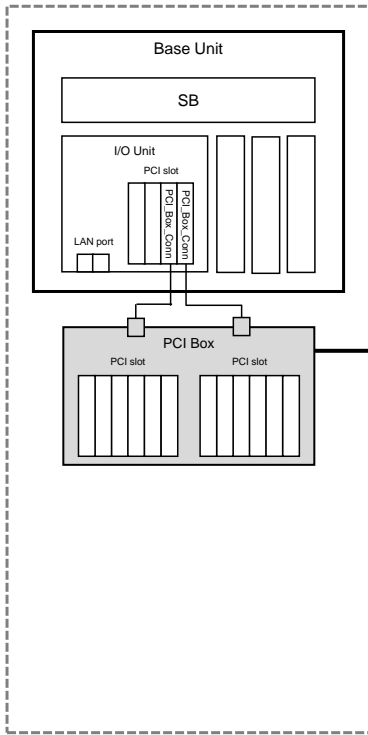
IEC AC 200V Cable (3m) for PCI Box and DMBU
MC-0HCB43 / MCX0HCB43 (LD)
- IEC60320 C20, 3m
- power cord x 1

IEC AC 200V Cable (1m) for PCI Box and DMBU
MC-0HCB41 / MCX0HCB41 (LD)
- IEC60320 C20, 1m
- power cord x 1



11.PCI Box

April 2020, Ver.5.1



To connect a PCI Box, a PCI Box Connection Card needs to be ordered and mounted in an I/O Unit. 1 x PCI Box cannot be connected to 2 different Base Units of PRIMEQUEST.

- PCI Box**
MC-0HPB32
- 1 x PCI Box has 2 x connection ports to connect to PCI Box Connection Cards. 1 x connection port is used to support 6 x PCI Cards.
 - If 2 x connection ports are used to connect 2 x PCI Box Connection Cards, max. 12 x PCI Cards can be mounted.
 - 1 x PCI Box can be connected to two different I/O units or one I/O unit with 2x connection ports.
 - No PSU is included. Min. 1 x PSU for PCI Box needs to be mounted.
 - Fans are mounted with redundant configuration as default configuration.
 - Rack space : 4U
 - PCI cards are hot pluggable.
 - 12 x PCI Card Cassettes are included.
 - PCI Cards with Full Height bracket need to be chosen.

- PSU for PCI Box**
MC-0HPS51 / MCX0HPS51 (LD)
- 1 x PSU is included.
 - Max. 2 x PSUs can be mounted per PCI Box for redundancy.

- PCI Box Connection Card**
MC-0JPC21 / MCX0JPC21 (LD)
- PCI Slots with Low Profile bracket are supported.
 - 6 x PCI Cards in a PCI Box can be supported per connection port.
 - 1 x PCI Box Connection Cable (2m long) is included.
 - Max. 8 x PCI Box Connection Cards can be mounted per Base Unit.

→ next page

Base Units and PCI Boxes need to have the same power supply condition.

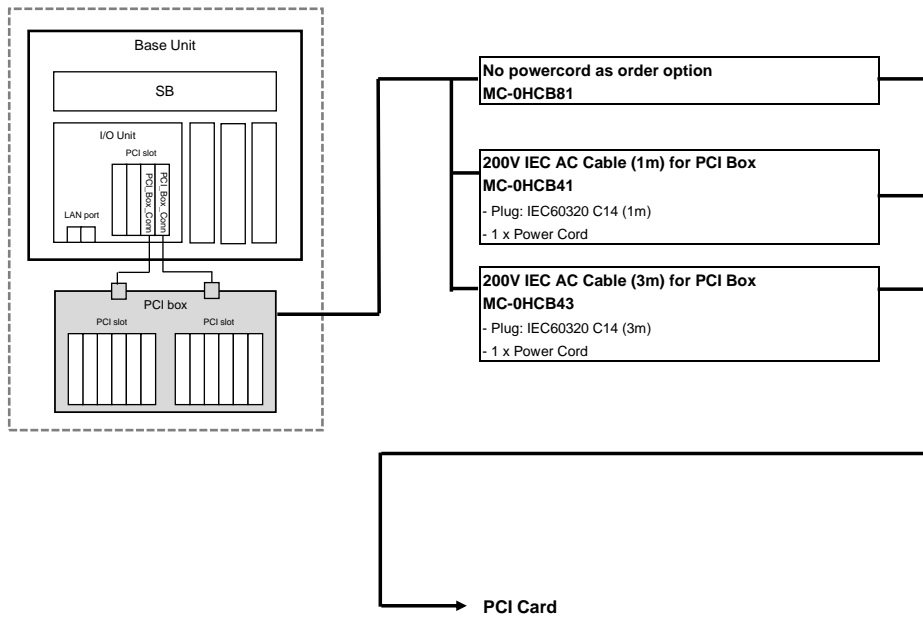
Input voltage	Power feed	Redundancy	# of PSU	Required quantity	
				PSU	Power cord
AC 200V	Single	Not available	1	1	1
		Available (*1)	1+1	2	2
	Dual	Available (*2)	1x2	2	2

(*1) Single power feed configuration will help to supply power even in the event of PSU failure.

(*2) Dual power feed configuration will help to supply power even in the event of one Power feed failure or PSU failure.

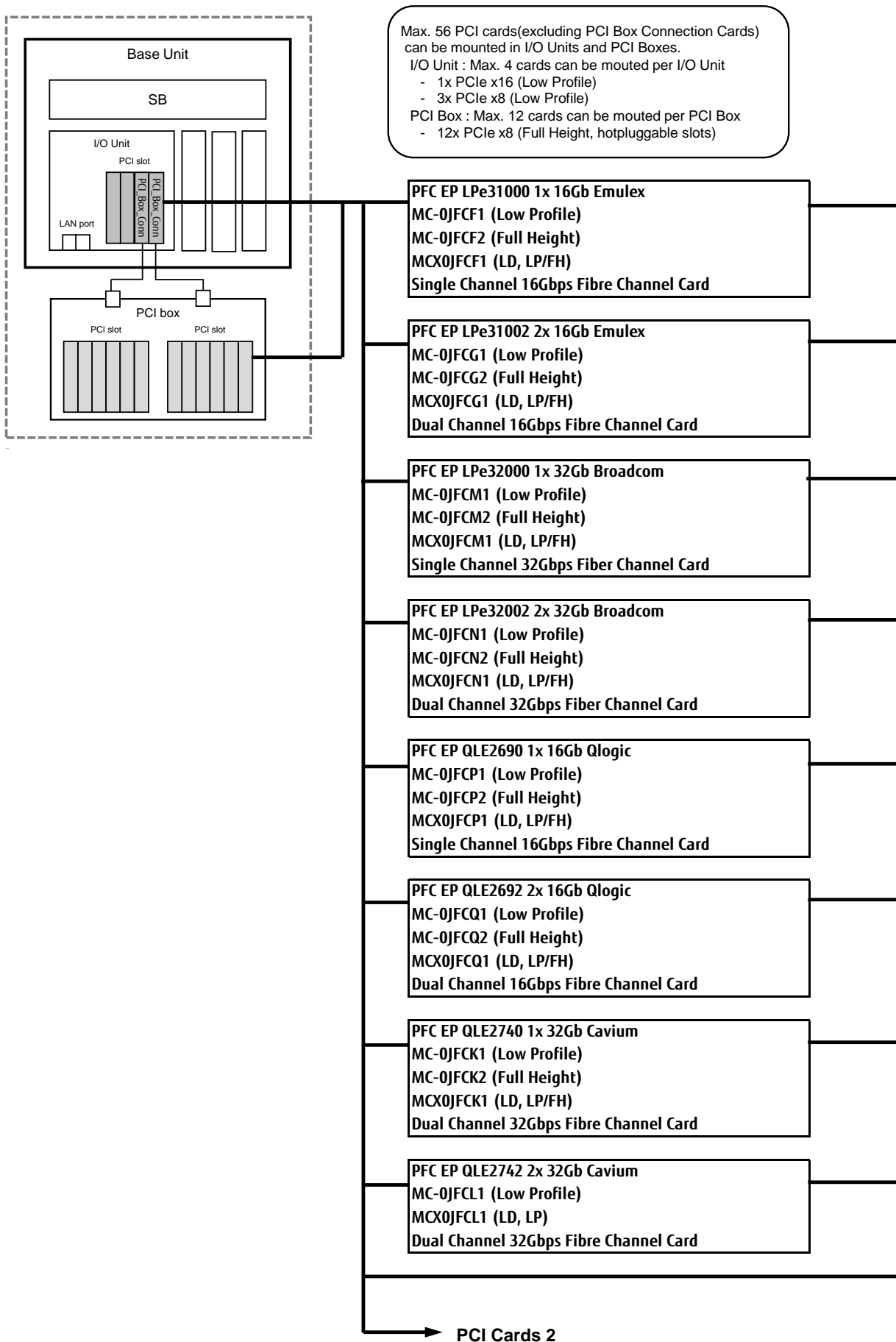
Power Cords for PCI Box

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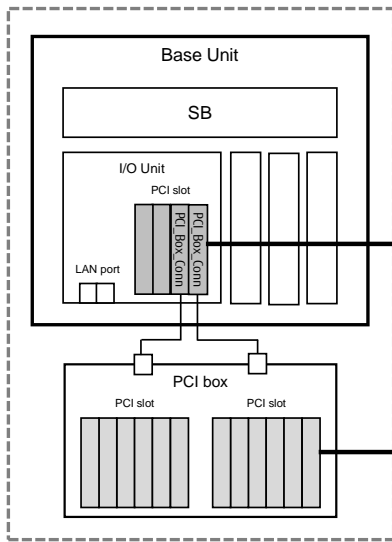
12.PCI Cards

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PCI Cards 2

April 2020, Ver.5.1



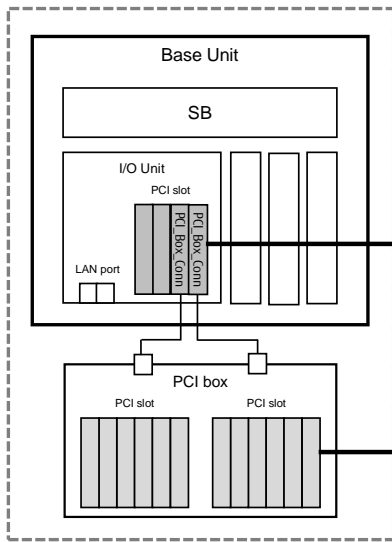
Max. 56 PCI cards(excluding PCI Box Connection Cards) can be mounted in I/O Units and PCI Boxes.
 I/O Unit : Max. 4 cards can be mounted per I/O Unit
 - 1x PCIe x16 (Low Profile)
 - 3x PCIe x8 (Low Profile)
 PCI Box : Max. 12 cards can be mounted per PCI Box
 - 12x PCIe x8 (Full Height, hotpluggable slots)

<p>PLAN CP 2x1Gbit Cu Intel I350-T2 LP MC-0JGEC1 (Low Profile) MC-0JGEC2 (Full Height) MCX0JGEC1 (LD, LP/FH) Dual Channel 1000BASE-T</p>
<p>PLAN CP 4x1Gbit Cu Intel I350-T4 LP MC-0JGED1 (Low Profile) MC-0JGED2 (Full Height) MCX0JGED1 (LD, LP/FH) Quad Channel 1000BASE-T</p>
<p>PLAN EP X550-T2 2x10GBASE-T MC-0JXEJ1 (Low Profile) MC-0JXEJ2 (Full Height) MCX0JXEJ1 (LD, LP/FH) Dual Channel 1000BASE-T</p>
<p>PLAN EP X710-T4 4x10GBASE-T LP MC-0JXF11(Low Profile) MCX0JXF11 (LD, LP/FH) Quad Channel 10BASE-T</p>
<p>PLAN EP QL41112 2x10GbE-T MC-0JXF21 (Low Profile) MC-0JXF22 (Full Height) MCX0JXF21 (LD, LP/FH) Dual Channel 10GBASE-T</p>

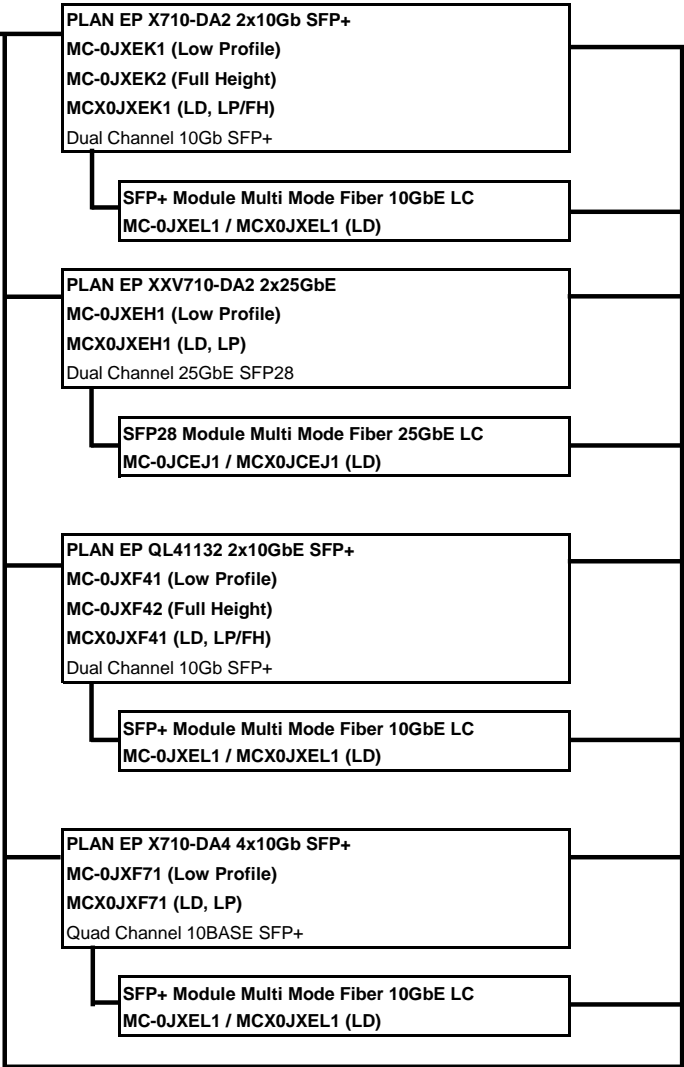
→ **PCI Cards 3**

PCI Cards 3

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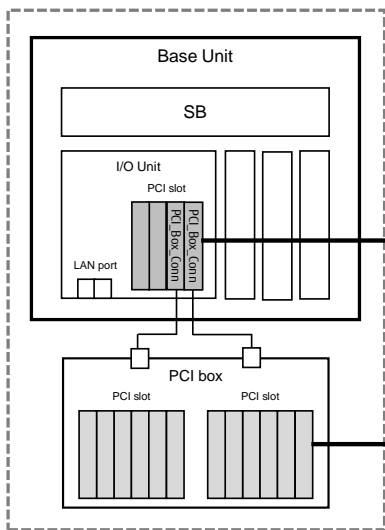
Max. 56 PCI cards(excluding PCI Box Connection Cards) can be mounted in I/O Units and PCI Boxes.
 I/O Unit : Max. 4 cards can be mouted per I/O Unit
 - 1x PCIe x16 (Low Profile)
 - 3x PCIe x8 (Low Profile)
 PCI Box : Max. 12 cards can be mouted per PCI Box
 - 12x PCIe x8 (Full Height, hotpluggable slots)



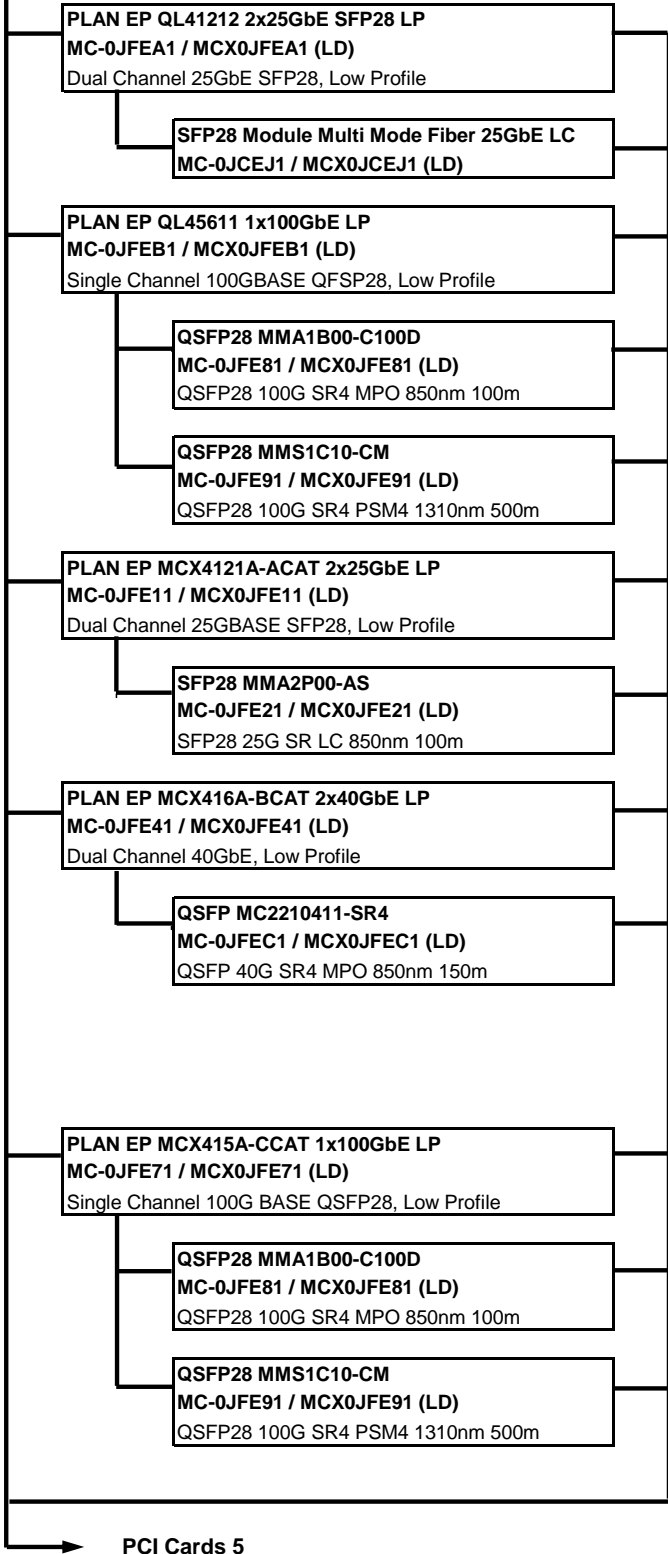
PCI Cards 4

PCI Cards 4

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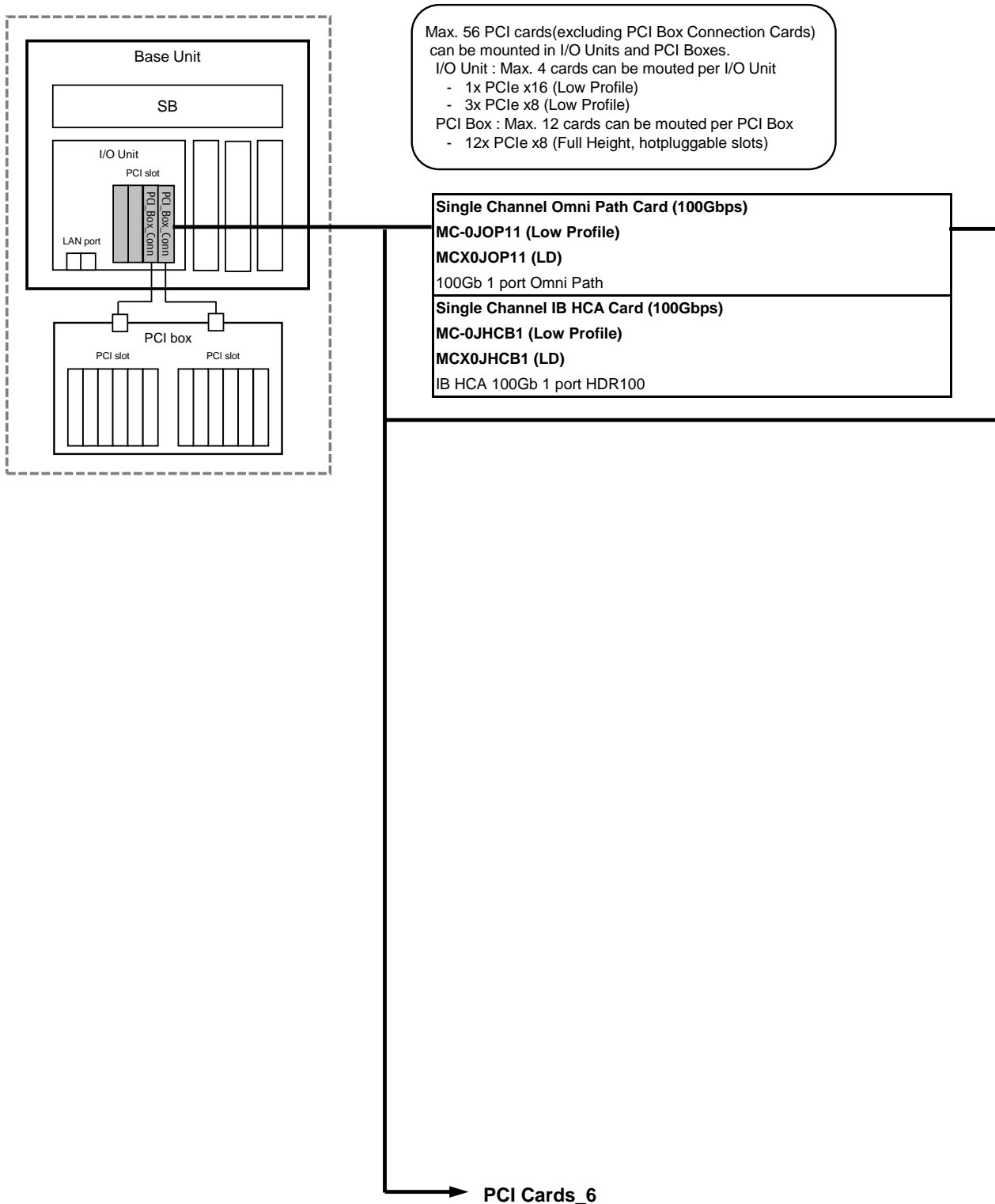


Max. 56 PCI cards(excluding PCI Box Connection Cards) can be mounted in I/O Units and PCI Boxes.
 I/O Unit : Max. 4 cards can be mounted per I/O Unit
 - 1x PCIe x16 (Low Profile)
 - 3x PCIe x8 (Low Profile)
 PCI Box : Max. 12 cards can be mounted per PCI



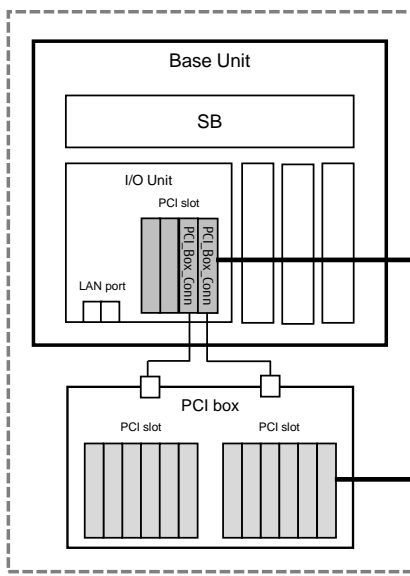
PCI Cards_5

April 2020, Ver.5.1



PCI Cards 6

April 2020, Ver.5.1



Max. 56 PCI cards(excluding PCI Box Connection Cards) can be mounted in I/O Units and PCI Boxes.
 I/O Unit : Max. 4 cards can be mouted per I/O Unit
 - 1x PCIe x16 (Low Profile)
 - 3x PCIe x8 (Low Profile)
 PCI Box : Max. 12 cards can be mouted per PCI Box
 - 12x PCIe x8 (Full Height, hotpluggable slots)

PRAID EP420e
MC-0JSRB1 (Low Profile)
MC-0JSRB2 (Full Height)
MCX0JSRB1 (LD, LP/FH)
 Dual Channel 12Gbps SAS RAID

RAID Advanced SW Option CacheCade
MC-0KLA51 / MCX0KLA51 (LD)
 License Activation Key for CacheCade 2.0 for PRAID EP420e
 One license is required for one RAID card.

FBU Mounting kit for IOUE2 EP420e
MC-0HCKC1 / MCX0HCKC1 (LD)
 FBU Mounting Kit for I/O Unit
 - Max. 4 FBU can be mounted.
 - FBU can be connected only to the card in slot#0 of each I/O Unit.

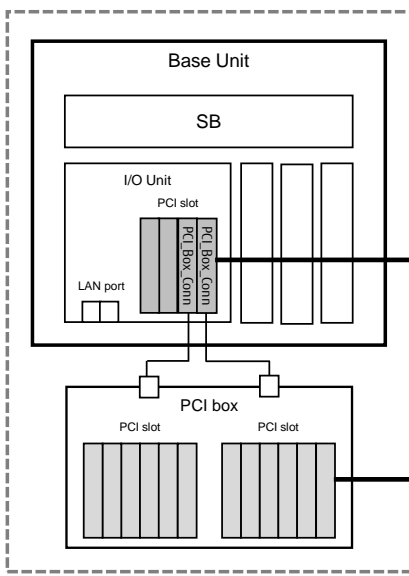
RAID Ctrl FBU option with 25cm cable
MC-0JFB51 / MCX0JFB51 (LD)
 Max. 4 FBU can be mounted in FBU Mounting Kit.

PSAS CP400e
MC-0JSS41 (Low Profile)
MC-0JSS42 (Full Height)
MCX0JSS41 (LD, LP/FH)
 Dual Channel SAS card (8 port) for external Backup Cabinet.

→ **PCI Cards 7**

PCI Cards 7

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Max. 56 PCI cards(excluding PCI Box Connection Cards) can be mounted in I/O Units and PCI Boxes.
 I/O Unit : Max. 4 cards can be mouted per I/O Unit
 - 1x PCIe x16 (Low Profile)
 - 3x PCIe x8 (Low Profile)
 PCI Box : Max. 12 cards can be mouted per PCI Box
 - 12x PCIe x8 (Full Height, hotpluggable slots)

PRAID EP540e
MC-0JSRC1(Low Profile)
MC-0JSRC2 (Full Height)
MCX0JSRC1 (LD, LP/FH)
 Dual Channel 12Gbps(4GBcash) SAS RAID

FBU kit E EP540e
MC-0HCKB1 / MCX0HCKB1 (LD)
 FBU Kit
 - Max. 4 FBU can be mounted.
 - FBU can be connected only to the card in slot#0 of each I/O Unit.

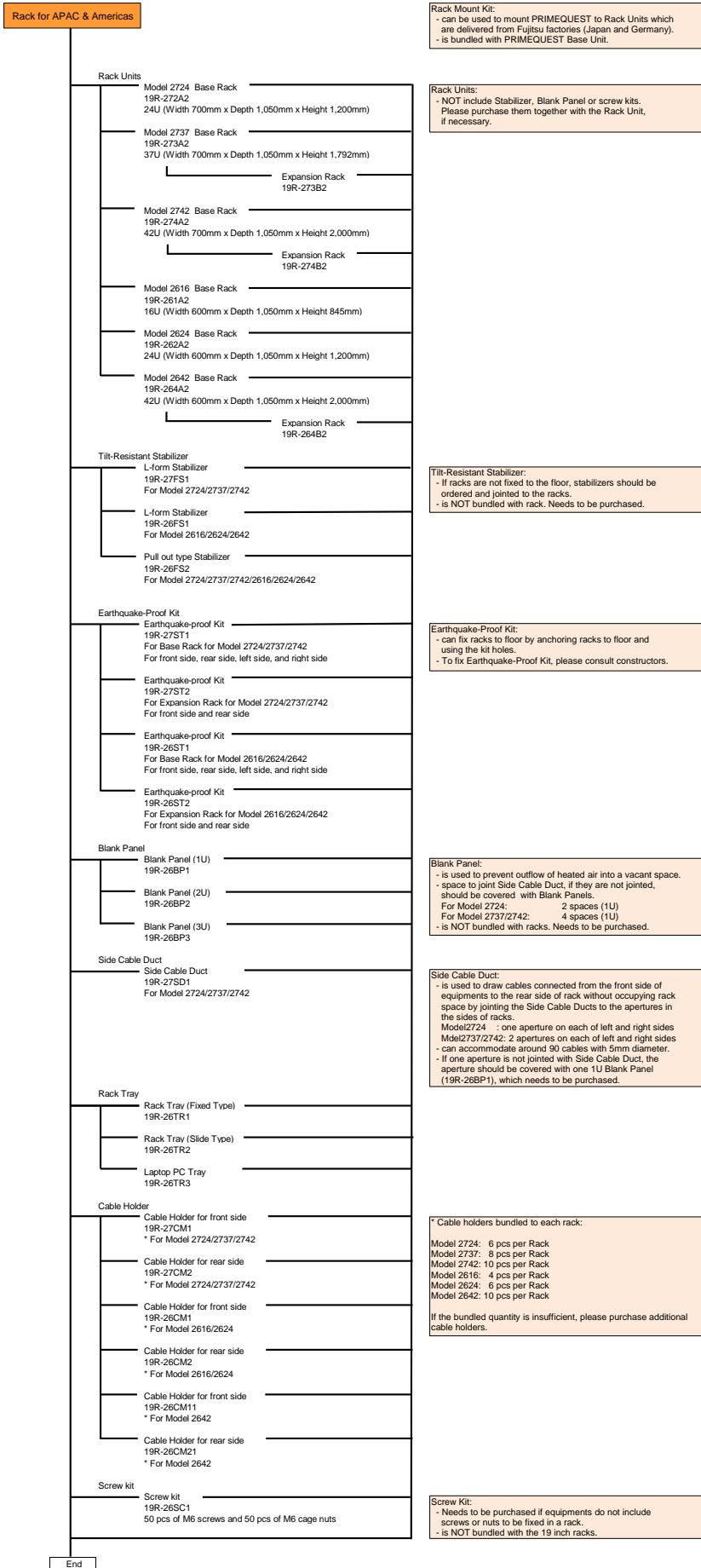
RAID Ctrl FBU option with 25cm cable
MC-0JFB81 / MCX0JFB81 (LD)
 Max. 4 FBU can be mounted in FBU Mounting Kit.

→ **Rack Installation**

13. Rack Installation for APAC and Americas

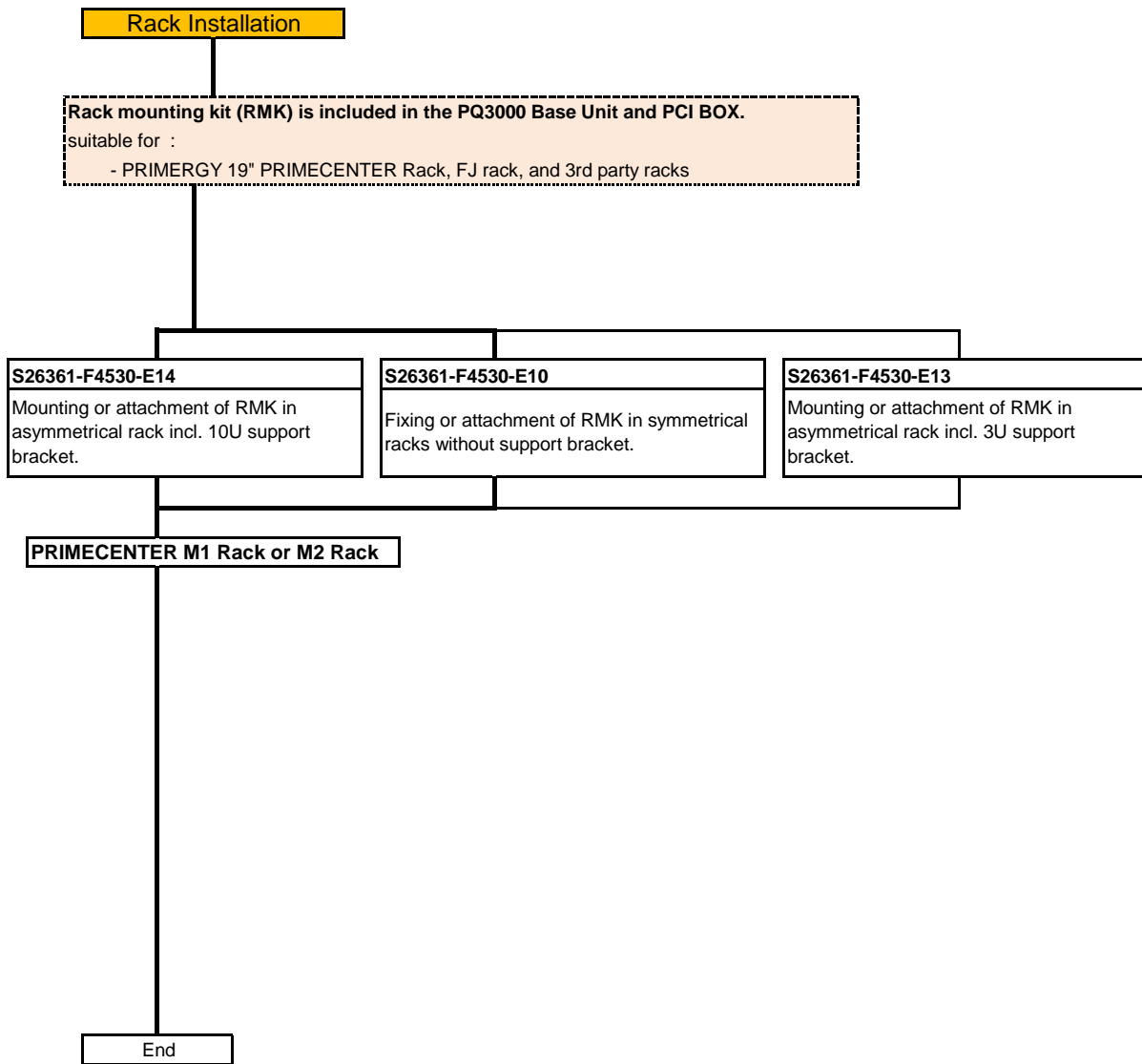
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For the details of rack products, please refer to "19 inch Rack Handbook".
<https://globalpartners.ts.fujitsu.com/sites/primeweb/services/servers/primequest/document/Pages/dc-h-guide.aspx>



13.Rack Installation for EMEA and India

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For more configuration information, RACK COMPONENTS, PDU & KVM please see:
<http://globalsp.ts.fujitsu.com/dmsp/Publications/public/cnfgPCM1rack.pdf>

14. Maximum Quantity of PCIe Cards

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Maximum Quantity of PCI Cards that can be mounted.

per Partition / per System

Product Name			Order Number			Max. Qty	
			BTO	BTO for PCI Box	LD	3800E	ESXi *6
SAS RAID controller card (EP420i)	PRAID EP420i	*6 *7	MC-QJSRA1	Not mountable	MCX0JSRA1		
SAS RAID controller card (EP540i)	PRAID EP540i	*6 *7	MC-QJSR71	Not mountable	MCX0JSR71	6c / 6c	
RAID controller card (EP580i)	PRAID EP580i	*6 *7	MC-QJSR81	Not mountable	MCX0JSR81		total 2
PRAID EP420e	PRAID EP420e	*6	MC-QJSRB1	MC-QJSRB2	MCX0JSRB1	2c / 4c	
PRAID EP540e	PRAID EP540e	*6	MC-QJSRC1	MC-QJSRC2	MCX0JSRC1	2c / 4c	
PSAS CP400e	PSAS CP400e	*6	MC-QJSS41	MC-QJSS42	MCX0JSS41	4c / 8c	2
PFC EP LPe31000 1x 16Gb Emulex	Broadcom LPe31000	*1 *2 *6	MC-QJFCF1	MC-QJFCF2	MCX0JFCF1	16p / 24c	
PFC EP LPe31002 2x 16Gb Emulex	Broadcom LPe31002	*1 *2 *6	MC-QJFCG1	MC-QJFCG2	MCX0JFCG1		total 8
PFC EP LPe32000 1x 32Gb Broadcom	Broadcom LPe32000	*1 *2 *6	MC-QJFCM1	MC-QJFCM2	MCX0JFCM1	8p / 16c	
PFC EP LPe32002 2x 32Gb Broadcom	Broadcom LPe32002	*1 *2 *6	MC-QJFCN1	MC-QJFCN2	MCX0JFCN1		
PFC EP QLE2690 1x 16Gb Qlogic	Qlogic QLE2690	*1 *6	MC-QJFCP1	MC-QJFCP2	MCX0JFCP1	16p / 24c	
PFC EP QLE2690 2x 16Gb Qlogic	Qlogic QLE2692	*1 *6	MC-QJFCQ1	MC-QJFCQ2	MCX0JFCQ1	16p / 12c	
PFC EP QLE2740 1x 32Gb Cavium	Qlogic QLE2740	*1 *6	MC-QJFCK1	MC-QJFCK2	MCX0JFCK1	8p / 16c	total 8
PFC EP QLE2742 2x 32Gb Cavium	Qlogic QLE2742	*1 *6	MC-QJFCL1	Not mountable	MCX0JFCL1		
PLAN CP 2x1Gbit Cu Intel I350-T2	Intel I350-T2		MC-QJGEC1	MC-QJGEC2	MCX0JGEC1	16c / 24c	8
PLAN CP 4x1Gbit Cu Intel I350-T4	Intel I350-T4		MC-QJGED1	MC-QJGED2	MCX0JGED1		4
PLAN EP X550-T2 2x10GBASE-T	Intel X550-T2		MC-QJXE1	MC-QJXE2	MCX0JXE1	16c / 24c	8
PLAN EP X710-DA2 2x10Gb SFP+	Intel X710-DA2	*3	MC-QJXEK1	MC-QJXEK2	MCX0JXEK1	8c / 24c	4
PLAN EP X710-T4 4x10GbE-T	Intel X710-T4		MC-QJXF1	Not mountable	MCX0JXF1		
PLAN EP X710-DA4 4x10Gb SFP+ LP	Intel X710-DA4	*6	MC-QJXF71	Not mountable	MCX0JXF71	8c / 16c	4
PLAN EP XXV710-DA2 2x 25GbE	Intel XXV710-DA2		MC-QJXE1	Not mountable	MCX0JXE1	8c / 8c	2
PLAN EP QL41112 2x10GbE-T	Qlogic QL41112		MC-QJXF21	MC-QJXF22	MCX0JXF21	16c / 24c	8
PLAN EP QL41132 2x10GbE SFP+	Qlogic QL41132		MC-QJXF41	MC-QJXF42	MCX0JXF41		4
PLAN EP QL41212 2x25GbE SFP28	Qlogic QL41212		MC-QJFEA1	Not mountable	MCX0JFEA1	4c / 16c	4
PLAN EP QL45611 1x100GbE LP	Qlogic QL45611		MC-QJFEB1	Not mountable	MCX0JFEB1	4c / 4c	2
PLAN EP MCX4121A-ACAT 2x25GbE	Mellanox MCX4121A-ACAT	*6	MC-QJFE1	Not mountable	MCX0JFE1	4c / 8c	
PLAN EP MCX416A-BCAT 2x40GbE	Mellanox MCX416A-BCAT	*6	MC-QJFE41	Not mountable	MCX0JFE41	4c / 4c	total 4
PLAN EP MCX415A-CCAT 1x100GbE	Mellanox MCX415A-CCAT	*6	MC-QJFE71	Not mountable	MCX0JFE71	4c / 4c	
POP EP 100Gb 1 port Omni Path	POP EP 100Gb 1 port Omni Path		MC-QJOP1	Not mountable	MCX0JOP1	4c / 4c	-
IB HCA 100Gb 1 port HDR100	IB HCA 100Gb 1 port HDR100		MC-QJHCB1	Not mountable	MCX0JHCB1	4c / 4c	-
PCIe-SSD 2TB P4600 (3DWPDP)	Intel P4600, 3DWPDP	*4	MC-QJSDG1	Not mountable	MCX0JSDG1		
PCIe-SSD 4TB P4600 (3DWPDP)	Intel P4600, 3DWPDP	*4	MC-QJSDH1	Not mountable	MCX0JSDH1	8c / 8c	8
PCI Box connection card		*5	MC-QJPC21	Not mountable	MCX0JPC21		See note *5

Notes:

Max. Qty : must satisfy the both limits of partition and system.

Mc / Nc max. M cards can be mounted per partition. / total N cards can be mounted in the system including PCI Boxes.

Pp / Qc the total number of ports of the same kind of cards is allowed up to P ports. / total Q cards can be mounted in the system including PCI Boxes.

*1) Broadcom Fibre Channel Cards and Qlogic Fibre Channel Cards CANNOT be used in the same partition.

*2) Max total ports number of "Broadcom Fibre Channel Cards" and "LAN cards" per partition is 16 ports.

*3) Max number of 'PLAN EP X710-DA2 2x10Gb SFP+' [MC-QJXEK1/MC-QJXEK2] per partition is 8. [Restriction] Max. number for these products per system is 24.

*4) Max. number depends on the configuration of CPU and PSU. Please refer 'Power Supply Unit' for details.

*5) Two connect cards are mountable per I/O units. Max. four connect cards are mountable to two I/O units as the maximum number of I/O units in a system.

*6) EP420i and EP420e, or EP540i/580i and EP420e/EP540e are supported with a total of up to 2 cards by ESXi.

Emulex FC (LPe3100x, LPe3200x) is supported with a total of up to 8 cards by ESXi.

Qlogic FC (QLE2690, QLE2692, QLE2740, QLE2742) is supported with a total of up to 8 cards by ESXi.

Mellanox PLANs(25/40/100Gb) are supported with a total of up to 4 ports by ESXi.

Up to 16 10Gb ports are supported by ESXi 6.7.

Refer to the following documents for restriction on VMware vSphere.

<https://configmax.vmware.com/home>

*6) Mixing of Mellanox 25G/40G/100G LAN card and 100G infiniband HCA card is not allowed.

*7) EP420i and EP540i/580i are not allowed to be populated together in a partition.

15. Available OS (2)

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Product name	Order number			OS							
	Build to Order	BTO for PCI Box	Loose Delivery	Windows (1)	Windows (2)	Red Hat (3)	SUSE (4)	VMware (5)	Oracle Linux (6)	Oracle VM (7)	
PFC EP LPe31000 1x 16Gb Emulex	MC-0JFCF1	MC-0JFCF2	MCX0JFCF1	A	p	7.6 8	12SP4 15	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Broadcom LPe31000
PFC EP LPe31002 2x 16Gb Emulex	MC-0JFCG1	MC-0JFCG2	MCX0JFCG1	A	A	7.6 7.7 8	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Broadcom LPe31002
PFC EP LPe32000 1x 32Gb Broadcom	MC-0JFCM1	MC-0JFCM2	MCX0JFCM1	A	A	7.6 7.7 8	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Broadcom LPe32000
PFC EP LPe32002 2x 32Gb Broadcom	MC-0JFCN1	MC-0JFCN2	MCX0JFCN1	A	A	7.6 7.7 8	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Broadcom LPe32002
PFC EP QLE2690 1x 16Gb Qlogic	MC-0JFCP1	MC-0JFCP2	MCX0JFCP1	A	A	7.6 8	p	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Qlogic QLE2690
PFC EP QLE2692 2x 16Gb Qlogic	MC-0JFCQ1	MC-0JFCQ2	MCX0JFCQ1	A	A	7.6 8	p	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Qlogic QLE2692
PFC EP QLE2740 1x 32Gb Cavium	MC-0JFCK1	MC-0JFCK2	MCX0JFCK1	A	A	7.6 8	15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Qlogic QLE2740
PFC EP QLE2742 2x 32Gb Cavium	MC-0JFCL1		MCX0JFCL1	A	A	7.6 8	15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Qlogic QLE2742
PLAN CP 2x1 Gbit Cu Intel I350-T2	MC-0JGEC1	MC-0JGEC2	MCX0JGEC1	A	A	7.6 7.7 8 8.1	12SP4 12SP5 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Intel I350-T2
PLAN CP 4x1 Gbit Cu Intel I350-T4	MC-0JGED1	MC-0JGED2	MCX0JGED1	A	A	7.6 7.7 8 8.1	12SP4 12SP5 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	3.4.6.1	* Intel I350-T4
PLAN EP X550-T2 2x10GBASE-T	MC-0JXEJ1	MC-0JXEJ2	MCX0JXEJ1	A	A	7.6 7.7 8 8.1	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Intel X550-T2
PLAN EP X710-DA2 2x10Gb SFP+	MC-0JXEK1	MC-0JXEK2	MCX0JXEK1	A	A	7.6 7.7 8 8.1	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* Intel X710-DA2
PLAN EP X710-T4 4x10GBASE-T LP	MC-0JXF11		MCX0JXF11	A	A	7.6 7.7 8 8.1	12SP4 15 15SP1	6.5U3 6.7U2 6.7U3	NA	NA	* Intel X710-T4
PLAN EP X710-DA4 4x10Gb SFP+ LP	MC-0JXF71		MCX0JXF71	A	A	7.6 7.7 8 8.1	12SP4 15 15SP1	6.5U3 6.7U2 6.7U3	NA	NA	* Intel X710-DA4
SFP+ Module Multi Mode Fiber 10GbE LC	MC-0JXEL1		MCX0JXEL1	-	-	-	-	-	-	-	
PLAN EP XXV710-DA2 2x 25GbE	MC-0JXEH1		MCX0JXEH1	A	A	7.6 7.7 8 8.1	12SP4 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	NA	NA	* Intel XXV710-DA2
SFP28 Module Multi Mode Fiber 25GbE LC	MC-0JCEJ1		MCX0JCEJ1	-	-	-	-	-	-	-	
PLAN EP QL41112 2x10GbE-T	MC-0JXF21	MC-0JXF22	MCX0JXF22	A	p	p	15	6.7U1	NA	NA	* Cavium QL41112HLRJ
PLAN EP QL41132 2x10GbE SFP+	MC-0JXF41	MC-0JXF42	MCX0JXEK1	A	p	p	15	6.7U1	NA	NA	* Cavium QL41132HLCU
PLAN EP QL41212 2x25GbE SFP28	MC-0JFEA1		MCX0JFEA1	A	p	p	15	6.7U1	NA	NA	* Cavium QL41212
PLAN EP QL45611 1x100Gb	MC-0JFEB1		MCX0JFEB1	A	p	p	15	6.7U1	NA	NA	* Cavium QL45611HLCU
PLAN EP MCX4121A-ACAT 2x25GbE	MC-0JFE11		MCX0JFE11	A	A	7.6	15	6.5U3 6.7U2 6.7U3	NA	NA	* Mellanox MCX4121A-ACAT
SFP28 MMA2P00-AS	MC-0JFE21		MCX0JFE21	-	-	-	-	-	-	-	
PLAN EP MCX416A-BCAT 2x40GbE	MC-0JFE41		MCX0JFE41	A	A	7.6	15	6.5U3 6.7U2 6.7U3	NA	NA	* Mellanox MCX416A-BCAT
QSFP MC2210411-SR4	MC-0JFEC1		MCX0JFEC1	-	-	-	-	-	-	-	
PLAN EP MCX415A-CCAT 1x100GbE	MC-0JFE71		MCX0JFE71	A	A	7.6	15	6.5U3 6.7U2 6.7U3	NA	NA	* Mellanox MCX415A-CCAT
QSFP28 MMA1B00-C100D	MC-0JFE81		MCX0JFE81	-	-	-	-	-	-	-	
QSFP28 MMS1C10-CM	MC-0JFE91		MCX0JFE91	-	-	-	-	-	-	-	
100Gb 1 port Omni Path	MC-0JOP11		MCX0JOP11	NA	NA	7.6	12SP4 15	NA	NA	NA	
Single Channel IB HCA Card (100Gbps)	MC-0JHCB1		MCX0JHCB1	NA	NA	7.6 8	12SP4 15 15SP1	NA	NA	NA	
PCIe-SSD 2TB P4600 (3DWPD)	MC-0JSDG1		MCX0JSDG1	A	p	p	p	6.7U1	NA	NA	* Intel P4600 SSD AIC
PCIe-SSD 4TB P4600 (3DWPD)	MC-0JSDH1		MCX0JSDH1	A	p	p	p	6.7U1	NA	NA	* Intel P4600 SSD AIC
PRAID EP420e	MC-0JSRB1	MC-0JSRB2	MCX0JSRB1	A	A	7.6 7.7 8 8.1	12SP4 12SP5 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* EP420e
FBU for Ext. SAS RAID Card	MC-0JFB51		MCX0JFB51	-	-	-	-	-	-	-	
FBU Mounting kit for IOUE2 EP420e	MC-0HCKC1		MCX0HCKC1	-	-	-	-	-	-	-	
FBU kit B EP540e	MC-0HCKB1		MCX0HCKB1	-	-	-	-	-	-	-	
Dual channel 12Gbps SAS Card	MC-0JSS41	MC-0JSS42	MCX0JSS41	A	A	7.6 7.7 8	12SP4 12SP5 15 15SP1	6.5U3 6.7U1 6.7U2 6.7U3	7.7	3.4.6.1	* CP400e

16.Restrictions

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The following functions are restricted as of July 2019.

No.	
1	Intel 10GbE LAN cards [MC*0JXEK*] (X710-DA2) can be mounted up to eight per PPAR.
2	"Intel TXT" does not work.
3	Intel 10GbE-T LAN cards [MC*0JXEJ*] (X550-T2) does not work on Windows OS with Legacy mode.
4	Please update NVM version to 6.01 when XXV710-DA2 [MC*0JXEH1] and X710-DA2 [MC*0JXEK*] are mounted to the same chassis.
5	Mellanox 25/40/100Gb LAN cards [MC*0JFE11/MC*0JFE41/MC*0JFE71], Mellanox Infiniband cards do not work in the same Partition.
6	Intel TXT function of Windows Server 2016 does not work with PRIMEQUEST.
7	In the Legacy mode, the installation of Windows OS cannot be done to the M.2 flash device [MC*5FB741/MC*5FB751]. Please use the uEFI mode.
8	TPM module does not work with Windows Server 2019.
9	The iSCSI does not work with VMware 6.5.
10	Address range mirror is not supported with VMware.
11	Secure Boot does not work with Linux OSes.
12	EP540i, EP580i [MC*0JSR71/MC*0JSR81] and EP540e don't work with Extended Partition.
13	Infiniband cards do not work with Extended Partition.
14	Don't update the firmware of QLE269x and QLE274x [MC*0JFCP*/MC*0JFCQ*/MC*0JFCK*/MC*0JFCL*] to 8.08.05 or later, if they are on PCI-BOX with Extended Partition.
15	M.2 Flash device with only SLES12 SP4 are supported. Other OSes are planned.
16	Oracle Linux/VM do not support SAN-Boot.
17	Apply the firmware PB19033 or later for the following CPUs. Intel Xeon Platinum 8260 [MC*3BKC1*/ MC*2BKC1*/ MC*1BKC11]
18	When using Extended Partitioning function with SLES15, apply the firmware PB19054 or later.
19	Quad channel LAN card (10GBASE-T) MC*0JXF11 is not supported on Windows Server.
20	When using a dual channel SAS array controller card (12 Gbps) 4 GB cache (MC*0JSRC*), apply the firmware PB19061 (BIOS 01.21 version) or later.
21	When using M.2 flash device [MC*5FB741/MC*5FB751/MC*5FB771], apply the firmware PB19043 or later.
22	When using eLCM function, apply the firmware PB19053 or later.
23	Apply the firmware PB19053 or later for the following CPUs. Intel Xeon Gold 6262V[MC*3BRC11], 6244[MC*3BNL11], 6240L[MC*3BNF41], 6240M[MC*3BNF21], 6238L[MC*3BND41], 6238M[MC*3BND21], 6238[MC*3BND11], 6234[MC*3BPL11], 6226[MC*3BNJ11], 6222V[MC*3BPE11]

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Change Report

Date	Order number	Changes
April 10th, 2020		Ver. 5.1
January 10th, 2020		Ver. 5.0
November 15th, 2019		Ver. 4.0
September 17th, 2019		Ver. 3.0
July 2nd, 2019		Ver. 2.0
April 2nd, 2019		Ver. 1.0