



FUJITSU Server

PRIMEQUEST 3800B2

System Configuration Guide

Feb. 26, 2024 Ver. 6.1

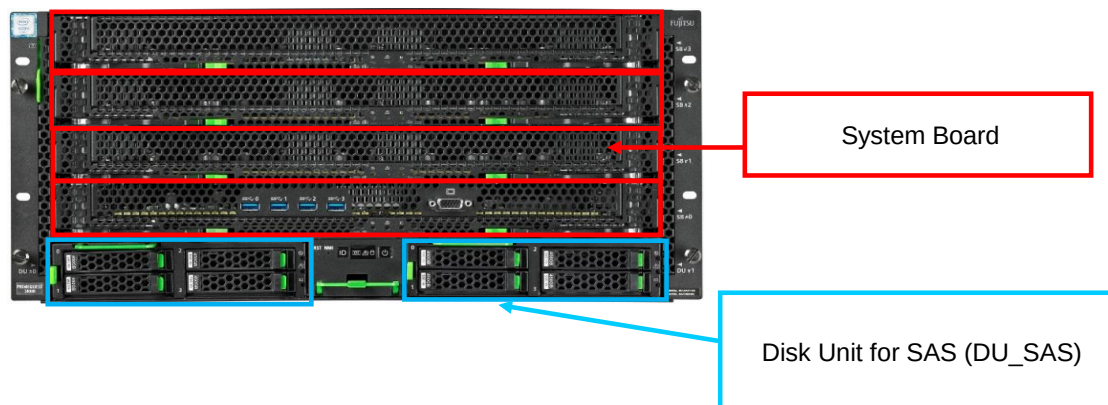
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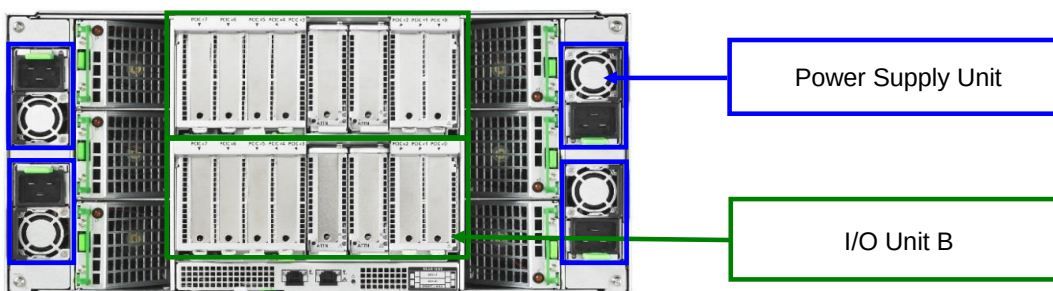
1. Overview

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Front side

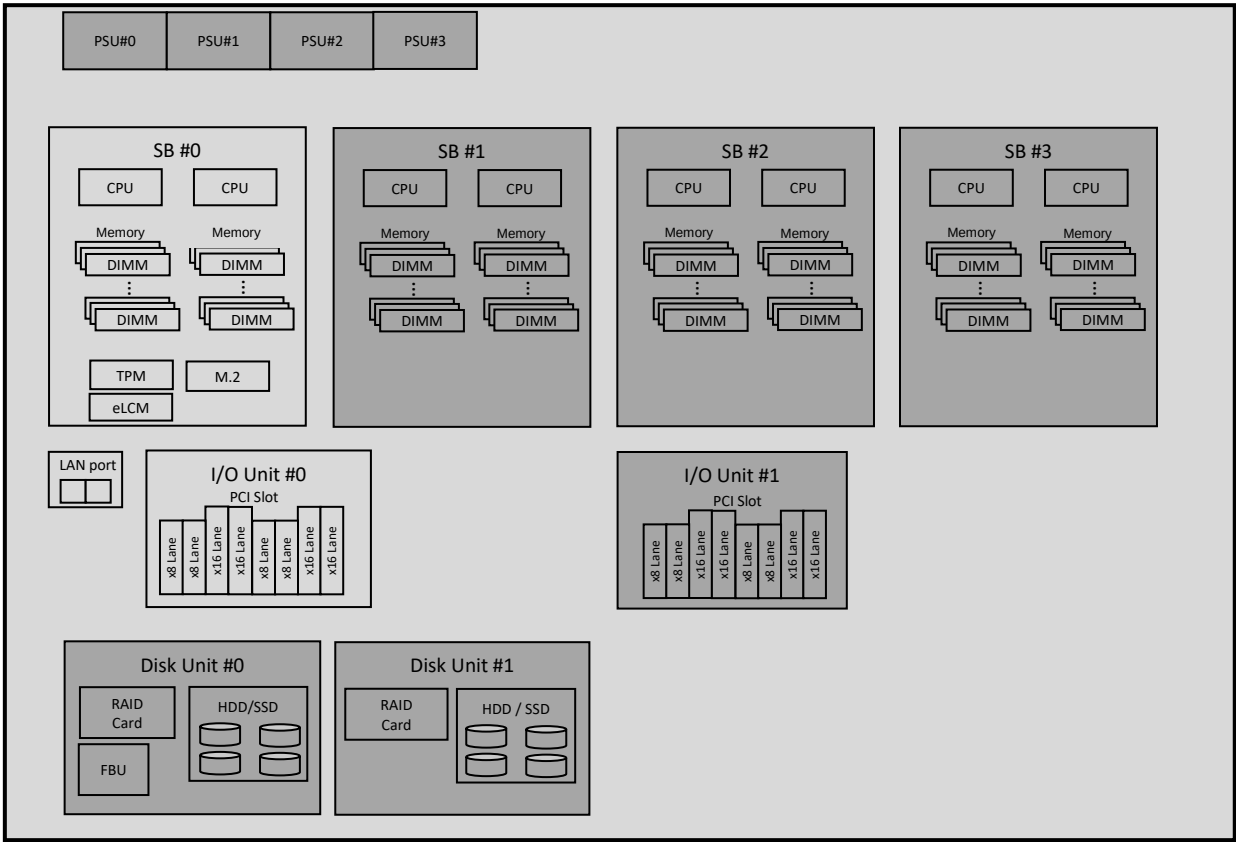


Rear side



Configuration Diagram

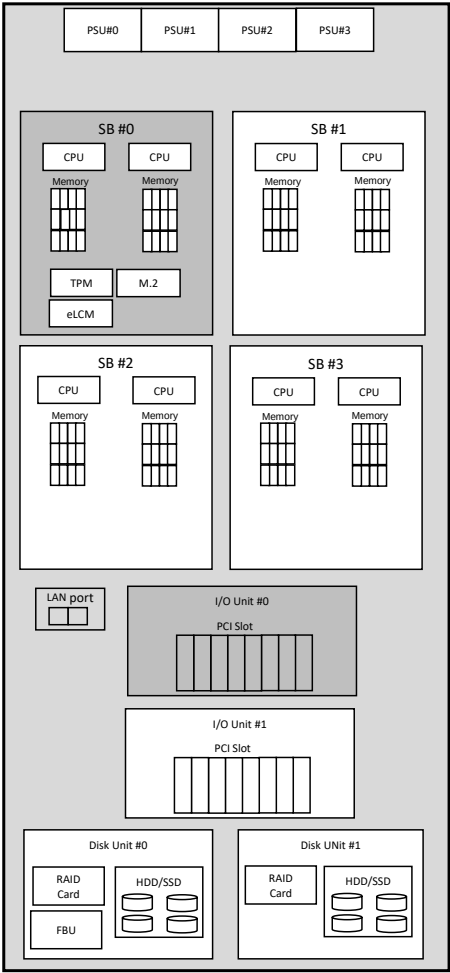
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Light gray color components are included in Base Unit.
Dark gray color components are optional.

2.Base Unit

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Part Numbers Legend:
Part numbers:
MC-***** is a Build-to-Order (BTO) option to be assembled with Base Unit
MCX***** is an option to be shipped separately from a 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 Rack Mount Kit

PRIMEQUEST 3800B2 Base Unit
MCK3AC111B

- 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. 2x I/O Units can be mounted.
- PCI Boxes cannot be connected.
- 1x Management LAN
- 1x 1GbE (RJ45) (Shared LAN)
- PSUs need to be ordered, Max. 4x PSUs can be mounted.
- 6x Fan units are included in the Base Unit with redundancy.
- Power cords need to be ordered. The quantity is equal to the quantity of PSU.
- Rack space : 5U

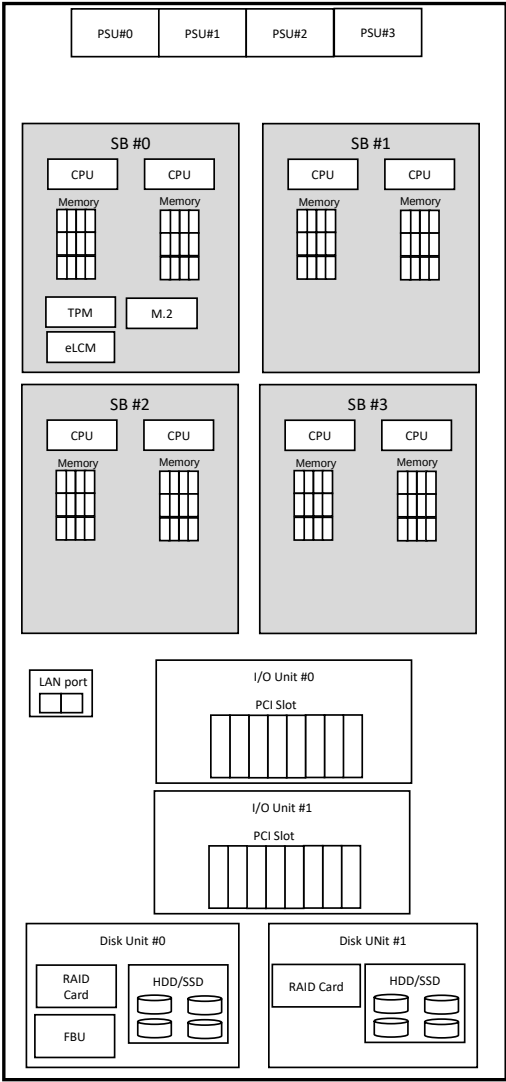
Advanced Thermal Design Option
MC-0PTH2
Operating temperature of up to 40°C

When this option is selected, CPUs exceeding 165W can

→ System Board

3.System Board

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

System Board
MC-3HSBD1B / MCX3HSBD1B (LD)

- 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.
- 2 x CPUs and min. 2 x memory modules (4 x DIMMs) need to be mounted per 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 3800B2
- One License per system

TPM module V2.0
MC-6HTP51 / MCX6HTP51(LD)

- Available except for China
- One for System Board

→ USB Flash Device & M.2 Flash Device

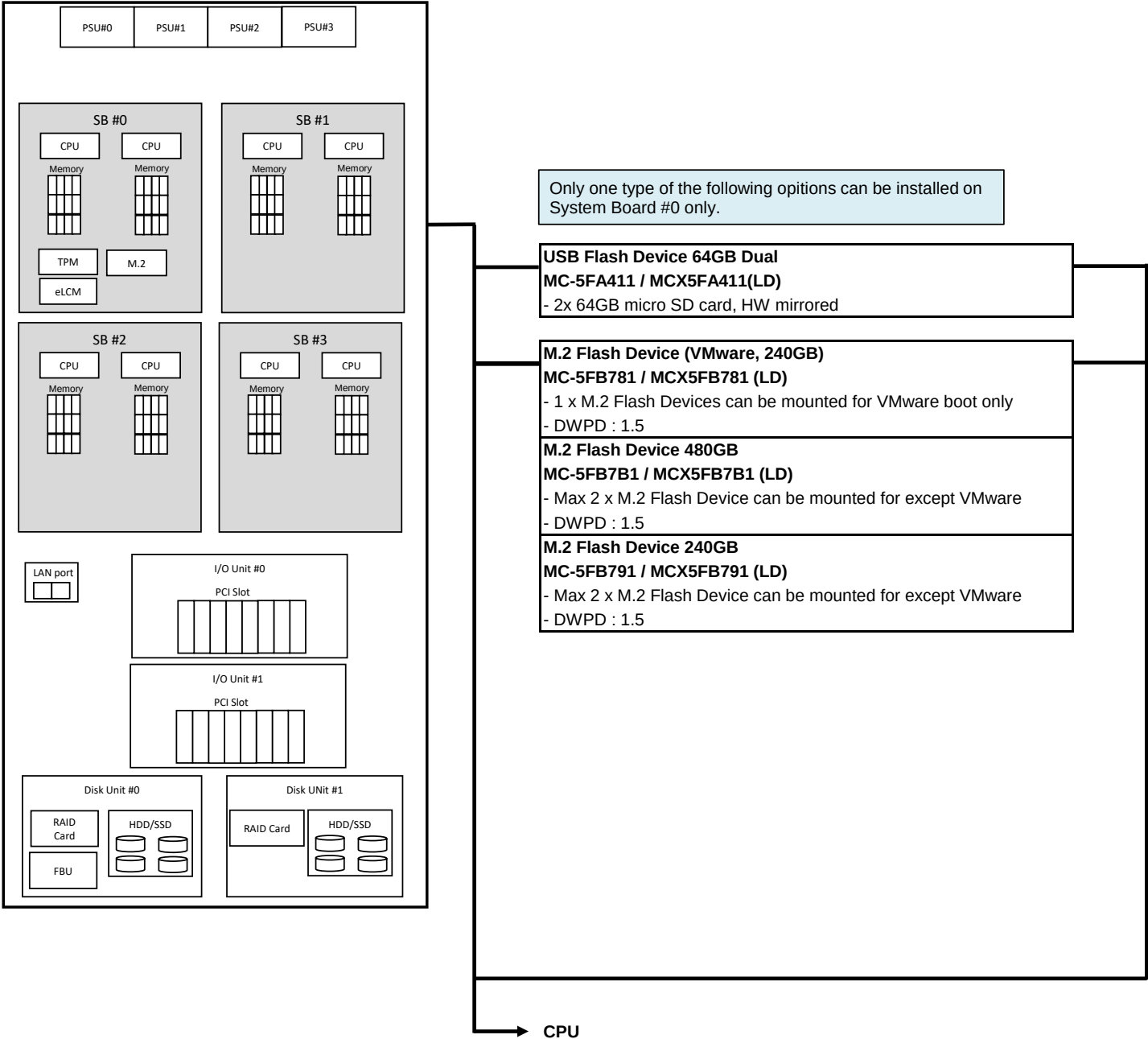
Available combination of CPU and memory per System Board

		Number of CPU	
		1	2
Memory in units of two DIMMs	1	C	C
	2	C	A
	3	C	B
	~	C	B
	12	C	B

A : The combination is available. The quantity of memory is the minimum quantity.
B : The combination is available.
C : The combination is NOT available.
* 2x CPUs need to be mounted on each System Board.

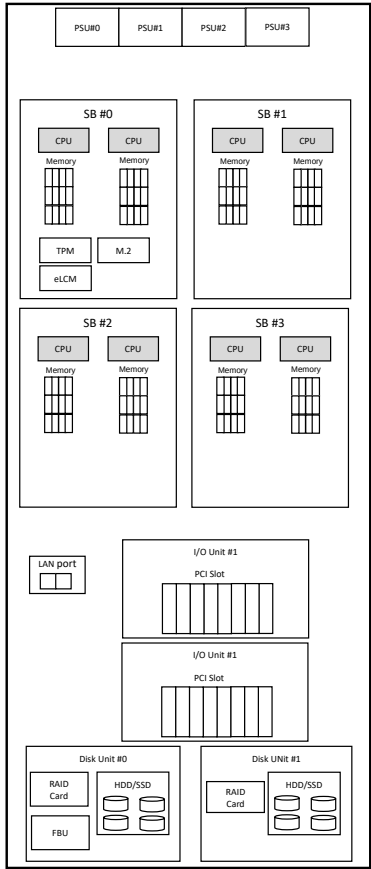
USB Flash Device & M.2 Flash Device

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4.CPU

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All CPUs have to be the same type.

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

Intel® Xeon® Platinum 8280L Processor (28C/2.7GHz/4.5TB/205W)
MC-3BJA41B / MCX3BJA41B(LD)
- 2x CPUs per System Board., Max. 4.5TB memory per CPU

Intel® Xeon® Platinum 8280 Processor (28C/2.7GHz/1TB/205W)
MC-3BJA11B / MCX3BJA11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8276L Processor (28C/2.2GHz/4.5TB/165W)
MC-3BKA41B / MCX3BKA41B(LD)
- 2x CPUs per System Board., Max. 4.5TB memory per CPU

Intel® Xeon® Platinum 8276 Processor (28C/2.2GHz/1TB/165W)
MC-3BKA11B / MCX3BKA11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8270 Processor (26C/2.7GHz/1TB/205W)
MC-3BKB11B / MCX3BKB11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8268 Processor (24C/2.9GHz/1TB/205W)
MC-3BJC11B / MCX3BJC11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8260L Processor (24C/2.4GHz/4.5TB/165W)
MC-3BKC41B / MCX3BKC41B(LD)
- 2x CPUs per System Board., Max. 4.5TB memory per CPU

Intel® Xeon® Platinum 8260 Processor (24C/2.4GHz/1TB/165W)
MC-3BKC11B / MCX3BKC11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8253 Processor (16C/2.2GHz/1TB/125W)
MC-3BKG11B / MCX3BKG11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

Intel® Xeon® Platinum 8256 Processor (4C/3.8GHz/1TB/105W)
MC-3BKN11B / MCX3BKN11B(LD)
- 2x CPUs per System Board., Max. 1TB memory per CPU

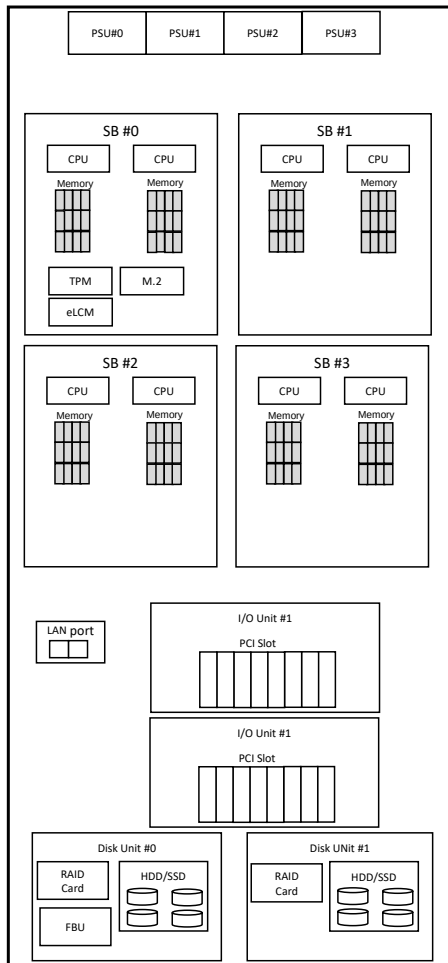
CPU mounting condition

# of SBs in one Base Unit	# of CPUs in one Base Unit
1SB	2
2SB	4
3SB	6
4SB	8

Memory

5.Memory

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At least one option needs to be mounted per CPU.

32GB memory (16GB 1Rx4 DDR4 RDIMM x2)

MC-3CE611B / MCX3CE611B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 16GB 2933MHz 1Rx4 RDIMMs

64GB memory (32GB 2Rx4 DDR4 RDIMM x2)

MC-3CE711B / MCX3CE711B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 32GB 2933MHz 2Rx4 RDIMMs

128GB memory (64GB 2Rx4 DDR4 RDIMM x2)

MC-3CE811B / MCX3CE811B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 64GB 2933MHz 2Rx4 RDIMMs

128GB memory (64GB 4Rx4 DDR4 LRDIMM x2)

MC-3CE821B / MCX3CE821B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 64GB 2933MHz 4Rx4 LRDIMMs

256GB memory (128GB 8Rx4 DDR4 LRDIMM 3DS x2)

MC-3CE911B / MCX3CE911B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 128GB 2933MHz 8Rx4 3DS-LRDIMMs

256GB memory (128GB 4Rx4 DDR4 LRDIMM x2)

MC-3CE931B / MCX3CE931B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 128GB 2933MHz 4Rx4 3DS-LRDIMMs

512GB memory (256GB 8Rx4 DDR4 LRDIMM 3DS x2)

MC-3CEA11B / MCX3CEA11B (LD)

- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 356GB 2933MHz 8Rx4 3DS-LRDIMMs

512GB memory (256GB 8Rx4 DDR4 RDIMM 3DS x2)

MC-3CEA21B / MCX3CEA21B (LD)

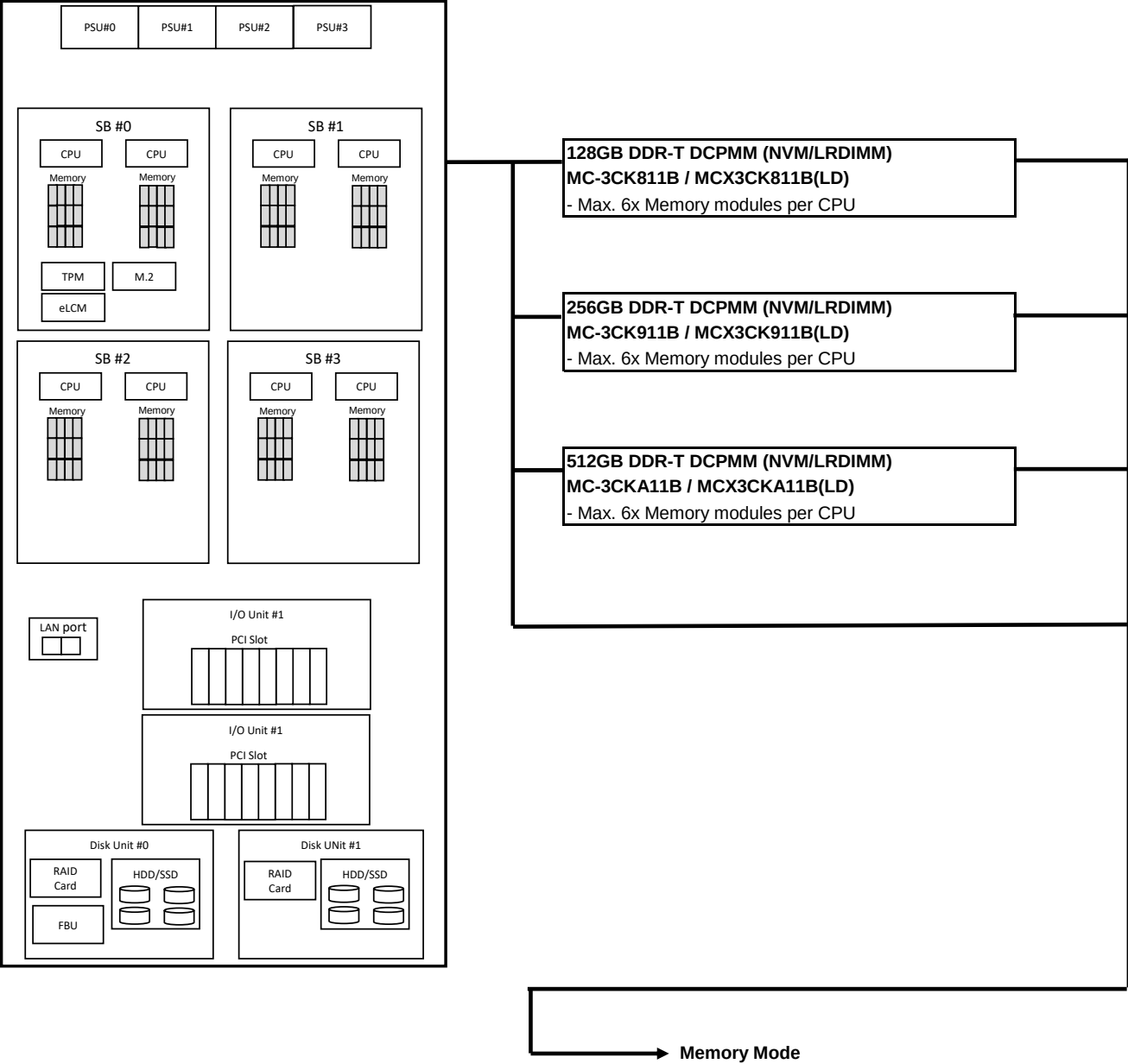
- Min. 1x Memory module (2 x DIMMs) needs to be mounted per CPU.
- Max. 6x Memory modules (12 x DIMMs) can be mounted per CPU.
- 2x 128GB 2933MHz 8Rx4 3DS-RDIMMs

* 256GB 8R LRDIMM can not be installed on a CPU with a memory limit of 1TB.

Memory 2

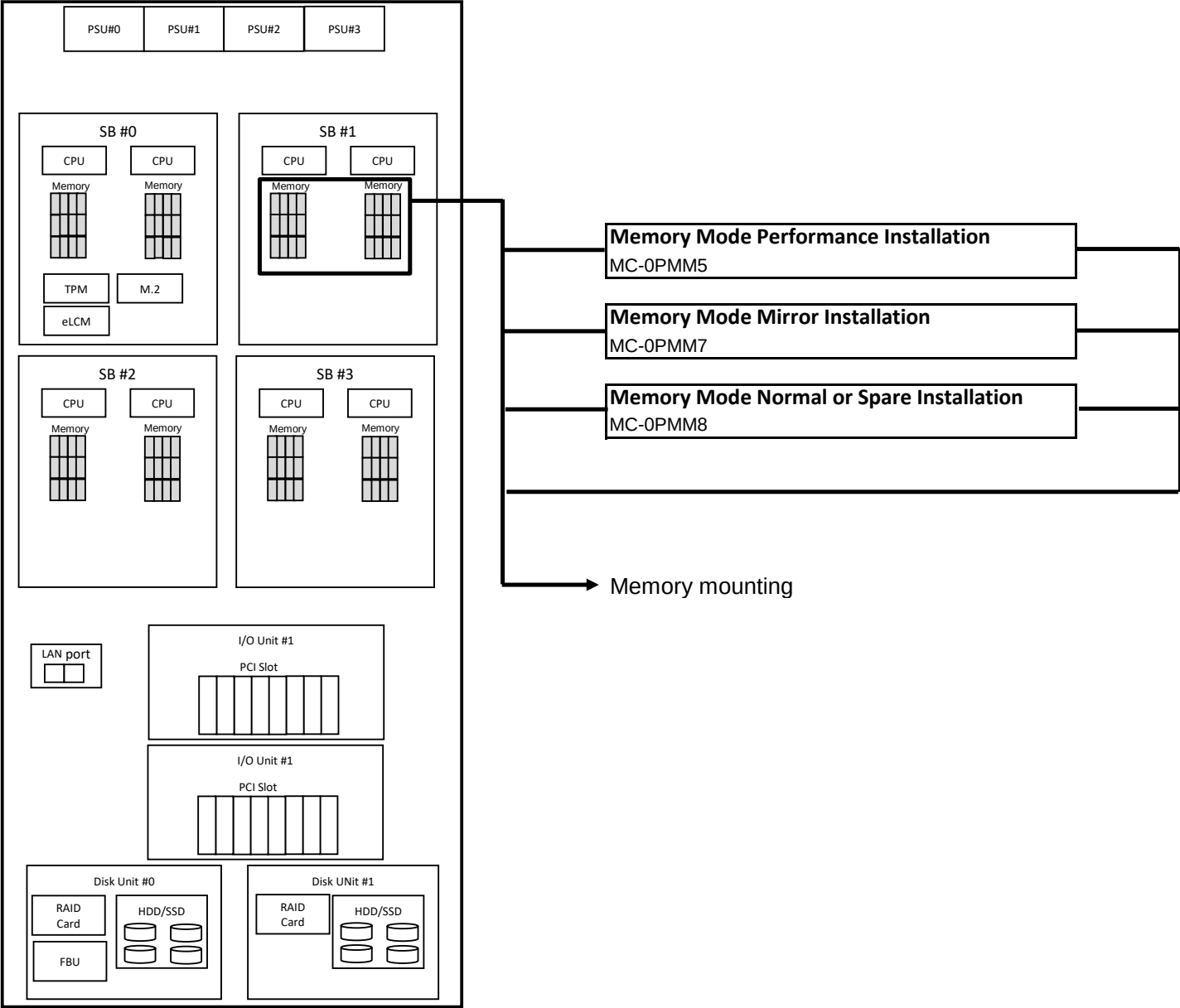
Memory 2

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Memory Mode

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When DCPMMs are installed, Memory Mode is limited. The following table shows the details.

Memory Mode of Albireo	Support	DCPMM Mode		
		Memory Mode	App Direct Mode	Memory Mode + App Direct Mode
Normal	Yes	Supported	Supported	Supported
Full Mirror	Yes	Not Supported	Supported	Supported
Address Range Mirror	Yes	Not Supported	Supported	Supported
Spare	No	Not Supported	Not Supported	Not Supported

Memory Mounting 1

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1. Memory

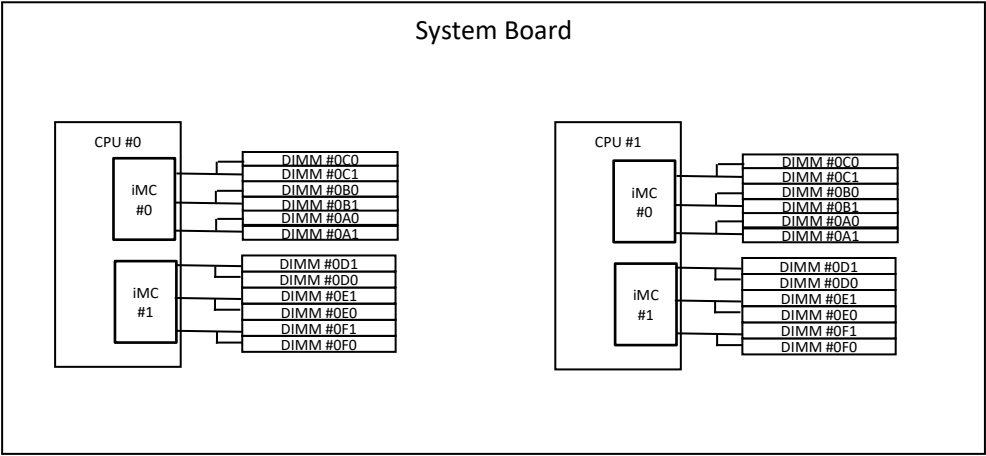
- (1) Memory module for PRIMEQUEST is composed of 2 x DIMMs.
- (2) At least 2 DIMMs have to be installed in one CPU (4 DIMMs in one SB) in Normal mode and Spare mode,
4 DIMMs have to be installed in one CPU (8 DIMMs in one SB) in Mirror mode.
- (3) Up to 12 DIMMs can be installed in each CPU.

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 3800B2

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
Red Hat® Enterprise Linux® 8	12
SUSE® Linux Enterprise Server 12 SP4	24
SUSE® Linux Enterprise Server 12 SP5	12
SUSE® Linux Enterprise Server 15	24
SUSE® Linux Enterprise Server 15 SP1 / SP2	12
VMware vSphere® 6.5	4
VMware vSphere® 6.7	4
VMware vSphere® 7	4



→ Memory Mounting 2

Memory Mounting 2

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DIMM mounting order on System Board

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						
				iMC#0			iMC#1			iMC#0			iMC#1			
				0A0	0B0	0C0	0D0	0E0	0F0	1A0	1B0	1C0	1D0	1E0	1F0	
				0A1	0B1	0C1	0D1	0E1	0F1	1A1	1B1	1C1	1D1	1E1	1F1	
Normal	Disabled	1	2	4(*1), 8	1	2	4(*1), 8	1	3	5(*1), 9	1	3	5(*1), 9	(*3)		
		6	6(*2)	10	6	6(*2)	10	7	7(*2)	11	7	7(*2)	11			
	Enabled	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			
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			
	Enabled	—	—	—	—	—	—	—	—	—	—	—	—			
		—	—	—	—	—	—	—	—	—	—	—	—			
Full Mirror/ Address Range Mirror	Disabled	1	1	4	1	1	4	1	1	5	1	1	5			
		2	2	4	2	2	4	3	3	5	3	3	5			
	Disabled (768GB CPU)	1	1	2	1	1	2	1	1	3	1	1	3	(*4)		
		—	—	—	—	—	—	—	—	—	—	—	—			
	Enabled	—	—	—	—	—	—	—	—	—	—	—	—			
		—	—	—	—	—	—	—	—	—	—	—	—			

(*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 4R LRDIMM	128GB 8R LRDIMM (3DS)	256GB 8R LRDIMM (3DS)	256GB 8R RDIMM (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				—	YES			
128GB 4R LRDIMM				YES	—			
128GB 8R LRDIMM (3DS)						—	YES	
256GB 8R LRDIMM (3DS)						YES	—	
256GB 8R LRDIMM (3DS)								—

YES: Mixable in DDR CH/SB

Blank: Not Mixable in DDR CH/SB

"—": 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	
System	YES	YES	

YES: Mixable in DDR CH/SB/System.

Blank: Not mixable in DDR CH/SB/System.

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
		0A1	0B1	0C1	0D1	0E1	0F1	0A1	0B1	0C1	0D1	0E1	0F1
Normal	Disabled	□	△	○	☆	▽	◇	■	▲	●	★	▼	◆
		♠	♥	♣	♞	♟	♠	♥	♣	♞	♟	♠	♥
	Enabled	□	△	○	☆	▽	◇	■	▲	●	★	▼	◆
		♠	♥	♣	♞	♟	♠	♥	♣	♞	♟	♠	♥
Sparing	Disabled	□	△	○	☆	▽	◇	■	▲	●	★	▼	◆
	Enabled	Not Supported											
Full Mirror (Mirror Keep) / Address Range Mirror	Disabled	□	□	□	△	△	△	■	■	■	▲	▲	▲
		○	○	○	☆	☆	☆	●	●	●	★	★	★
	Enabled	Not Supported											
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

		CPU#0						Remark
		iMC#0			iMC#1			
		0A0	0B0	0C0	0D0	0E0	0F0	
Mode	Pattern	0A1	0B1	0C1	0D1	0E1	0F1	
AD	2-2-2	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	Any DRAM
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	
MM	2-2-2	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	Any DRAM
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	
AD+MM	2-2-2	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	Except for 3DS LRDIMM
		DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	DCPMM1	
AD	2-1-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	Any DRAM
		DCPMM1	-	-	DCPMM1	-	-	
MM	2-1-1	DRAM2	DRAM2	DRAM2	DRAM2	DRAM2	DRAM2	RDIMM only (16 or 32GB)
		DCPMM1	-	-	DCPMM1	-	-	
AD+MM	2-1-1	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	Except for 3DS LRDIMM
		DCPMM1	-	-	DCPMM1	-	-	
AD	2-2-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	Any DRAM
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	
MM	2-2-1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	DRAM1	Any DRAM
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	
AD+MM	2-2-1	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	DRAM3	Except for 3DS LRDIMM
		DCPMM1	DCPMM1	-	DCPMM1	DCPMM1	-	

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%)

Datcenter Persistent Memory Modules (DCPMM)

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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

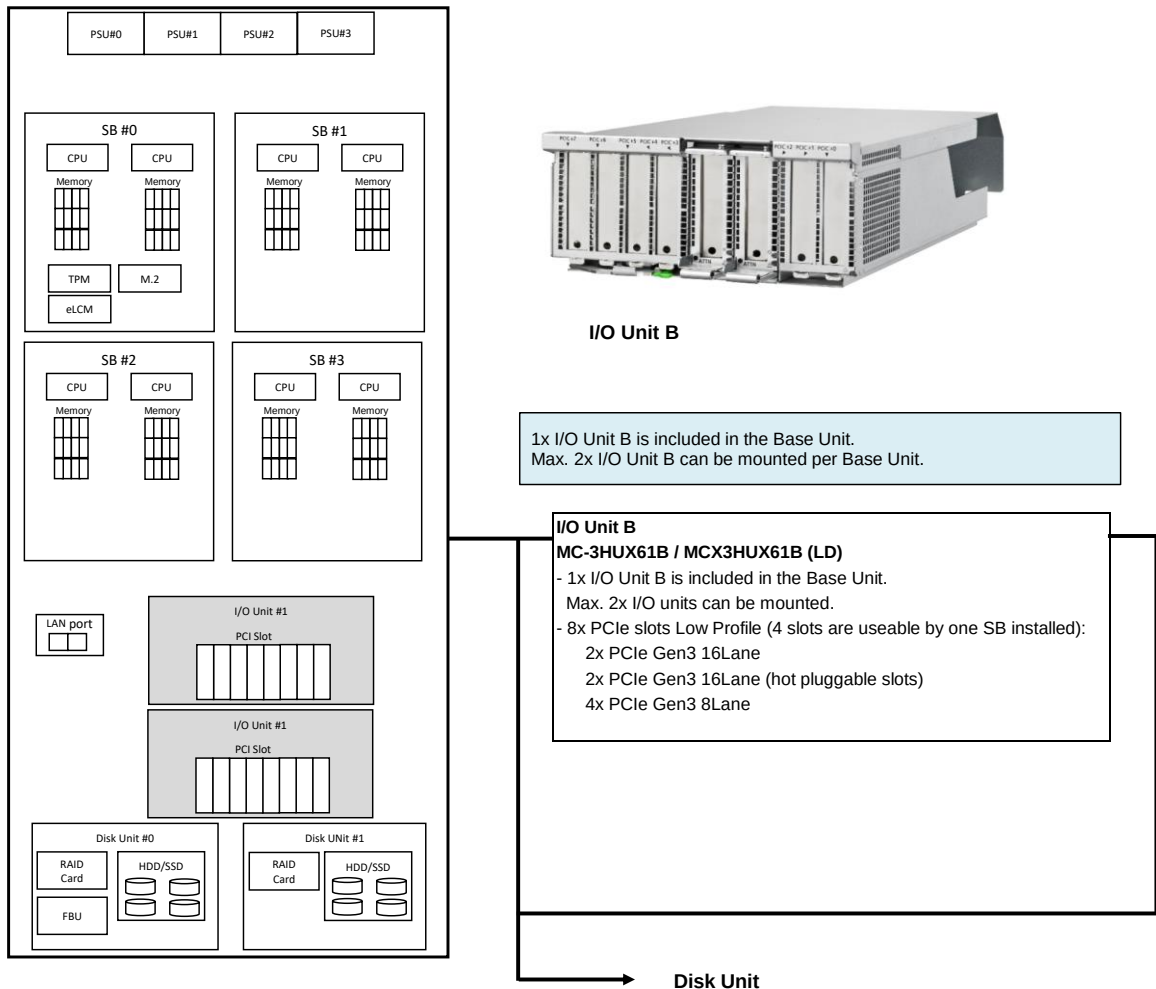
Boot from DCPMM namespace is not supported by ServerView Installation Manager.

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.
- The firmware of DCPMM and system BIOS must be updated to the latest version when replacing the DCPMMs.
- To replace DCPMM, the power of relevant server must be stopped.
- 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 iRMC 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.I/O Unit

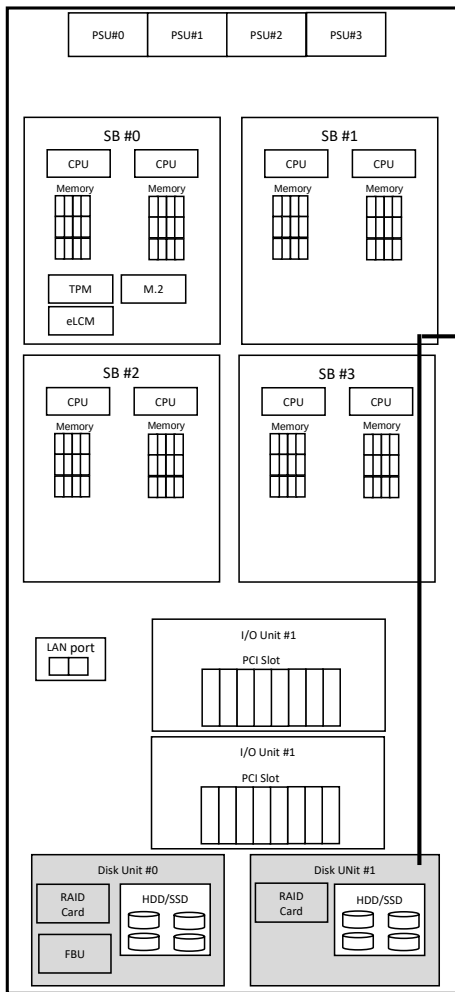


PCIe connection of PRIMEQUEST 3800B between SB, I/O Unit and Disk Unit.

			SB#0		SB#1		SB#2		SB#3	
			CPU#0	CPU#1	CPU#0	CPU#1	CPU#0	CPU#1	CPU#0	CPU#1
I/O Unit B#0	Slot#0	8Lane	enabled							
	Slot#1	8Lane	enabled							
	Slot#2	16Lane hotplug		enabled						
	Slot#3	16Lane hotplug		enabled						
	Slot#4	8Lane			enabled					
	Slot#5	8Lane			enabled					
	Slot#6	16Lane			enabled					
I/O Unit B#1	Slot#7	16Lane				enabled				
	Slot#0	8Lane					enabled			
	Slot#1	8Lane					enabled			
	Slot#2	16Lane hotplug						enabled		
	Slot#3	16Lane hotplug						enabled		
	Slot#4	8Lane							enabled	
	Slot#5	8Lane							enabled	
Disk Unit#0	Slot#6	16Lane							enabled	
	Slot#7	16Lane								enabled
Disk Unit#0			enabled							
Disk Unit#1						enabled				

7. Disk Unit

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Disk Unit

Max. 2x Disk Units can be mounted per Base Unit.

Disk Unit for SAS (DU_SAS)**MC-5H DU31B / MCX5H DU31B (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 (DU_SAS)**SAS RAID Controller Card (EP420i) *will reach EOL on 2024/3****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 *will reach EOL on 2024/3**MC-0JFB61 / MCX0JFB61 (LD)**

- Flash Backup Unit for RAID Controller EP420i with cache memory.

RAID Advanced SW Option CacheCade *will reach EOL on 2024/3**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

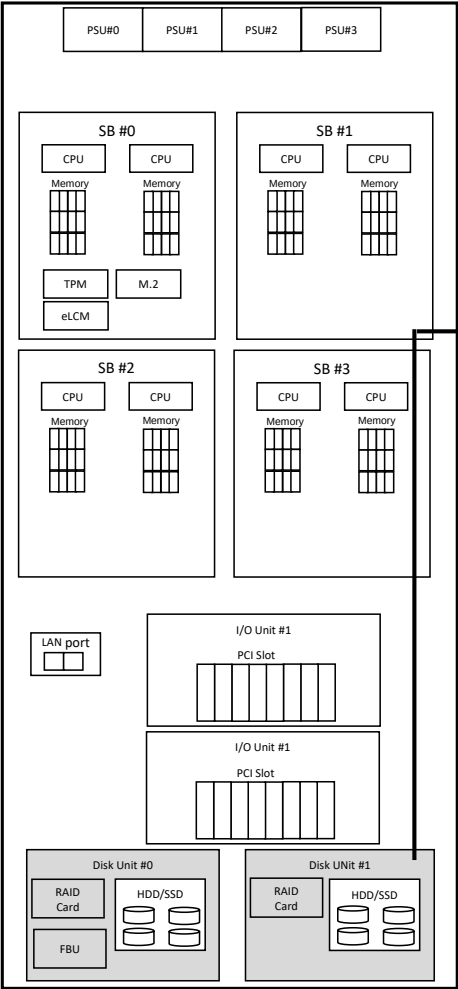
Flash Back-up Unit for EP5x0i**MC-0JFB41 / MCX0JFB41 (LD)**

- Flash Backup Unit for RAID Controller EP540i/EP580i with cache memory.

8. Dick for HDD or SSD

7.Disk Unit

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Disk Unit

Max. 2x Disk Units can be mounted per Base Unit.

Disk Unit for PCIe SFF
MC-5H DU61B / MCX5H DU61B (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 4x disk drives such as PCIe-SSD SFFs.
- 12Gbps for each disk drive. 4GB of cache memory
- RAID 0/1/1E/5/6/10 and hot spare supported

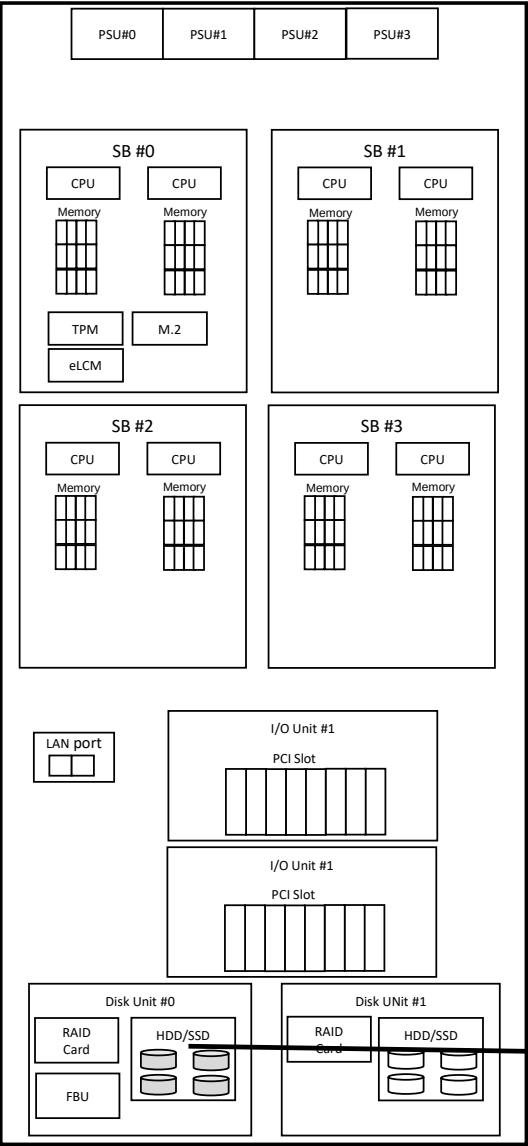
SAS RAID Controller Card (EP580i)
MC-0JSR81 / MCX0JSR81 (LD)

- One RAID Controller card enables to mount 4x disk drives such as PCIe-SSD SFFs.
- 12Gbps for each disk drive. 8GB of cache memory
- RAID 0/1/1E/5/6/10 and hot spare supported

8.Disk for PCIe SSD

8.HDD

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Max. 4 pcs of HDD/SSD can be mounted per the Disk Unit for SAS.

300GB Hard Disk Drive (512n/12Gbps/15,000rpm) *will reach EOL on 2024/3

MC-5DS771 / MCX5DS771 (LD)

- SAS 12Gbps, hot plug, 512n format

600GB Hard Disk Drive (512n/12Gbps/15,000rpm) *will reach EOL on 2024/3

MC-5DS961 / MCX5DS961 (LD)

- SAS 12Gbps, hot plug, 512n format

900GB Hard Disk Drive (512n/12Gbps/15,000rpm) *will reach EOL on 2024/3

MC-5DSA51 / MCX5DSA51 (LD)

- SAS 12Gbps, hot plug, 512n format

300GB Hard Disk Drive (512n/12Gbps/10,000rpm)

MC-5DS781 / MCX5DS781 (LD)

- SAS 12Gbps, hot plug, 512n format

600GB Hard Disk Drive (512n/12Gbps/10,000rpm)

MC-5DS971 / MCX5DS971 (LD)

- SAS 12Gbps, hot plug, 512n format

900GB Hard Disk Drive (512n/12Gbps/10,000rpm)

MC-5DSA61 / MCX5DSA61 (LD)

- SAS 12Gbps, hot plug, 512n format

1.2TB Hard Disk Drive (512n/12Gbps/10,000rpm)

MC-5DSB41 / MCX5DSB41 (LD)

- SAS 12Gbps, hot plug, 512n format

1.8TB Hard Disk Drive (512e/12Gbps/10,000rpm)

MC-5DSC21 / MCX5DSC21 (LD)

- SAS 12Gbps, hot plug, 512e format

2.4TB Hard Disk Drive (512e/12Gbps/10,000rpm)

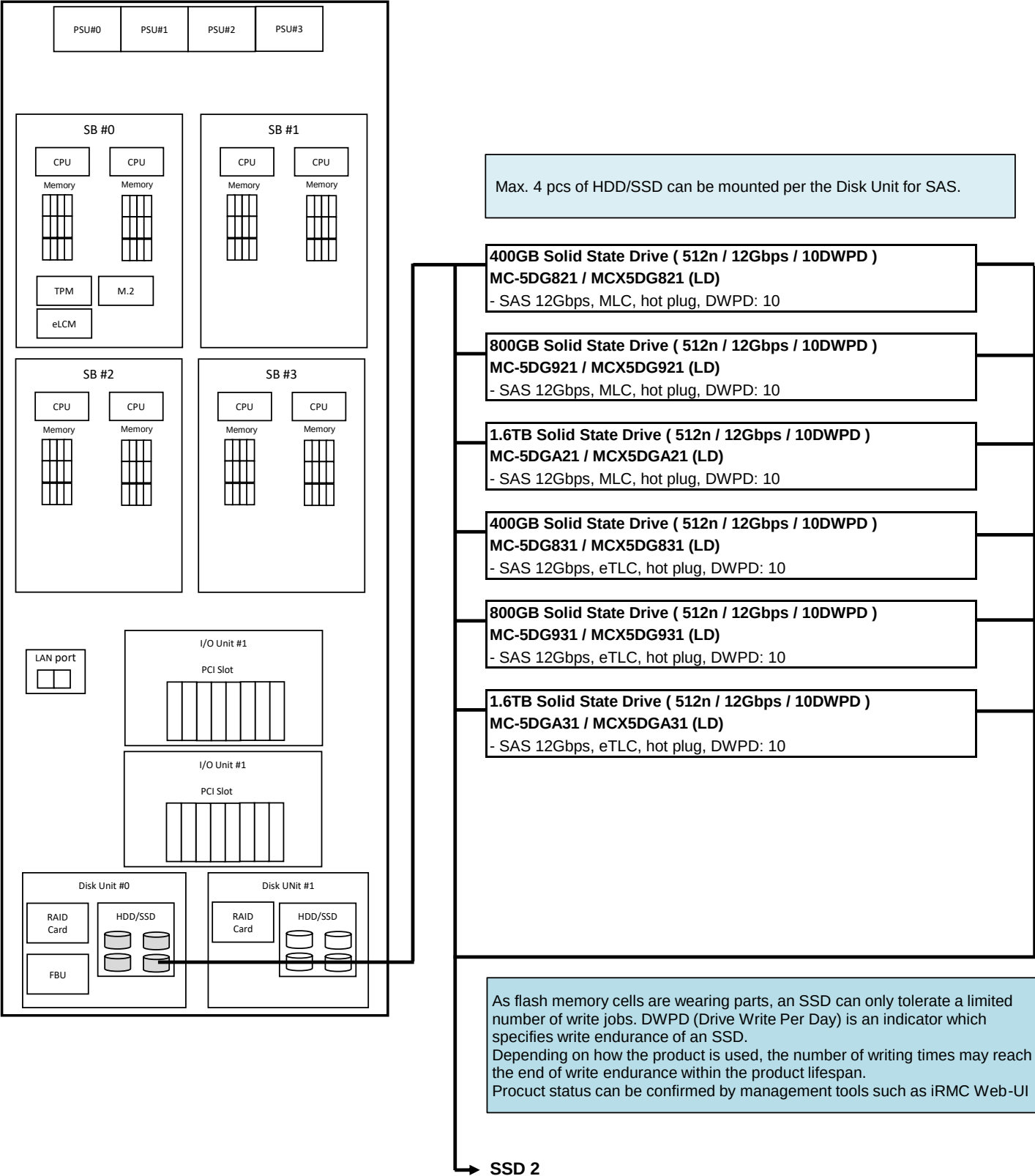
MC-5DSD11 / MCX5DSD11 (LD)

- SAS 12Gbps, hot plug, 512e format

SSD

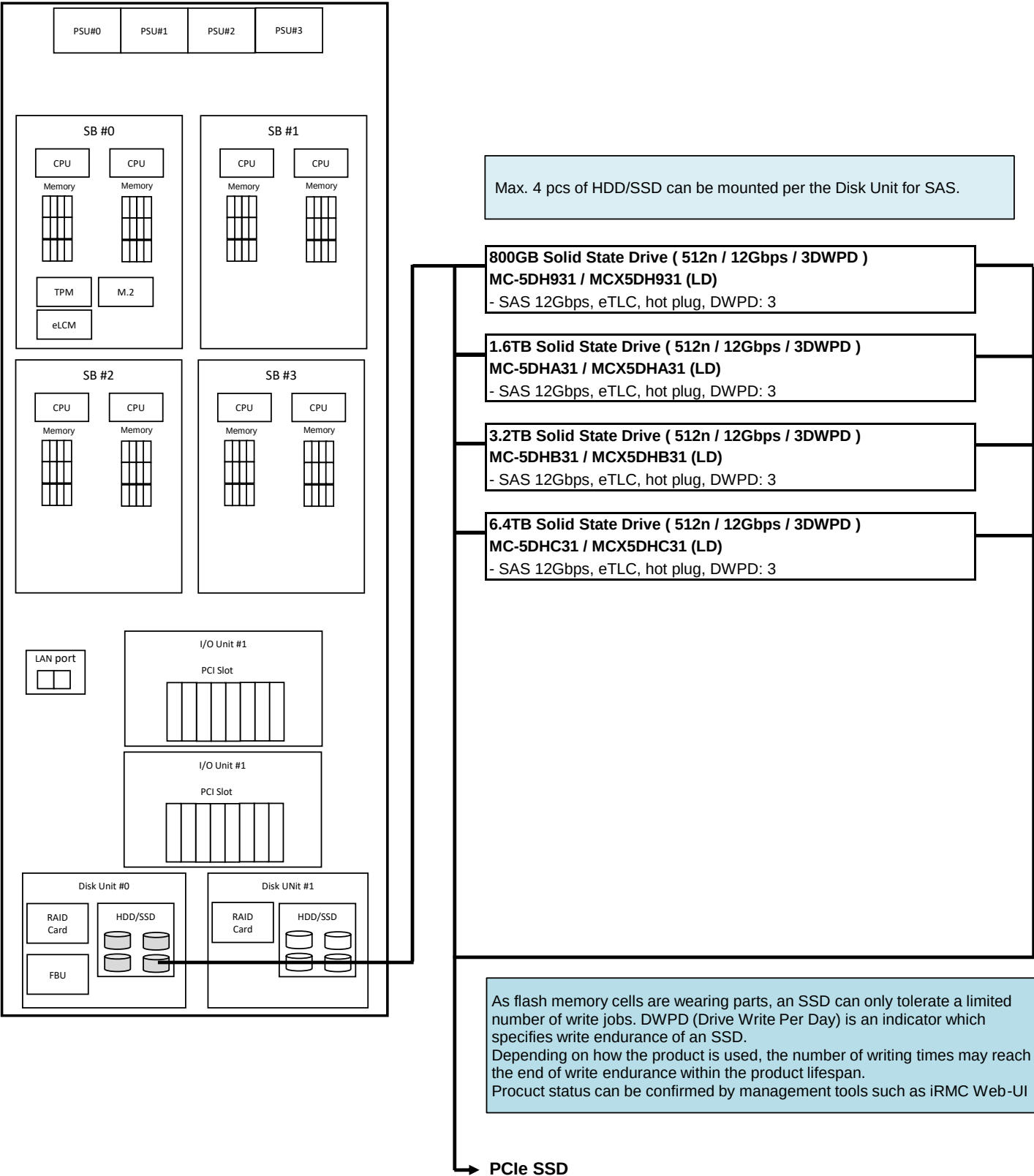
8.SSD

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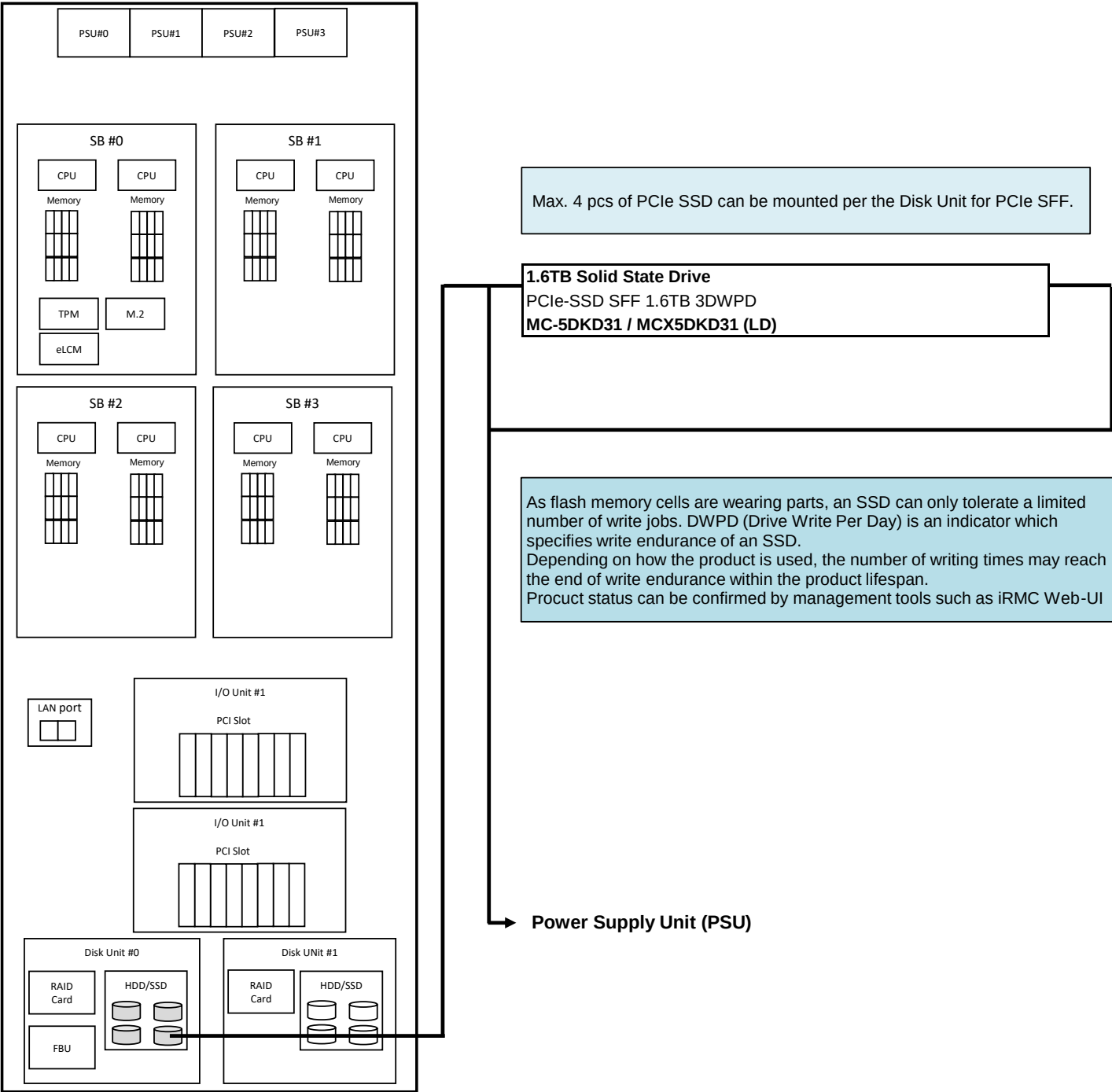
8.SSD

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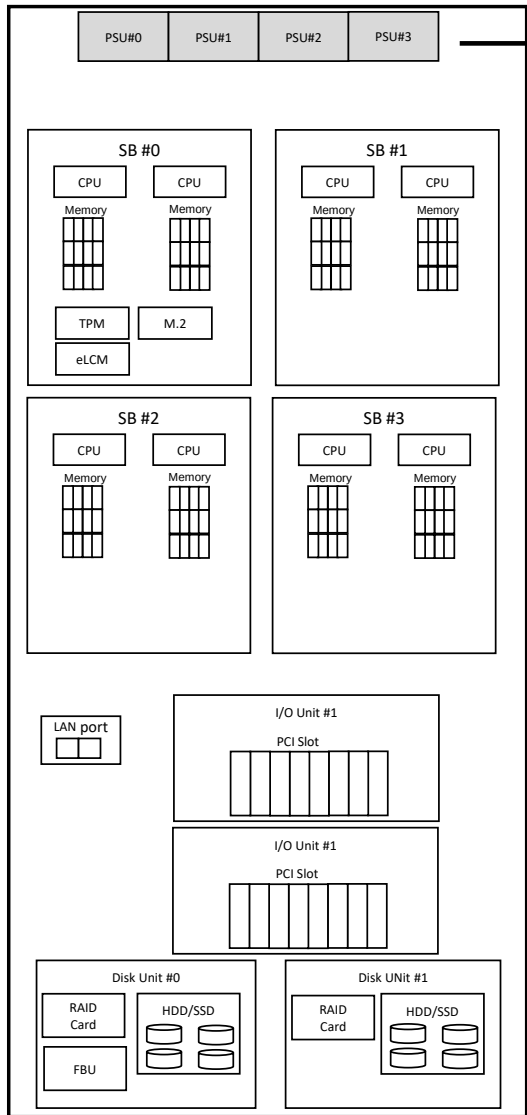
8.PCie SSD

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9.Power Supply Unit (PSU)

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Power Supply Unit (PSU)

At least two PSUs 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

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

AC Power input	Max. # of DCPMM	Redundancy	# of PSU	PSU Slots	Dual Power feed
Normal PSU 240V	0	Not redundant	2	No restriction	No
	0	redundant	2+1	No restriction	
	48	redundant	3+1	No restriction	
	0	redundant	2+2	No restriction	Yes

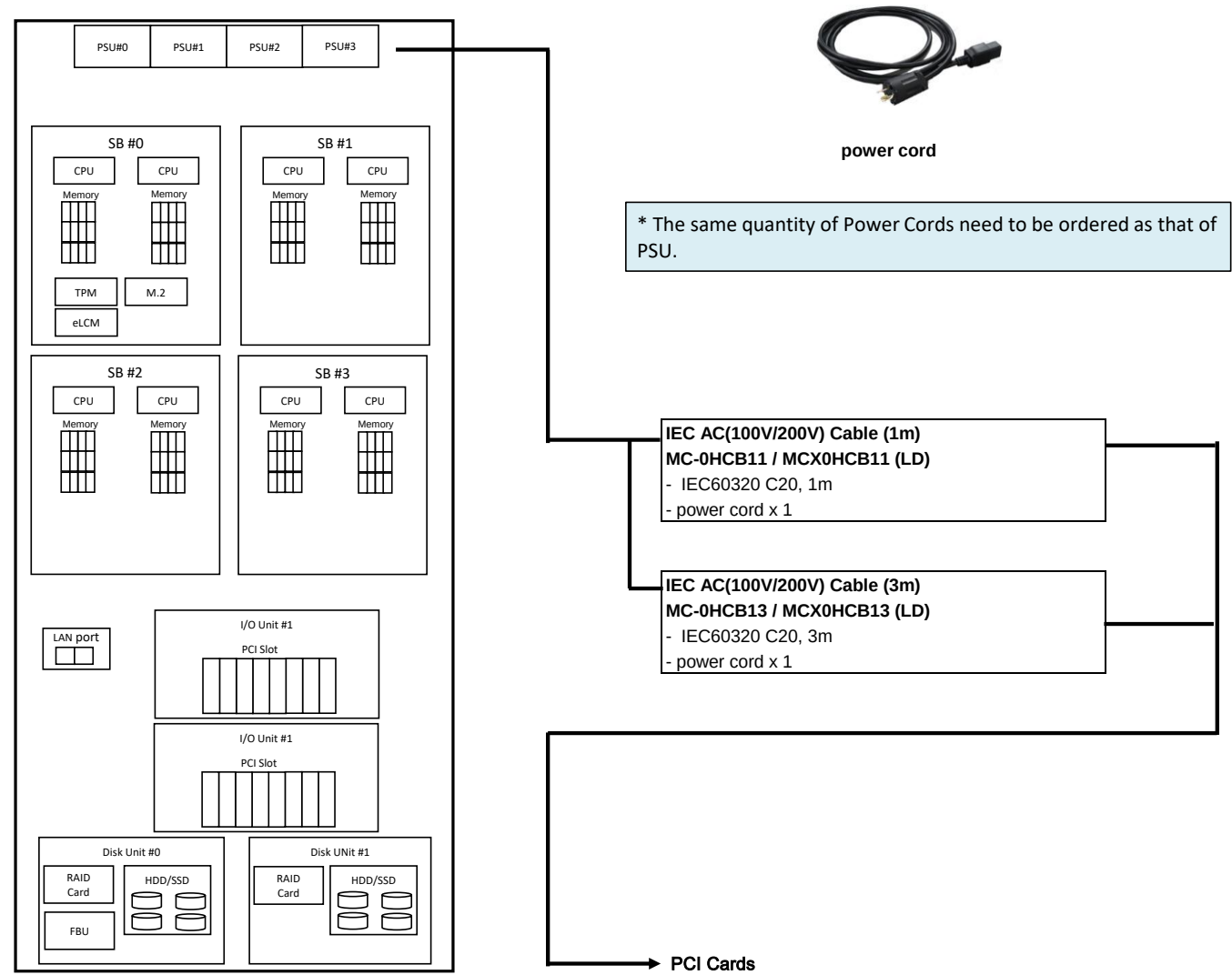
Dual power feed configuration will help to supply power even in the event of data center power feed failure and PSU failure.

AC Power input	Max. # of DCPMM	Redundancy	# of PSU	PSU Slots	Dual Power feed
High Power PSU	48	redundant	2+1	No restriction	No
		redundant	2+2	No restriction	Yes

Power Cords for Base Unit

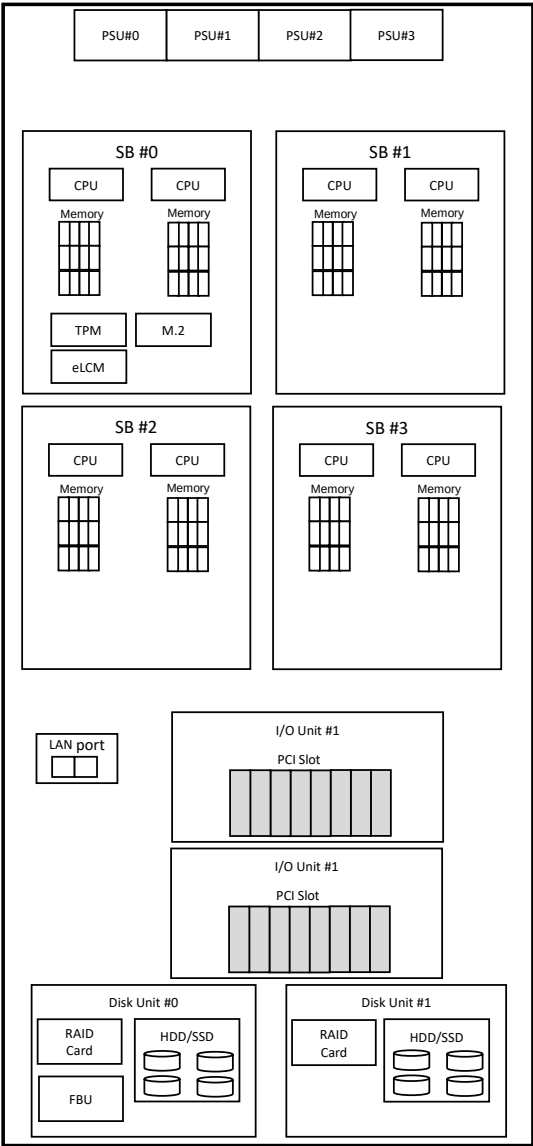
9.Power Cords for Base Unit

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10.PCI Cards

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Max. 16 cards can be mounted in Base Unit.
I/O Unit B : Max. 8 cards can be mounted per I/O Unit

- 2x PCIe Gen3 16Lane
- 2x PCIe Gen3 16Lane (hot pluggable slots)
- 4x PCIe Gen3 8Lane

PFC EP LPe31000 1x 16Gb Emulex LP
MC-0JFCF1 / MCX0JFCF1 (LD)
- Single Channel 16Gbps Fibre Channel Card, Low Profile

PFC EP LPe31002 2x 16Gb Emulex LP
MC-0JFCG1 / MCX0JFCG1 (LD)
- Dual Channel 16Gbps Fibre Channel Card, Low Profile

PFC EP LPe32000 1x 32Gb Broadcom LP
MC-0JFCM1 / MCX0JFCM1 (LD)
- Single Channel 32Gbps Fibre Channel Card, Low Profile

PFC EP LPe32002 2x 32Gb Broadcom LP
MC-0JFCN1 / MCX0JFCN1 (LD)
- Dual Channel 32Gbps Fibre Channel Card, Low Profile

PFC EP QLE2690 1x 16Gb Qlogic LP
MC-0JFCP1 / MCX0JFCP1 (LD)
- Single Channel 16Gbps Fibre Channel Card, Low Profile

PFC EP QLE2692 2x 16Gb Qlogic LP
MC-0JFCQ1 / MCX0JFCQ1 (LD)
- Dual Channel 16Gbps Fibre Channel Card, Low Profile

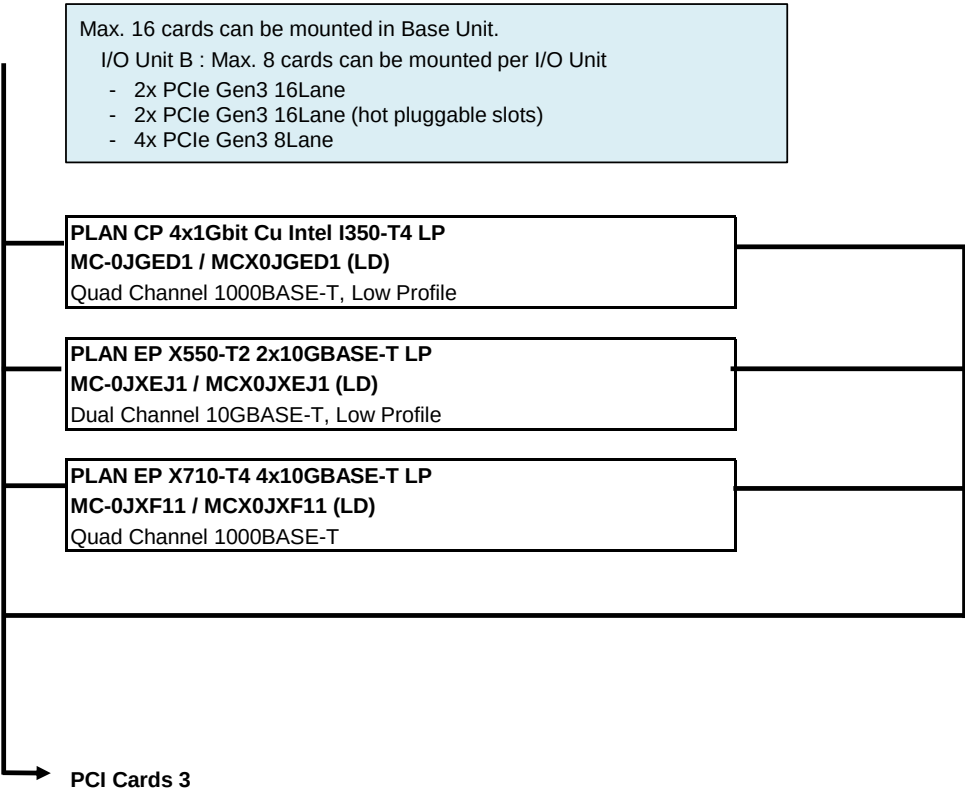
PFC EP QLE2740 1x 32Gb Cavium LP
MC-0JFCK1 / MCX0JFCK1 (LD)
- Single Channel 32Gbps Fibre Channel Card, Low Profile

PFC EP QLE2742 2x 32Gb Cavium LP
MC-0JFCL1 / MCX0JFCL1 (LD)
- Dual Channel 32Gbps Fibre Channel Card, Low Profile

→ PCI Cards 2

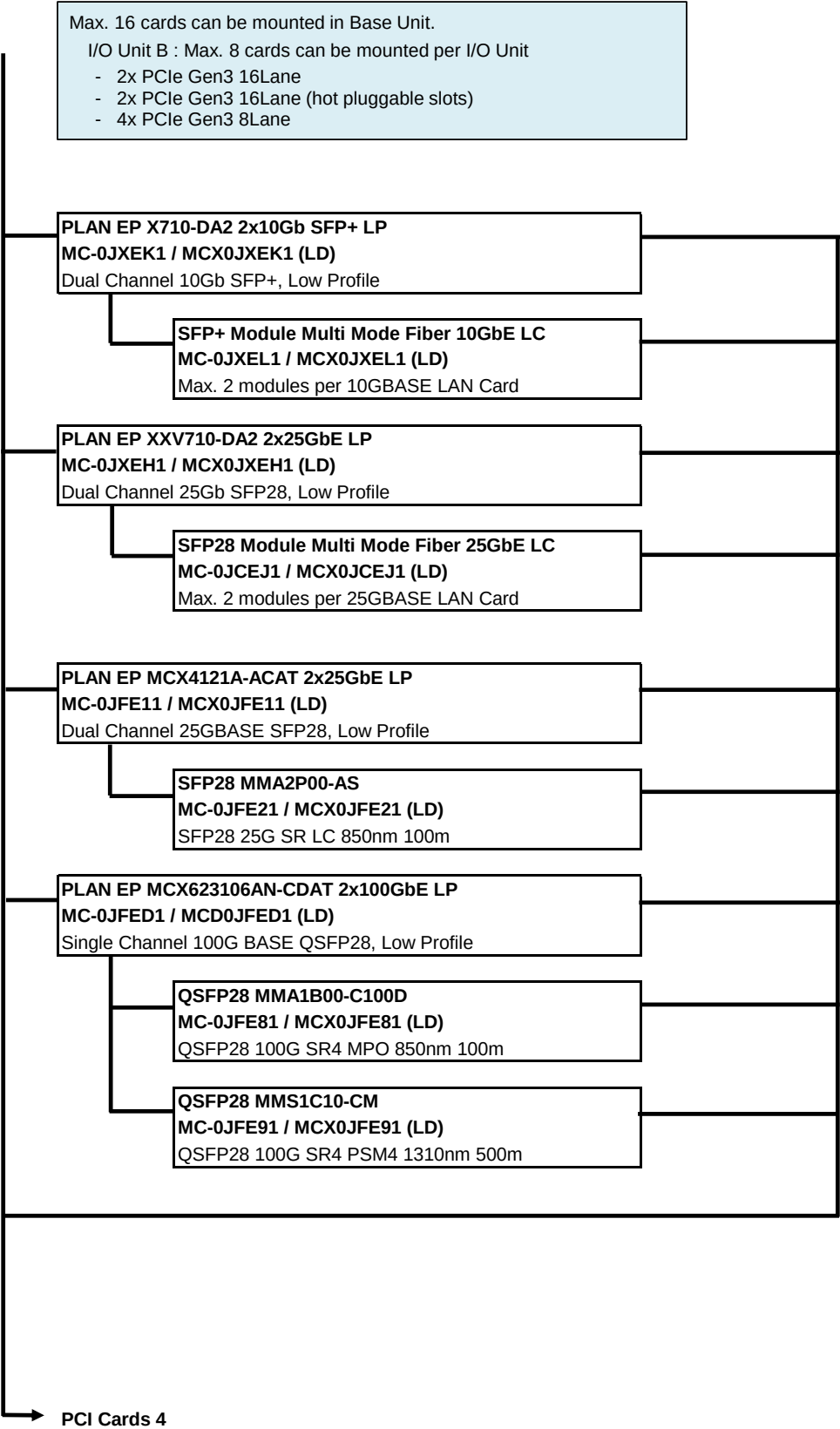
PCI Cards 2

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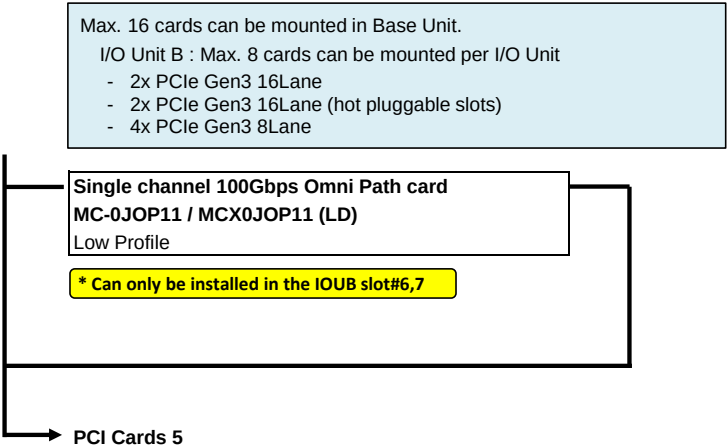
PCI Cards 3

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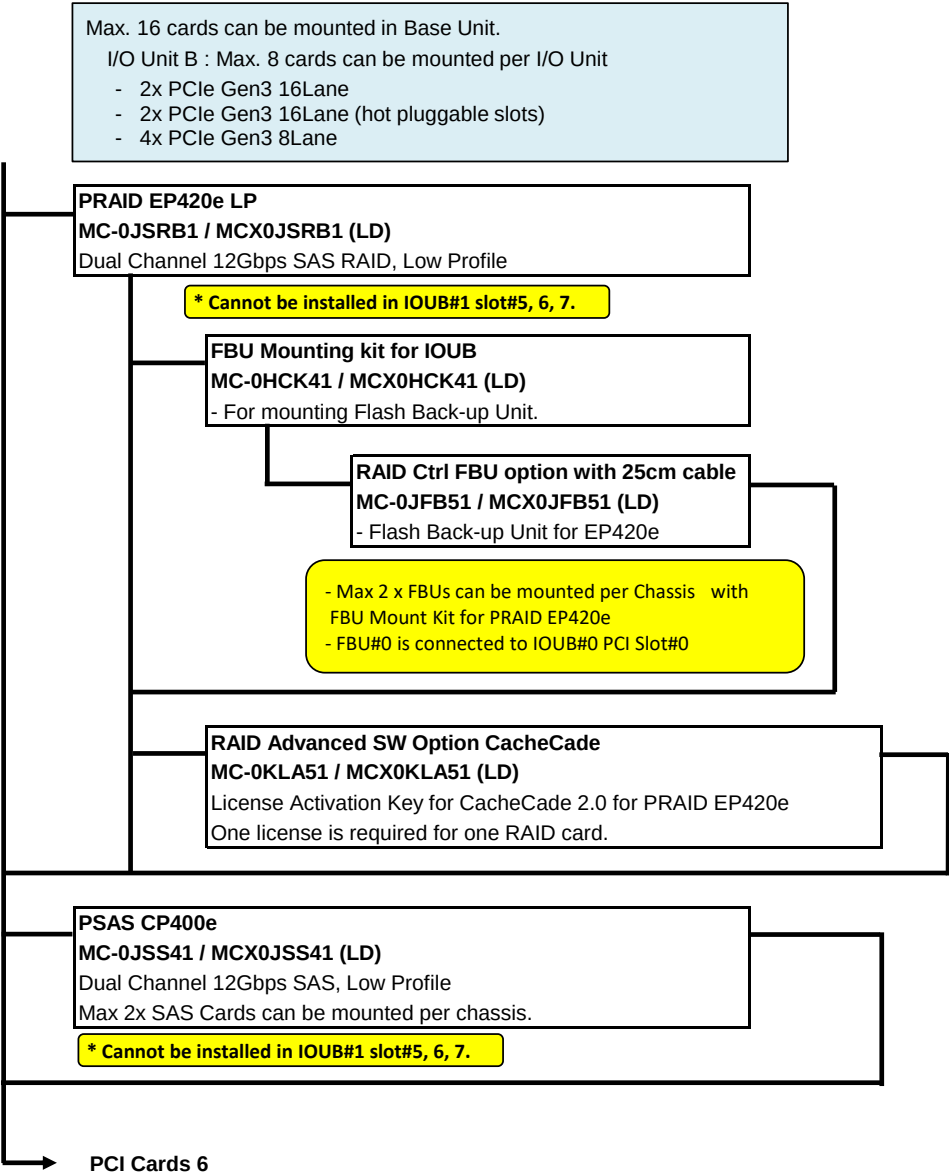
PCI Cards 4

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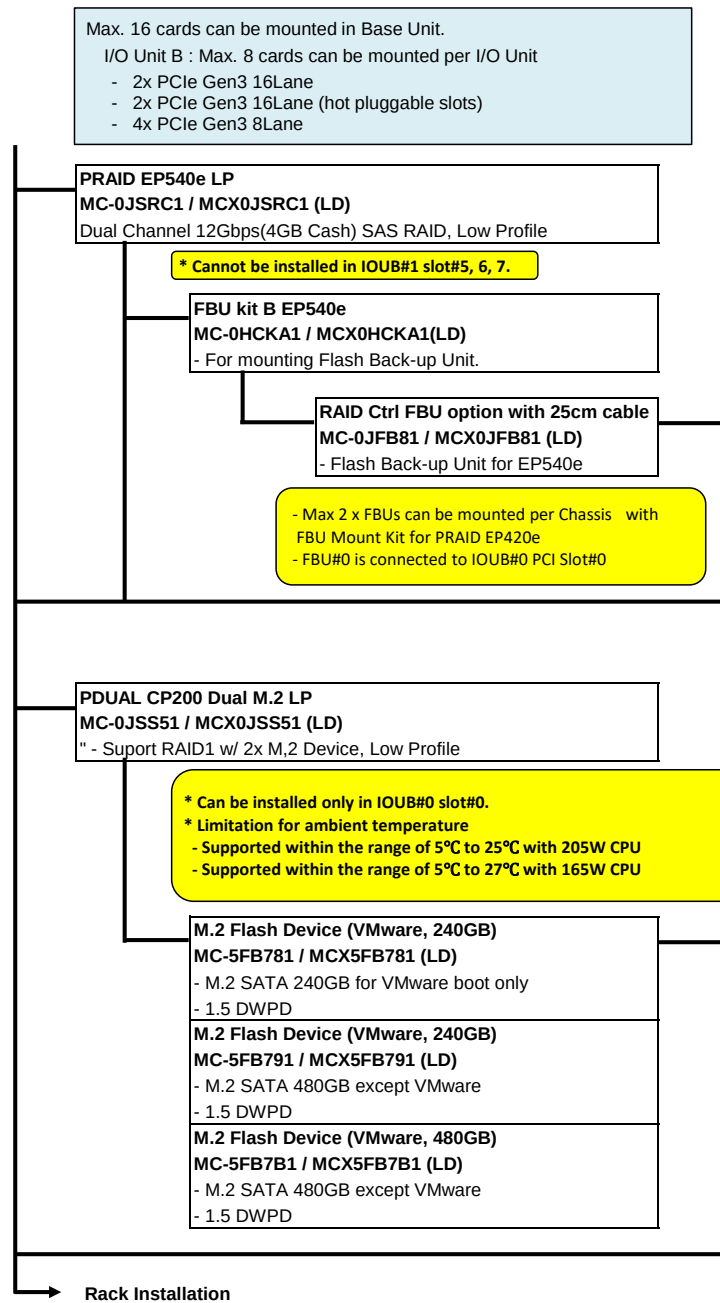
PCI Cards 5

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PCI Cards 7

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11. 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>

Rack for APAC & Americas		Rack Mount Kit: - can be used to mount PRIMEQUEST to Rack Units which are delivered from Fujitsu factories (Japan and Germany). - is bundled with PRIMEQUEST Base Unit.
Rack Units	Model 2724 Base Rack 19R-272A2 24U (Width 700mm x Depth 1,050mm x Height 1,200mm)	Rack Units: - NOT include Stabilizer, Blank Panel or screw kits. Please purchase them together with the Rack Unit, if necessary.
	Model 2737 Base Rack 19R-273A2 37U (Width 700mm x Depth 1,050mm x Height 1,792mm) Expansion Rack 19R-273B2	
	Model 2742 Base Rack 19R-274A2 42U (Width 700mm x Depth 1,050mm x Height 2,000mm) Expansion Rack 19R-274B2	
	Model 2616 Base Rack 19R-261A2 16U (Width 600mm x Depth 1,050mm x Height 845mm)	
	Model 2624 Base Rack 19R-262A2 24U (Width 600mm x Depth 1,050mm x Height 1,200mm)	
	Model 2642 Base Rack 19R-264A2 42U (Width 600mm x Depth 1,050mm x Height 2,000mm) Expansion Rack 19R-264B2	
Tilt-Resistant Stabilizer	L-form Stabilizer 19R-27ST1 For Model 2724/2737/2742	Tilt-Resistant Stabilizer: - If racks are not fixed to the floor, stabilizers should be ordered and jointed to the racks. - is NOT bundled with rack. Needs to be purchased.
	L-form Stabilizer 19R-26FS1 For Model 2616/2624/2642	
	Pull out type Stabilizer 19R-26FS2 For Model 2724/2737/2742/2616/2624/2642	
Earthquake-Proof Kit	Earthquake-proof Kit 19R-27ST1 For Base Rack for Model 2724/2737/2742 For front side, rear side, left side, and right side	Earthquake-Proof Kit: - can fix racks to floor by anchoring racks to floor and using the kit holes. - To fix Earthquake-Proof Kit, please consult constructors.
	Earthquake-proof Kit 19R-27ST2 For Expansion Rack for Model 2724/2737/2742 For front side and rear side	
	Earthquake-proof Kit 19R-26ST1 For Base Rack for Model 2616/2624/2642 For front side, rear side, left side, and right side	
	Earthquake-proof Kit 19R-26ST2 For Expansion Rack for Model 2616/2624/2642 For front side and rear side	
Blank Panel	Blank Panel (1U) 19R-26BP1	Blank Panel: - is used to prevent outflow of heated air into a vacant space. - space to joint Side Cable Duct, if they are not jointed, should be covered with Blank Panels. For Model 2724: 2 spaces (1U) For Model 2737/2742: 4 spaces (1U) - is NOT bundled with racks. Needs to be purchased.
	Blank Panel (2U) 19R-26BP2	
	Blank Panel (3U) 19R-26BP3	
Side Cable Duct	Side Cable Duct 19R-27SD1 For Model 2724/2737/2742	Side Cable Duct: - is used to draw cables connected from the front side of equipments to the rear side of rack without occupying rack space by jointing the Side Cable Ducts to the apertures in the sides of racks. Model 2724: one aperture on each of left and right sides Model 2737/2742: 2 apertures on each of left and right sides - can accommodate around 90 cables with 5mm diameter. - if one aperture is not jointed with Side Cable Duct, the aperture should be covered with one 1U Blank Panel (19R-26BP1), which needs to be purchased.
Rack Tray	Rack Tray (Fixed Type) 19R-26TR1	* Cable holders bundled to each rack: Model 2724: 6 pcs per Rack Model 2737: 8 pcs per Rack Model 2742: 10 pcs per Rack Model 2616: 4 pcs per Rack Model 2624: 6 pcs per Rack Model 2642: 10 pcs per Rack If the bundled quantity is insufficient, please purchase additional cable holders.
	Rack Tray (Slide Type) 19R-26TR2	
	Laptop PC Tray 19R-26TR3	
Cable Holder	Cable Holder for front side 19R-27CM1 * For Model 2724/2737/2742	
	Cable Holder for rear side 19R-27CM2 * For Model 2724/2737/2742	
	Cable Holder for front side 19R-26CM1 * For Model 2616/2624	
	Cable Holder for rear side 19R-26CM2 * For Model 2616/2624	
	Cable Holder for front side 19R-26CM11 * For Model 2642	
	Cable Holder for rear side 19R-26CM21 * For Model 2642	
Screw kit	Screw kit 19R-26SC1 50 pcs of M6 screws and 50 pcs of M6 cage nuts	Screw Kit: - Needs to be purchased if equipments do not include screws or nuts to be fixed in a rack. - is NOT bundled with the 19 inch racks.
End		

12. Maximum Quantity of PCIe Cards

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Maximum Quantity of PCIe Cards that can be mounted per Base Unit

Product Name			Order Number		Max. Qty		PHP	
			Build-to-Order	Loose Delivery	3800B2	ESXi *5		
SAS RAID controller card (EP420i)	PRAID EP420i	*5 *8	MC-0JSRA1	MCX0JSRA1	2	total 2	No	
SAS RAID controller card (EP540i)	PRAID EP540i	*5 *8	MC-0JSR71	MCX0JSR71	2		No	
RAID controller card (EP580i)	PRAID EP580i	*5 *8	MC-0JSR81	MCX0JSR81	2		No	
PRAID EP420e	PRAID EP420e	*4 *5 *7	MC-0JSRB1	MCX0JSRB1	2		No	
PRAID EP540e	PRAID EP540e	*4 *5 *7	MC-0JSRC1	MCX0JSRC1	2		No	
PSAS CP400e	PSAS CP400e	*7	MC-0JSS41	MCX0JSS41	2	2	No	
PFC EP LPe31000 1x 16Gb Emulex	Broadcom LPe31000	*1 *2 *5	MC-0JFCF1	MCX0JFCF1	16 ports	total 8	Yes	
PFC EP LPe31002 2x 16Gb Emulex	Broadcom LPe31002	*1 *2 *5	MC-0JFCG1	MCX0JFCG1			Yes	
PFC EP LPe32000 1x 32Gb Broadcom	Broadcom LPe32000	*1 *2 *5	MC-0JFCM1	MCX0JFCM1	8 ports		Yes	
PFC EP LPe32002 2x 32Gb Broadcom	Broadcom LPe32002	*1 *2 *5	MC-0JFCN1	MCX0JFCN1			Yes	
PFC EP QLE2690 1x 16Gb Qlogic	Qlogic QLE2690	*1 *3 *5	MC-0JFCP1	MCX0JFCP1	16 ports	total 8	Yes	
PFC EP QLE2692 2x 16Gb Qlogic	Qlogic QLE2692	*1 *3 *5	MC-0JFCQ1	MCX0JFCQ1			Yes	
PFC EP QLE2740 1x 32Gb Cavium	Qlogic QLE2740	*1 *3 *5	MC-0JFCK1	MCX0JFCK1	8 ports		Yes	
PFC EP QLE2742 2x 32Gb Cavium	Qlogic QLE2742	*1 *3 *5	MC-0JFCL1	MCX0JFCL1			Yes	
PLAN CP 4x1Gbit Cu Intel i350-T4	Intel i350-T4	*5	MC-0JGED1	MCX0JGED1	16	4	Yes	
PLAN EP X550-T2 2x10GBASE-T	Intel X550-T2	*5	MC-0JXEJ1	MCX0JXEJ1		8	Yes	
PLAN EP X710-DA2 2x10Gb SFP+	Intel X710-DA2	*5	MC-0JXEK1	MCX0JXEK1		4	Yes	
PLAN EP X710-T4 2x10GbE-T	Intel X710-T4	*5	MC-0JXF11	MCX0JXF11		8	4	Yes
PLAN EP XXV710-DA2 2x 25GbE	Intel XXV710-DA2	*5	MC-0JXEH1	MCX0JXEH1		4	2	Yes
PLAN EP MCX4121A-ACAT 2x25GbE	Mellanox MCX4121A-ACAT	*6 *5	MC-0JFE11	MCX0JFE11	4	total 4	Yes	
PLAN EP MCX416A-BCAT 2x40GbE	Mellanox MCX416A-BCAT	*6 *5	MC-0JFE41	MCX0JFE41	2		Yes	
PLAN EP MCX415A-CCAT 1x100GbE	Mellanox MCX415A-CCAT	*6 *5	MC-0JFE71	MCX0JFE71	2		Yes	
PLAN EP MCX623106AN-CDAT 2x100GbE LP	Mellanox MCX623106AN-CDAT	*6 *5	MC-0JFED1	MCX0JFED1	2		No	
Single channel 100Gbps Omni Path card			MC-0JOP11	MCX0JOP11	4	N/A	No	

Notes:

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

*2) Max total quantity of "Broadcom Fibre Channel Cards" and "Broadcom LAN Cards" that can be mounted:
-16 x ports per chassis

*3) Max total quantity of "Qlogic Fibre Channel Cards" that can be mounted:
-8 x cards per chassis

*4) "PRAID EP420e/EP540e" with FBU can only be mounted IOU#0 PCI Slot#0 and IOU#1 PCI Slot#0
-2 x cards per chassis

*5) 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.
XXV710 is supported with a total of up to 2 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) EP420e and CP400e are not allowed to be mounted on slot #5, #6, and #7 of the IOUB#1

*8) EP420i and EP540i/580i are not allowed to be populated together.

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(1) Microsoft® Windows Server® 2016 (Standard/Datacenter)
(2) Microsoft® Windows Server® 2019 (Standard / Datacenter)
(3) Microsoft® Windows Server® 2022 (Standard / Datacenter)
(4) Red Hat® Enterprise Linux®
(5) SUSE® Linux Enterprise Server
(6) VMware vSphere®
(7) Oracle® Linux
(8) Oracle® VM
A : Available
NA : Not Available
p : planned

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14.Restrictions

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The followin functions are restricted as of April 2019.

No.	
1	Intel 10GbE LAN cards [MC*0JXEK*] (X710-DA2) cannot be mounted to PHP slots (#2 and #3 slots of IOU).
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], Infiniband cards do not work in the same chassis.
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	Please install Windows Server 2019 with "Hyper Threading = OFF".
9	TPM module does not work with Windows Server 2019.
10	The iSCSI does not work with VMware 6.5.
11	Address range mirror is not supported with VMware.
12	Secure Boot does not work with Linux OSes.
13	M.2 Flash device with only SLES12 SP4 are supported. Other OSes are planned.
14	Oracle Linux/VM do not support SAN-Boot.

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Change Report

Date	Order number	Changes
kwi. 02, 2019		Ver. 1.0
lip. 02, 2019		Ver. 2.0
wrz. 17, 2019		Ver. 3.0
lis. 15, 2019		Ver. 4.0
Jun.10, 2020		Ver. 5.0
kwi. 01, 2020		Ver. 5.1
Oct. 1, 2020		Ver. 5.2
Feb. 1, 2021		Ver. 5.3
Mar. 1, 2021		Ver. 5.3
Apr. 1, 2021		Ver. 5.4
May. 1, 2021		Ver. 5.5
Aug. 1, 2021		Ver. 5.6
Mar. 29, 2022		Ver. 5.7
Nov. 28, 2022		Ver. 5.8
Jan. 25, 2023		Ver. 5.9
Dec. 25, 2023		Ver. 6.0
Feb. 26, 2024		Ver. 6.1