ASRock Rack

HPC. Big Data. Convergence.

3rd Generation Intel® Xeon® Scalable Processors

Enhanced Performance, More I/O, Workload Accelerators and Advanced Security

General Purpose Storage / GPU Barebones
OPEN19 Bricks and Cages
Server Motherboards

intel
XEON
PLATINUM

Q2, 2023

Content

Server Platform Naming Rule

SP2C621D16N-2L2T

Character	Representation	Options
1ˢᵗ ~ 2ⁿᵈ	**CPU Type**	SP = 3ʳᵈ Gen Intel® Xeon® Scalable processors
3ʳᵈ	**Number of CPU Supported**	• 2 = Dual • NA = Single
4ᵗʰ ~ 6ᵗʰ	**Chipset**	C621A = Intel® C621A chipset
Others	**Number of DIMM Supported**	• D4 = 4 DIMM • D6 = 6 DIMM • D8 = 8 DIMM • D16 = 16 DIMM • D32 = 32 DIMM
	Form Factor	• H = Half-width • U = Micro-ATX • I = mini-ITX • L = L-shape • T = T-shape
	Feature	• N = Non-shading side-by-side CPU • G = For GPU server • Q = OCP slot not in standard I/O area, multi-SlimSAS to the front • M = OCP 2.0 slot • M3 = OCP NIC 3.0 slot • 2T = Dual 10GbE RJ45 • 2L = Dual 1GbE RJ45 • 2L+ = Dual 1GbE RJ45 • 2O = Dual 10G optical LAN (SFP+)

1U8S2E-ICX/2T

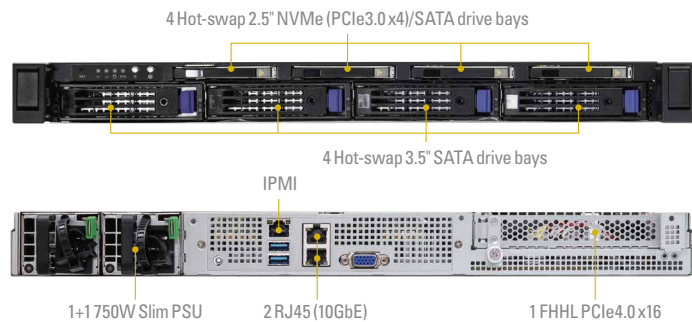| Character	Representation	Options
1ˢᵗ ~ 2ⁿᵈ	**System Height**	• 1U = 1U chassis • 2U = 2U chassis • 4U = 4U chassis • 8U = 8U chassis • 10U = 10U chassis
Others	**Drive Bay**	• L = 3.5'' HDD Bay • S = 2.5'' HDD/SSD Bay • E = U.2 Bay
	Feature	• G = Dual-slot cards supported • N = Number of nodes • F = Front I/O

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1U4L4E-ICX/2T

DDR4 3200
3200

Storage
Storage

10G
10Gbase-T

6 40x56mm fans

Application

· Hybrid-storage server
· Cloud computing
· Enterprise server

4 Hot-swap 2.5" NVMe (PCIe3.0 x4)/SATA drive bays

4 Hot-swap 3.5" SATA drive bays

IPMI

1+1 750W Slim PSU   2 RJ45 (10GbE)   1 FHHL PCIe4.0 x16

1U4L4E-ICX/2T

CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	1U Rackmount
	Chassis Dimension	676.5 x 438 x 43.4 mm(26.63" x 17.24" x 1.70")
Front Panel	Buttons	Power w/ LED, ID w/ LED, System reset
	LEDs	HDD Activity, LAN 1/2, System Event
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
		1 dedicated IPMI
	USB	2 USB3.2 Gen1 ports
	VGA	1 DB15 (VGA)
	Others	1 UID button w/ LED
Expansion Slots	Rear	1 FHHL PCIe4.0 x16
Drive Bay/ Storage	External	4 Hot-swap 2.5" NVMe (PCIe3.0 x4)/SATA drive bays
		4 Hot-swap 3.5" SATA drive bays
	Internal	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
Power Supply	Module	1+1 Platinum 750W Slim PSU
System Cooling	Fan	6 40x56mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: For SAS drives supports, please contact ASRock Rack.

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1U4LW-ICX/2T

DDR4 3200
3200

10G
10Gbase-T

4 Hot-swap 40x28mm fans

3 fixed 2.5" SATA drive bays
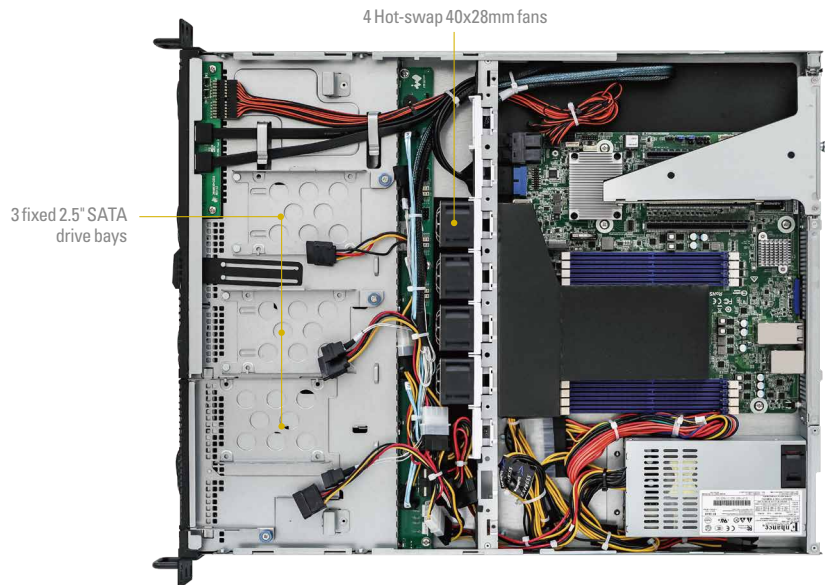
Application

· Enterprise server
· General purpose server

4 Hot-swap 3.5" SATA drive bays

IPMI

1 PSU (600W)   2 RJ45 (10GbE)   1 FHHL PCIe4.0 x16

		1U4LW-ICX/2T
CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	1U Rackmount
	Chassis Dimension	533.4 x 482.6 x 44.4 mm (21" x 19" x 1.75")
Front Panel	Buttons	Power Switch, ID Switch, System reset
	LEDs	PWR, UID, HDD Activity, LAN 1/2, System Event
	I/O	2 USB3.0 ports
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
		1 dedicated IPMI
	USB	2 USB3.2 Gen1 ports
	Others	1 DB15 (VGA), UID
Expansion Slots	Rear	1 FHHL PCIe4.0 x16
Drive Bay/ Storage	External	4 Hot-swap 3.5" SATA drive bays
	Internal	3 fixed 2.5" SATA drive bays
		1 M-key (PCIe3.0 x4 or SATA 6Gb/s); support 2280 form factor
Power Supply	Module	Single 600W PSU
System Cooling	Fan	4 PWM Hot-swap 40x28 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: For SAS drives supports, please contact ASRock Rack.

intel. **XEON** PLATINUM

1U8S2E-ICX/2T

DDR4 **3200**

3200

Storage

Storage

10G

10Gbase-T

6 40x56mm fans

2 Hot-swap 2.5" NVMe/SATA drive bays

Application

- Hybrid-storage server
- Enterprise server

8 Hot-swap 2.5" SATA drive bays

IPMI

1+1 RPSU (750W)　　　2 RJ45 (10GbE)　　　1 FHHL PCIe4.0 x16

1U8S2E-ICX/2T

CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	1U Rackmount
	Chassis Dimension	625 mm x 430 mm x 43.5 mm
Front Panel	Buttons	Power Switch, System reset, NMI button
	LEDs	Power status, LAN1/LAN2 LED
	I/O	1 Type-A (USB3.2 Gen1)
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
		1 dedicated IPMI
	USB	2 USB3.2 Gen1 ports
	Others	1 DB15 (VGA), 1 UID w/ LED
Expansion Slots	Rear	1 FHHL PCIe4.0 x16 via RB1UX16_G4
Drive Bay/ Storage	External	2 Hot-swap 2.5" NVMe/SATA drive bays
		8 Hot-swap 2.5" SATA drive bays
	Internal	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
Power Supply	Module	1+1 750W RPSU
System Cooling	Fan	6 PWM 40x56 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: For SAS drives supports, please contact ASRock Rack.

1U10E-ICX/2T

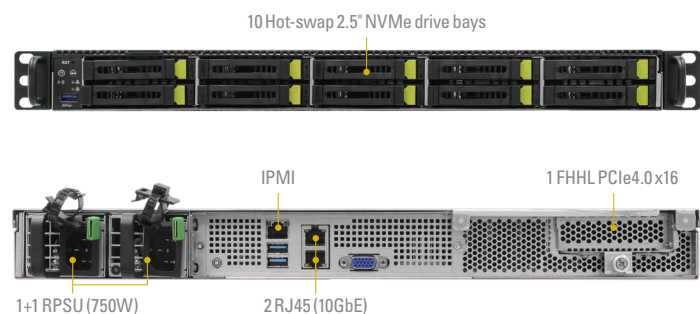**DDR4 3200**

3200

Storage

Storage

10G

10Gbase-T

6 PWM 40x56mm fans

Application

- All-flash Storage Server
- Data Center Server
- SMB and Database Processing & Storage

10 Hot-swap 2.5" NVMe drive bays

IPMI

1 FHHL PCIe4.0 x16

1+1 RPSU (750W)

2 RJ45 (10GbE)

1U10E-ICX/2T

CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	1U Rackmount
	Chassis Dimension	625 x 430 x 43.5 mm (24.61'' x 16.93'' x 1.71'')
Front Panel	Buttons	Power Switch, System reset, NMI button
	LEDs	Power status, LAN1/LAN2 LED
	I/O	1 Type-A (USB3.2 Gen1)
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
		1 dedicated IPMI
	USB	2 USB3.2 Gen1 ports
	Others	1 DB15 (VGA), 1 UID w/ LED
Expansion Slots	Rear	1 FHHL PCIe4.0 x16 via RB1UX16_G4
Drive Bay/ Storage	External	10 Hot-swap 2.5" NVMe drive bays
	Internal	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
		1 M-key (PCIe4.0 x4 or SATA 6Gb/s) via RB1U2SL2M2_G4 RDV, supports 2280 form factor
Power Supply	Module	1+1 750W RPSU
System Cooling	Fan	6 PWM 40x56 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

1U10E-ICX2
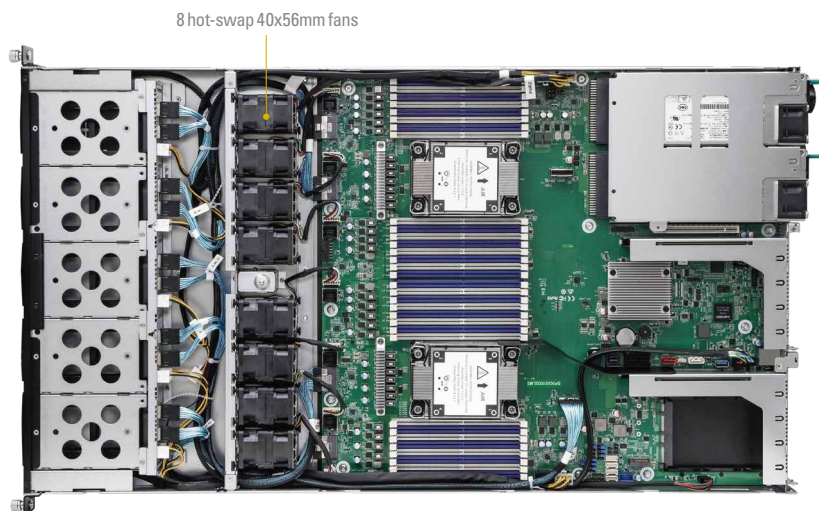
DDR4 3200

3200

Storage

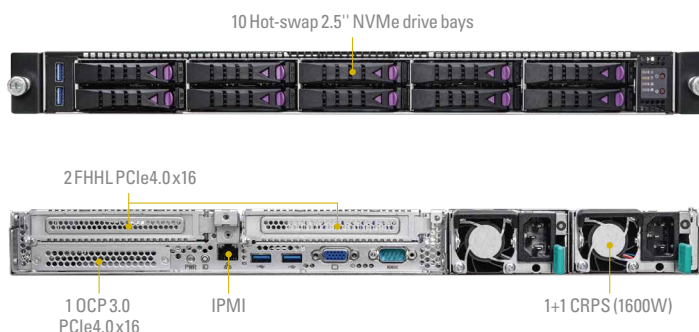Storage

OCP NIC 3.0

OCP NIC 3.0

8 hot-swap 40x56mm fans

Application

- Data Center Server
- SMB and Database Processing & Storage

10 Hot-swap 2.5'' NVMe drive bays

2 FHHL PCIe4.0 x16

1 OCP 3.0 PCIe4.0 x16

IPMI

1+1 CRPS (1600W)

1U10E-ICX2

CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	16+16 DDR4 288-pin (2DPC)
System Physical Status	Form Factor	1U Rackmount
	Chassis Dimension	438 x 800 x 43.5 mm (17'' x 31'' x 2'')
Front Panel	Buttons	Power, Reset
	LEDs	Power, HDD
	I/O	2 Type-A (USB3.2 Gen1)
Rear IO	RJ45	1 dedicated IPMI
	USB	2 Type-A (USB3.2 Gen1)
	Others	1 DB15 (VGA), 1DB9 (COM), 1 UID w/ LED, 1 PWR BTN
Expansion Slots	Rear	2 FHHL PCIe4.0 x16 [CPU1] [CPU2]
		1 OCP3.0 PCIe4.0 x16 [CPU1]
Drive Bay/ Storage	External	10 Hot-swap 2.5" NVMe (PCIe4.0 x4) drive bays
	Internal	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/2260/2242 form factor [PCH]
Power Supply	Module	1+1 1600W CRPS
System Cooling	Fan	8 PWM Hot-swap 40x56 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

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2U12L-ICX2

6 Hot-swap 60x38mm fans

2 fixed 2.5'' SATA drive bays

DDR4 3200

3200
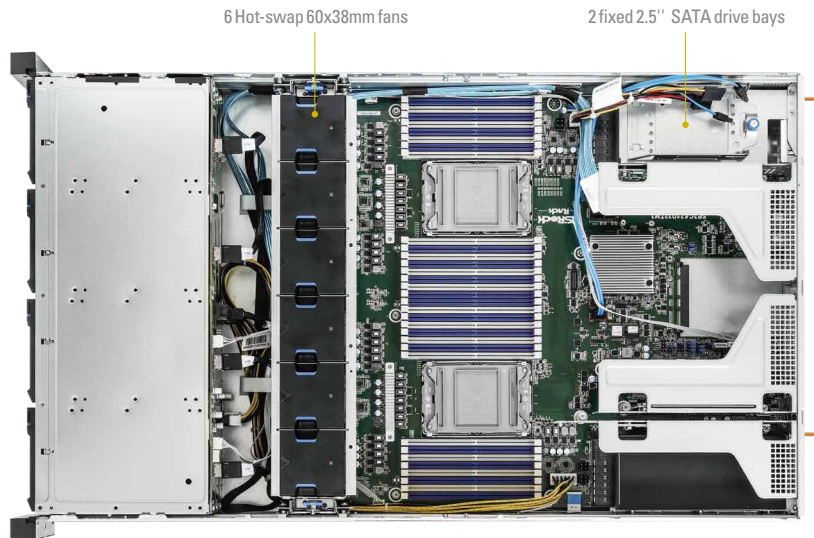
Storage

Storage

Application

· Software-defined Storage
· Data Analytics

12 Hot-swap 3.5"/2.5" drive bays

2 FH PCIe4.0 x16 or
1 FH PCIe4.0 x16, 2 FH PCIe4.0 x8

2 FH PCIe4.0 x16 or
1 FH PCIe4.0 x16, 2 FH PCIe4.0 x8

1 low-profile PCIe4.0 x16 or
2 low-profile PCIe4.0 x8

IPMI

1+1 CRPS (1600W)

2U12L-ICX2

CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	16+16 DDR4 288-pin (2DPC)
System Physical Status	Form Factor	2U Rackmount
	Chassis Dimension	770.0 mm X 438.0 mm X 86.4 mm
Front Panel	Buttons	Power, UID, Reset
	LEDs	Power Status, LAN Activity, HDD Activity, System status
	I/O	1 Type-A (USB3.2 Gen1), 1 Type-A (USB2.0), 1 DB15 (VGA)
Rear IO	RJ45	2 RJ45 (1GbE) by Intel® i350-AM2
		1 dedicated IPMI
	USB	2 Type-A (USB3.2 Gen1)
	Others	1 DB15 (VGA), 1 RJ45 (COM), 1 UID w/ LED
Expansion Slots	Rear	SLOT1: 2 FHHL PCIe4.0 x16 or 1 FHHL PCIe4.0 x16, 2 FHHL PCIe4.0 x8 via RB251-X8X16X16_G4_AMUX [CPU0]
		SLOT2: 2 FHHL PCIe4.0 x16 or 1 FHHL PCIe4.0 x16, 2 FHHL PCIe4.0 x8 via RB251-X16X8X16_G4_AMUX [CPU1]
		1 low-profile PCIe4.0 x16 or 2 low-profile PCIe4.0 x8 via RB251-X8X16_G4_AMUX [CPU1]
Drive Bay/ Storage	External	12 Hot-swap 3.5"/2.5" drive bays, supports 8 SATA HDD/SSD and 4 NVMe (PCIe4.0 x4) SSD
	Internal	2 fixed 2.5" SATA drive bays
		2 M-key Note1 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [PCH]
Power Supply	Module	1+1 1600W CRPS
System Cooling	Fan	6 PWM Hot-swap 60x38 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: 1 fixed SATA drive bay share SATA with M2_1, and will be disabled when M2_1 populated with SATA device
Note2: SAS drives are only supported with additional RAID/HBA cards

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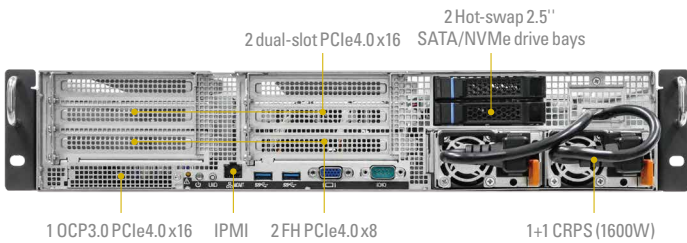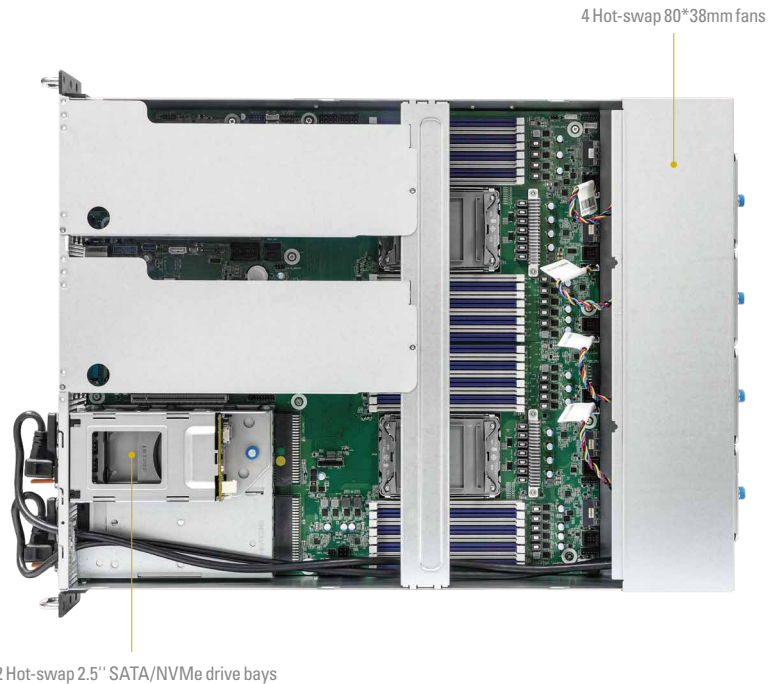
2U2E-F/ICX2

DDR4

PCI-E 4.0

4 Hot-swap 80*38mm fans

2 Hot-swap 2.5'' SATA/NVMe drive bays

Application

· Mobile Edge Computing
· AI Interface
· 5G O-RAN
· NFVi

2 dual-slot PCIe4.0 x16

2 Hot-swap 2.5''
SATA/NVMe drive bays

1 OCP3.0 PCIe4.0 x16   IPMI   2 FH PCIe4.0 x8   1+1 CRPS (1600W)

4 Hot-swap 80*38mm fans

2U2E-F/ICX2

System Physical Status	Form Factor	2U Rackmount
	Chassis Dimension	438 x 600 x 87 mm (17.24'' x 23.62'' x 3.43'')
CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	16+16 DDR4 288-pin (2DPC)
Front Panel	Buttons	Power w/ LED, UID w/ LED
	LEDs	System error LED
	I/O	2 USB 3.2 Gen1 ports, 1 DB15 (VGA), 1 DB9 (COM), 1 dedicated IPMI
Expansion Slots	Front	1 dual-slot PCIe4.0 x16 Note1 [CPU0]
		1 dual-slot PCIe4.0 x16 Note1 [CPU1]
		1 OCP3.0 PCIe4.0 x16 [CPU0]
		1 FH PCIe4.0 x8 [CPU0]
		1 FH PCIe4.0 x8 [CPU1]
Drive Bay/	External	2 Hot-swap 2.5'' SATA/NVMe drive bays [Front]
Storage	Internal	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/2260/2242/2230 form factor [PCH]
Power Supply	Module	1+1 1600W CRPS
System Cooling	Fan	4 PWM Hot-swap 80 x 38 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: Please contact ASRock Rack for dual-slot cards compatibility.
Note2: For SAS drives supports, please contact ASRock Rack.
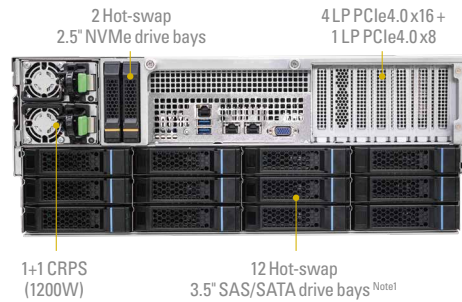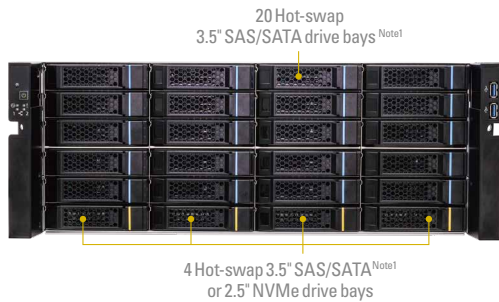
4U36L6E-ICX2/2T

Storage | **DDR4 3200** | **PCI-E 4.0**
Storage | 3200 | PCI-E 4.0

Application

· Corporate Database
· Enterprise Server

20 Hot-swap
3.5" SAS/SATA drive bays Note1

4 Hot-swap 3.5" SAS/SATA Note1
or 2.5" NVMe drive bays

2 Hot-swap
2.5" NVMe drive bays

4 LP PCIe4.0 x16 +
1 LP PCIe4.0 x8

1+1 CRPS
(1200W)

12 Hot-swap
3.5" SAS/SATA drive bays Note1

4U36L6E-ICX2/2T

CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8+8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	4U Rackmount
	Chassis Dimension	699 x 432 x 176 mm
Front Panel	Buttons	Power, Reset
	LEDs	Power Status, LAN1/2 Activity, HDD Activity, System status
	I/O	1 Type-A (USB3.0)
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X550-AT2
		1 dedicated IPMI
	USB	2 Type-A (USB3.2 Gen1)
Expansion Slots	Others	1 DB15 (VGA), 1 UID w/ LED
	Rear	2 low-profile PCIe4.0 x16 [CPU0]
		2 low-profile PCIe4.0 x16 [CPU1]
		1 low-profile PCIe4.0 x8 [CPU0]
Drive Bay/ Storage	External	20 Hot-Swap 3.5" SAS/SATA drive bays Note1
		4 Hot-Swap 3.5" SATA/SAS Note1 or 2.5" NVMe (PCIe 3.0 x4) drive bays
		12 Hot-Swap 3.5'' SATA/SAS drive bays Note1
		2 Hot-Swap 2.5" NVMe (PCIe 3.0 x4) drive bays
	Internal	1 M-key (PCIe4.0 x4), supports 22110/2280 form factor [CPU0]
Power Supply	Module	1+1 Platinum 1200W CRPS
System Cooling	Fan	7 PWM Hot-swap 80x38 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: Additional RAID/HBA card required to support the 36 Hot-swap 3.5" SAS/SATA drive bays

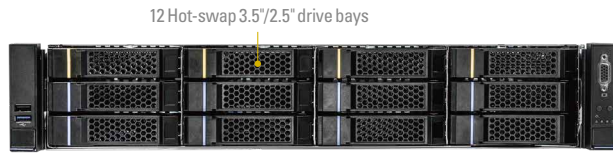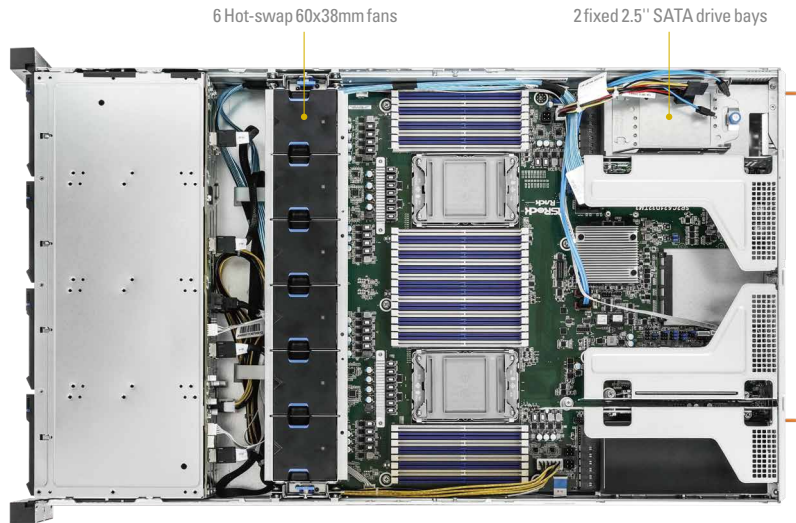intel **XEON** PLATINUM

2U2G-ICX2

DDR4 3200

3200

Storage

Storage

GPGPU

GPGPU

Application

· High-performance Technical Computing
· Deep Learning
· Big Data Analytics
· Software-defined Storage

6 Hot-swap 60x38mm fans

2 fixed 2.5'' SATA drive bays

12 Hot-swap 3.5"/2.5" drive bays

1 low-profile PCIe4.0 x16 or
2 low-profile PCIe4.0 x8

1 FHFL PCIe4.0 x16[Note1],
1 FHHL PCIe4.0

1+1 CRPS (2000W)

2U2G-ICX2		
CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	16+16 DDR4 288-pin (2DPC)
System Physical Status	Form Factor	2U Rackmount
	Chassis Dimension	779.5 x 447.6 x 87 mm (30.69'' x 17.62'' x 3.43'')
Front Panel	Buttons	Power, UID, Reset
	LEDs	Power Status, LAN Activity, HDD Activity, System status
	I/O	1 Type-A (USB3.2 Gen1), 1 Type-A (USB2.0), 1 DB15 (VGA)
Rear IO	RJ45	2 RJ45 (1GbE) by Intel® i350-AM2
		1 dedicated IPMI
	USB	2 Type-A (USB3.2 Gen1)
	Others	1 DB15 (VGA), 1 RJ45 (COM), 1 UID w/ LED
Expansion Slots	Rear	SLOT1: 1 FHFL PCIe4.0 x16[Note1], 1 FHHL PCIe4.0 x16 via RB251-X8X16X16_G4_AMUX [CPU0]
		SLOT2: 1 FHFL PCIe4.0 x16[Note1], 1 FHHL PCIe4.0 x16 via RB251-X16X8X16_G4_AMUX [CPU1]
		SLOT3: 1 low-profile PCIe4.0 x16 or 2 low-profile PCIe4.0 x8 via RB251-X8X16_G4_AMUX [CPU1]
Drive Bay/ Storage	External	12 Hot-swap 3.5"/2.5" drive bays, supports 8 SATA HDD/SSD and 4 NVMe (PCIe4.0 x4) SSD
	Internal	2 fixed 2.5" SATA drive bays
		2 M-key[Note2] (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [PCH]
Power Supply	Module	1+1 2000W CRPS
System Cooling	Fan	6 PWM Hot-swap 60x38 mm fans
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: Support NVIDIA® A100
Note2: 1 fixed SATA drive bay share SATA with M2_1, and will be disabled when M2_1 populated with SATA device
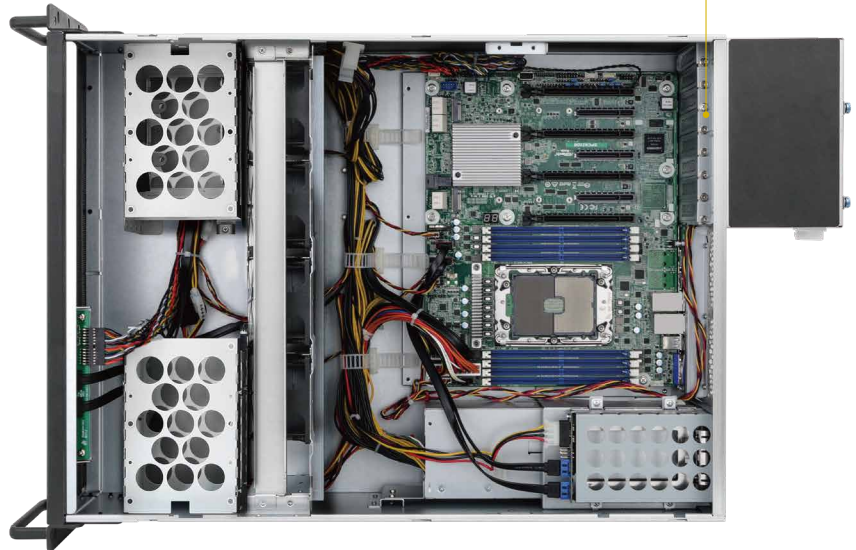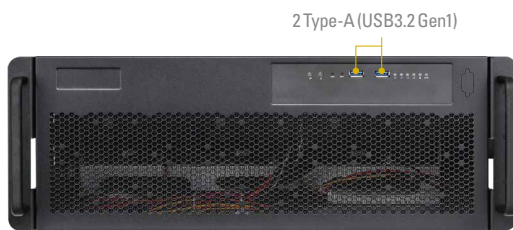**Note3:** SAS drives are only supported with additional RAID/HBA cards

4U4G-SPC621D8

4 FHFL dual-slot PCIe4.0 x16 or
6 FHFL single-slot PCIe4.0 x8,
1 FHFL single-slot PCIe4.0 x16

GPGPU	**DDR4 3200**	4 Dual Slot PCIe x16
GPGPU	3200	4 Dual Slot PCIe x16

Application

· Deep Learning
· Data Processing
· Mainstream Workstation

2 Type-A (USB3.2 Gen1)

2 Hot-swap 2.5" SATA drive bays

1+1 CRPS (1600W)   IPMI

4U4G-SPC621D8

CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	4U Rackmount
	Chassis Dimension	596 x 430.4 x 174.8 mm (23.5'' x 16.9'' x 6.9'', without GPU fans)
Front Panel	Buttons	Power w/ LED, UID w/ LED, NMI
	LEDs	LAN Activity, HDD Activity, System Event
	I/O	2 Type-A (USB3.2 Gen1)
Rear IO	RJ45	2 RJ45 (1GbE) by Intel® i210
		1 dedicated IPMI
	USB	4 Type-A (USB3.2 Gen1)
	Others	1 DB15 (VGA), 1 UID button w/ LED
Expansion Slots	Rear	4 FHFL dual-slot PCIe4.0 x16 or 6 FHFL single-slot PCIe4.0 x8, 1 FHFL single-slot PCIe4.0 x16
Drive Bay/ Storage	External	2 hot-swap 2.5'' SATA drive bays
	Internal	1 M-key (PCIe3.0 x4), supports 22110/2280/2242 form factor
		1 M-key (PCIe3.0 x1 or SATA 6Gb/s), supports 22110/2280/2242 form factor
Power Supply	Module	1+1 1600W CRPS
System Cooling	Fan	4 PWM fixed 80x38 mm fans
		2 PWM fixed 80x38 mm GPU fans (optional)
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

intel
XEON
PLATINUM

4U8G-ICX2/2T

4U10G-ICX2/2T

PCI-E 4.0

10G

PCI-E 4.0 10Gbase-T

Application

· AI Training
· Big Data Analytics
· HPC
· Rendering
· VDI

8 FH dual-slot PCIe4.0 x16

10 FH dual-slot PCIe4.0 x16 or 20 FH single-slot PCIe4.0 x8 + 1 FH single-slot PCIe4.0 x16

2 Hot-swap 3.5'' SATA drive bays

10 Hot-swap 3.5'' drive bays Note3

2 Hot-swap 3.5'' SATA/NVMe drive bays

4 Hot-swap 3.5'' SATA drive bays

6 Hot-swap 3.5'' NVMe drive bays

1 OCP3.0 PCIe3.0 x4 Note2

1 FH PCIe3.0 x4 Note1

1 OCP3.0 PCIe4.0 x16

IPMI

2 FH PCIe4.0 x16

2 RJ45 (10GbE)

3+1 CRPS (1600W) 2 RJ45 (10GbE) IPMI

3+1 CRPS (1600W) 2 RJ45 (10GbE) IPMI

5 Rear Hot-swap 80*38mm fans

5 Rear Hot-swap 80*38mm fans

		4U8G-ICX2/2T	4U10G-ICX2/2T
CPU	Socket	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors	1+1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	16+16 DDR4 288-pin (2DPC)	16+16 DDR4 288-pin (2DPC)
System Physical Status	Form Factor	4U Rackmount	4U Rackmount
	Chassis Dimension	845 x 438 x 176.5 mm (33.27'' x 17.24'' x 6.95'')	845 x 438 x 176.5 mm (33.27'' x 17.24'' x 6.95'')
Front Panel	Buttons LEDs I/O	Power button w/ LED, Reset button, NMI button, UID button w/ LED System fault LED, HDD activity LED 2 RJ45 (10GbE) by Intel® X710-AT2, shares with Rear IO 4 USB3.2 Gen1 ports 1 DB15 (VGA)	Power button w/ LED, Reset button, NMI button, UID button w/ LED System fault LED, HDD activity LED 2 RJ45 (10GbE) by Intel® X710-AT2, shares with Rear IO 4 USB3.2 Gen1 ports 1 DB15 (VGA)
Rear IO	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2, shares with Front Panel	2 RJ45 (10GbE) by Intel® X710-AT2, shares with Front Panel
	Others	UID button w/ LED, Power button w/ LED, Reset button, NMI button, System fault LED, HDD activity LED, 1 DB15 (VGA) 1 dedicated IPMI, shares with Front Panel	UID button w/ LED, Power button w/ LED, Reset button, NMI button, System fault LED, HDD activity LED, 1 DB15 (VGA) 1 dedicated IPMI, shares with Front Panel
Expansion Slots	Front	1 FH PCIe3.0 x4 [PCH] Note1 1 OCP3.0 PCIe3.0 x4 [PCH] Note2	1 FH PCIe4.0 x16 [CPU0] 1 FH PCIe4.0 x16 [CPU1] 1 OCP3.0 PCIe4.0 x16 [CPU1]
	Rear	4 FH dual-slot PCIe4.0 x16 [CPU0] 4 FH dual-slot PCIe4.0 x16 [CPU1]	5 FH dual-slot PCIe4.0 x16 or 10 FH single-slot PCIe4.0 x8 [PEX88096 PCIe switch connect to CPU0] 5 FH dual-slot PCIe4.0 x16 or 10 FH single-slot PCIe4.0 x8 [PEX88096 PCIe switch connect to CPU1] 1 FH single-slot PCIe4.0 x16 [CPU1]
Drive Bay/ Storage	External	2 Hot-swap 3.5'' SATA drive bays 10 Hot-swap 3.5'' drive bays Note3	6 Hot-swap 3.5'' NVMe drive bays 4 Hot-swap 3.5'' SATA drive bays 2 Hot-swap 3.5'' SATA/NVMe drive bays
	Internal	2 M-key Note1 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [PCH]	2 M-key Note1 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor [PCH]
Power Supply	Module	3+1 Platinum 1600W CRPS	3+1 Platinum 1600W CRPS
System Cooling	Fan	5 Middle Hot-swap 80 x 80 mm fans 5 Rear Hot-swap 80 x 38 mm fans	5 Middle Hot-swap 80 x 80 mm fans 5 Rear Hot-swap 80 x 38 mm fans
Management		ASPEED BMC AST2500	ASPEED BMC AST2500
Security		TPM by optional accessory	TPM by optional accessory

Note1: 1 FH PCIe3.0 x4 will be disabled when M2_2 is populated
Note2: Supports 1 OCP3.0 PCIe3.0 x4 possible by cable reconfiguration
Note3: Please contact ASRock Rack if additional 10 Hot-swap 3.5'' drive bays need to be supported
Note4: SAS drives are only supported with additional RAID/HBA cards

About ASRock Rack

ASRock Rack Inc., established in 2013, specialized in the field of Cloud Computing server hardware. Inheriting ASRock's design concepts, Creativity, Consideration and Cost-effectiveness, the company is dedicated bringing the Server Industry out of the box thinking with the passion to innovate. Leveraged by ASRock's growing momentum and distribution channels, this young and vibrant company targets at the booming market of cloud computing and commits to serve the market with user friendly, eco-friendly, Do-It-Yourself Server hardware, featuring flexible and reliable products.

Barebones Series

Leveraging the Versatile Portfolio, ASRock Rack Barebones Series provide the solutions for Cloud, AI, Deep Learning and 5G with high density and multi-node of computing, storage and networking with lower TCO and greater efficiency.
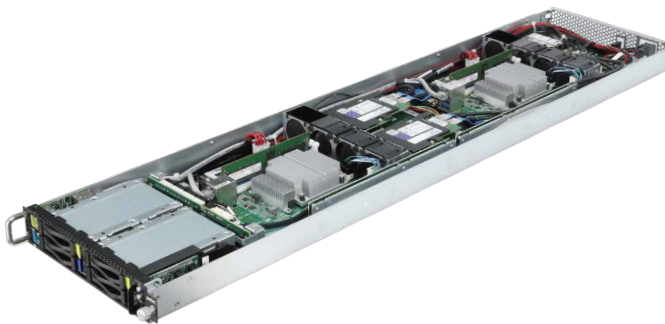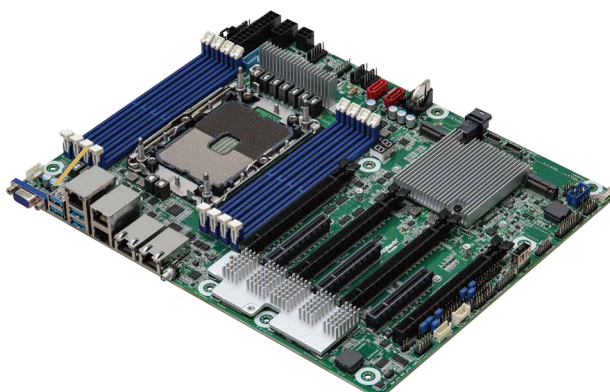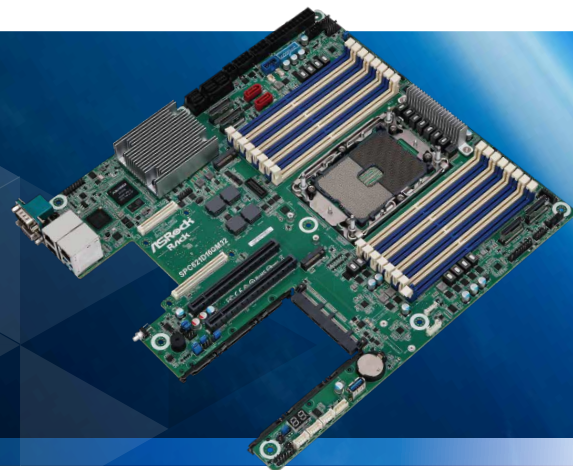
OPEN 19

The Open19 project is an industry specification that defines a cross-industry common server form factor; with the open standard technology and wide levels of adoption, the Open19 creates more flexible and economic for data center and edge solutions as well as the operators of all sizes.

Server Motherboards

With the best performance, product lifetime, and optimized resource utilization, ASRock Rack Server Motherboards are famous and popular among industry investment, especially for the flexibility and versatility.

Workstation Motherboards

Featuring reliable, quiet, and power-efficient, these workstations are best tools for the content creators.

intel XEON PLATINUM

2U-Open19-n3.xlarge.x86

DDR4 3200
3200
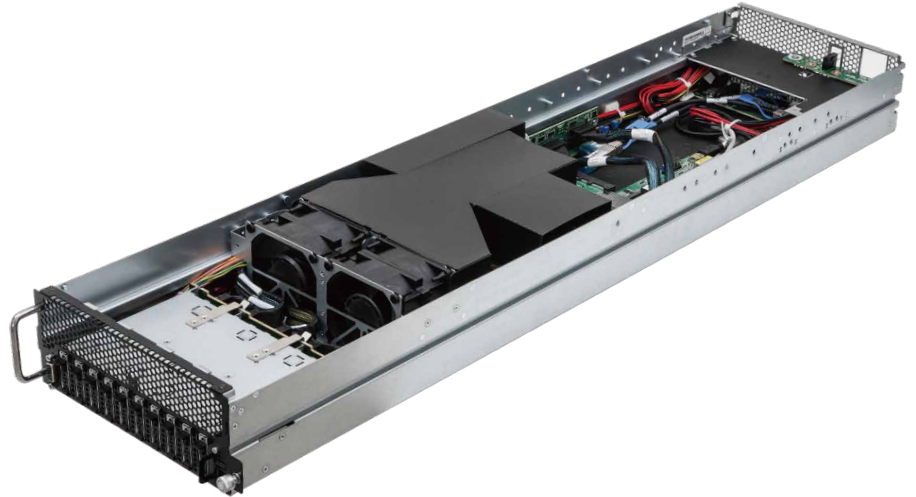
25G 25Gbase-T
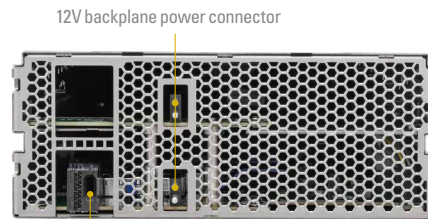

VGA   10 Hot-swap E1.S drive bays   IPMI

12V backplane power connector

Backplane data connector

2U-Open19-n3.xlarge.x86

CPU	Socket	1 Socket P+ (LGA4189) for 3rd Gen Intel® Xeon® Scalable Processors
DIMM	Slot	8 DDR4 288-pin (1DPC)
System Physical Status	Form Factor	OPEN19 brick (½ wide 2RU)
	Chassis Dimension	901.7 x 212.3 x 83.6 mm (L/W/H, w/o ear)
Front Panel	Buttons	Power button w/ LED
	I/O	1 Type-A (USB3.2 Gen1), 1 DB15 (VGA), 1 dedicated IPMI
Rear Panel	Data connector	1 Open19 Backplane data connector (4x2 IMPEL), supports up to 4x25GbE with NCSI (depending on OCP NIC 3.0 card installed)
	Backplane power connector	1 Open19 12V backplane power connector
Internal	Internal	1 dual-slot FHFL PCIe4.0 x16 or 2 FHFL single-slot PCIe4.0 x16 Note1
Storage	External	10 Hot-swap E1.S (PCIe3.0 x4) drive bays
	Internal	1 M-keyNote2 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor
		1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
System Cooling	Fan	2 system fans (80x56 mm)
Power Supply	Module	NA, 12V DC-IN Port
Key part	CPU	1 Intel® Xeon® Gold 6314U
	DIMM	8 DDR4 3200 64GB RDIMM
	LAN card	1 Intel® E810-XXVDA4 4x25G
	SSD	1 M.2 2280 PCIe3 NVMe SSD 240GB
		2 Intel® SSD DC P4511 Series (4.0TB, EDSFF S 5.9mm PCIe 3.1 x4, 3D2, TLC)
Management		ASPEED BMC AST2500
Security		TPM by optional accessory

Note1: Please consult with sales team for the riser card selection. Only support 6 E1.S when installing 1 dual-slot or 2 single-slot add-on card.
Only support 1 single-slot add-on card when installing 10 E1.S.
Note2: SATA DOM will be disabled when M.2_1 populated with SATA device

12 RU cage
8 RU cage
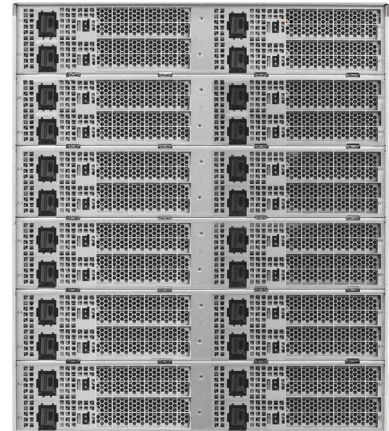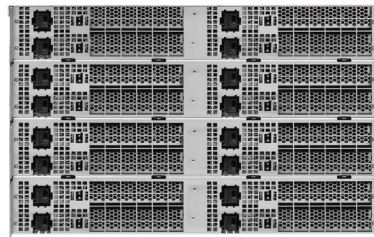
System		8 RU Cage	12 RU Cage
	Form Factor	Open19 form factor	Open19 form factor
	Chassis Model	8 RU cage, fixed divider wall	12 RU cage, fixed divider wall
	Dimensions	938.3mm x 482.1mm x 355mm (L/W/H, w/o ear)	938.6mm x 482.1mmx 533mm (L/W/H, w/o ear)

intel **XEON** PLATINUM

SPC621D8-2L2T

SPC621D8-2T
SPC621D8

SLOT2: PCIe4.0 x8
SLOT4: PCIe4.0 x8
SLOT6: PCIe4.0 x8

SLOT1: PCIe4.0 x16
SLOT3: PCIe4.0 x16 Note1
SLOT5: PCIe4.0 x16 Note1
SLOT7: PCIe4.0 x16 Note1

M.2 Note2 (PCIe3.0 x4 or SATA)
M.2 (PCIe3.0 x1 or SATA)

2 SATA Note4
2 SATA Note4
Mini-SAS HD (4 SATA/ PCIe3.0x4)
2 SATA Note3
2 support SATA DOM

intel Xeon Scalable — 4189
DDR4 3200 — 3200
PCI-E 4.0 — PCI-E 4.0

IPMI
Shared NIC
Shared NIC
VGA
4 USB3.2 Gen1
2 RJ45 (1GbE)
2 RJ45 (10GbE)
UID
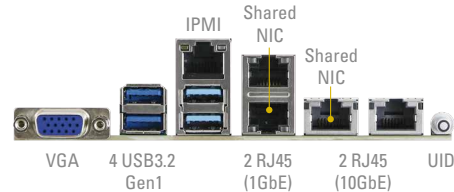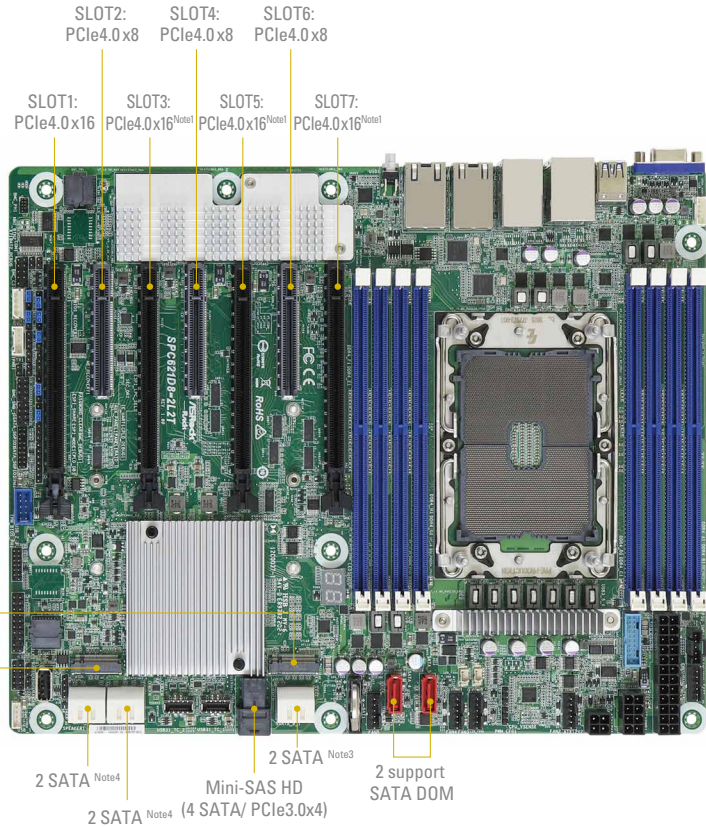
Application

- Deep learning workstation
- Visual computing
- High-end workstation
- Rendering machine
- 3D design and creation
- General purpose server

		SPC621D8-2L2T	SPC621D8-2T	SPC621D8
Form Factor		ATX (12" x 9.6")		
Processor System	CPU	Socket P+ (4189 pin) ; Supports 3rd Gen Intel® Xeon® Scalable Processors		
	PCH	Intel® C621A		
Memory	Capacity	8 DIMM Slots (1DPC); Supports DDR4 RDIMM up to 64GB each, max. 3200MHz LRDIMM up to 128GB each, max. 3200MHz RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz Intel® Optane™ Persistent Memory 200 Series		
Expansion	PCIe slot	4 PCIe4.0 x16 Note1, 3 PCIe4.0 x8		
Storage	M.2	1 M-key Note2 (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280/2242 form factor 1 M-key (PCIe3.0 x1 or SATA 6Gb/s), supports 22110/2280/2242 form factor		
	SATA port	8 SATA 6Gb/s: 1 Mini-SAS HD, 2 SATA DOM, 2 M.2	12 SATA 6Gb/s: 1 Mini-SAS HD, 4 SATA 7-pin, 2 SATA DOM, 2 M.2	13 SATA 6Gb/s: 1 Mini-SAS HD, 6 SATA 7-pin, 2 SATA DOM, 1 M.2
Network	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2 2 RJ45 (1GbE) by Intel® i210	2 RJ45 (10GbE) by Intel® X710-AT2	2 RJ45 (1GbE) by Intel® i210
Management	BMC	ASPEED AST2500: IPMI 2.0		
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E		
I/O	USB	2 USB3.2 Gen2 ports: 2 Type-C headers Note5 (BTO) 6 USB3.2 Gen1 ports: 4 rear Type-A, 2 via 19-pin header 3 USB2.0 ports: 1 vertical Type-A, 2 via 9-pin header		
	COM port	9-pin header		
Security	TPM	Supports 17-pin (LPC) or 13-pin (SPI) TPM modules		
	PFR	N/A		

Note1: Slot 7/5/3 auto-switch to PCIe4.0 x8 when Slot 6/4/2 occupied
Note2: SPC621D8 supports 1 M-key (PCIe3.0 x4) and 1 M-key (PCIe3.0 x1 or SATA 6Gb/s)
Note3: Only available on SPC621D8 SKU
Note4: Only available on SPC621D8-2T and SPC621D8 SKU
Note5: Only available on SPC621D8-2L2T SKU

intel XEON PLATINUM
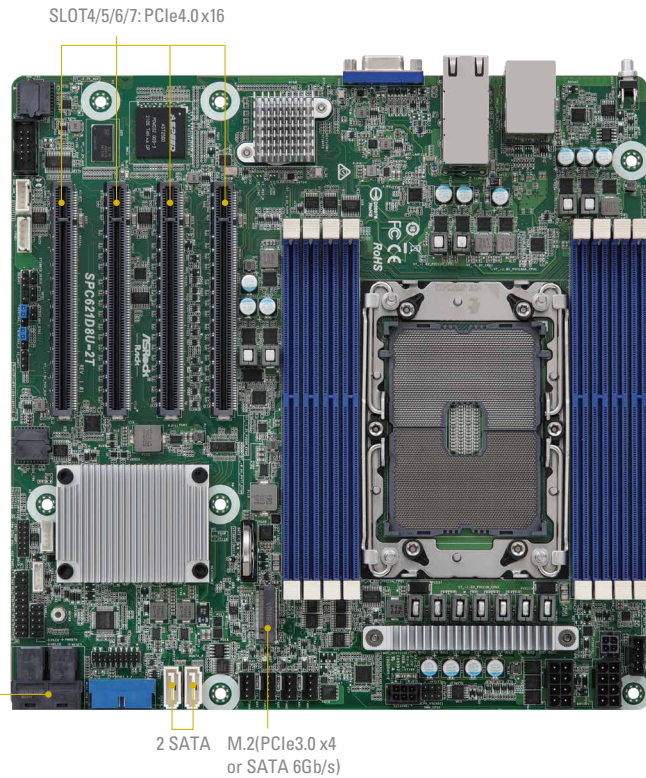
SPC621D8U-2T
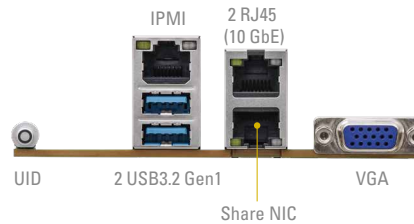
SLOT4/5/6/7: PCIe4.0 x16

DDR4 3200
3200

PCI-E 4.0
PCI-E 4.0

10G
10Gbase-T

2 Mini-SAS HD (PCIe3.0 x4 or SATA 6Gb/s)

2 SATA   M.2(PCIe3.0 x4 or SATA 6Gb/s)

Application

· Compact storage server
· Enterprise NAS
· High-end workstation

IPMI   2 RJ45 (10 GbE)

UID   2 USB3.2 Gen1   VGA

Share NIC

		SPC621D8U-2T
Form Factor		Micro-ATX (9.6" x 9.6")
Processor System	CPU	Socket P+ (4189 pin); Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	8 DIMM Slots (1DPC); Supports DDR4
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	4 PCIe4.0 x16
Storage	M.2	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
	SATA port	11 SATA 6 Gb/s: 2 Mini-SAS HD, 2 SATA 7-pin, 1 M.2
Network	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header
	COM port	9-pin header
Security	TPM	Supports 17-pin (LPC) or 13-pin (SPI) TPM modules

intel. **XEON** PLATINUM

SPC621D8HM3

4189

DDR4 3200 — 3200

PCI-E 4.0 — PCI-E 4.0

OCP NIC 3.0 — OCP NIC 3.0

PCIe4.0 x16 — PCIe 4.0 x 16

OCP NIC 3.0 (PCIe4.0 x16) — 2 M.2 (PCIe3.0 x4 or SATA)

2 Oculink (PCIe3.0 x4 or 4 SATA)

2 SlimSAS (PCIe4.0 x8)

support SATA DOM

SATA

Application

- Edge server
- Multi-node server

UID | 2 USB3.1 Gen1 | IPMI | Mini-DP (VGA)
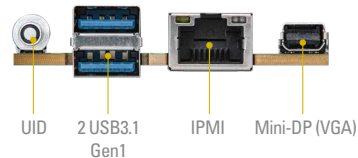
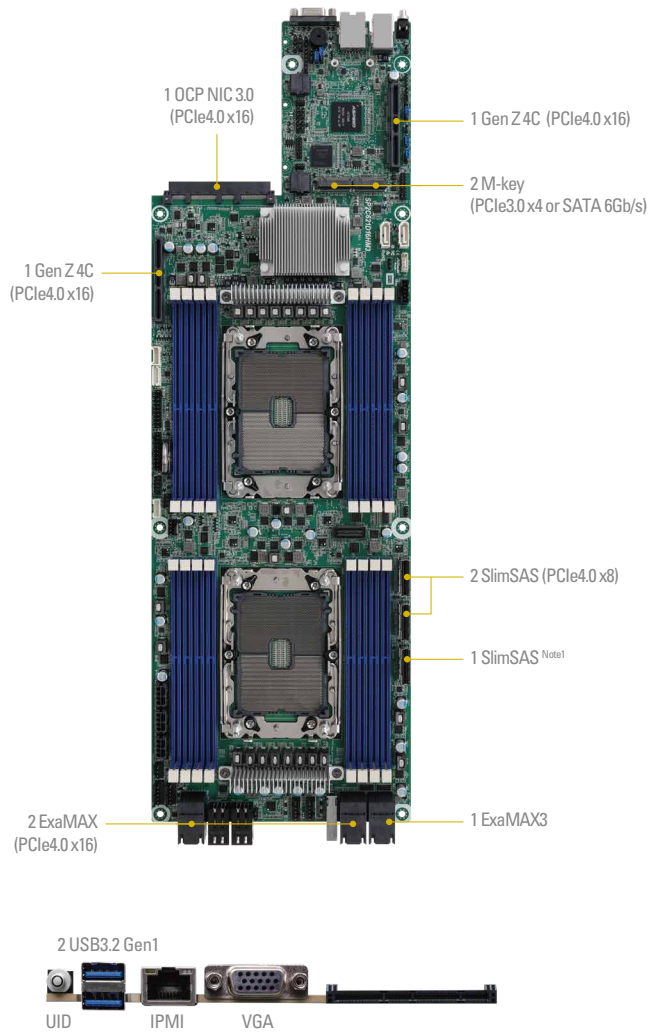|		SPC621D8HM3
Form Factor		Proprietary Half-width (6.6" x 17")
Processor System	CPU	Socket P+ (4189 pin); Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	8 DDR4 288-pin DIMM Slots (1DPC); Supports:
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	2 high-density PCIe4.0 x16
	Others	2 SlimSAS (PCIe4.0 x8)
		2 OCuLink (PCIe3.0 x4 or 4 SATA 6Gb/s)
Storage	M.2	1 M-key[Note1] (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/22110 form factor
		1 M-Key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor
	SATA port	11 SATA 6Gb/s: 2 OCuLink 4i, 1 SATA 7-pin, 1 M.2, 1 SATA DOM or M.2
Network	OCP NIC	1 OCP NIC 3.0 (PCIe4.0 x16)
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header
		3 USB2.0 ports: 1 vertical Type-A, 2 via 9-pin header
	COM port	9-pin header
Security	TPM	Supports 17-pin (LPC) or 13-pin (SPI) TPM modules
	PFR	N/A

Note1: SATA DOM will be disabled when M.2_1 populated with SATA device

intel **XEON** PLATINUM

SP2C621D16HM3

4189

3200

PCI-E 4.0

OCP NIC 3.0

1 OCP NIC 3.0 (PCIe4.0 x16)

1 Gen Z 4C (PCIe4.0 x16)

2 M-key (PCIe3.0 x4 or SATA 6Gb/s)

1 Gen Z 4C (PCIe4.0 x16)

2 SlimSAS (PCIe4.0 x8)

1 SlimSAS Note1

2 ExaMAX (PCIe4.0 x16)

1 ExaMAX3

2 USB3.2 Gen1

UID   IPMI   VGA

Application

· Multi-node server
· HPC
· HCI

		SP2C621D16HM3
Form Factor		Half-width (6.75" x 21")
Processor System	CPU	1+1 Socket P+ (4189 pin) ; Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	8+8 DDR4 288-pin DIMM Slots (1DPC); Supports:
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	2 Gen Z 4C (PCIe4.0 x16) [CPU0]
	Others	2 SlimSAS (PCIe4.0 x8) [CPU0]
		1 SlimSAS Note1
		2 ExaMAX (PCIe4.0 x16) [CPU1]
Storage	M.2	2 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280 form factor [PCH]
	SATA port	10 SATA 6 Gb/s: 2 M.2, 2 SATA 7-pin, 1 ExaMAX3
Network	OCP NIC	1 OCP NIC 3.0 (PCIe4.0 x16) [CPU0]
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	2 USB3.2 Gen1 ports: 2 rear Type-A
		2 USB2.0 ports: via ExaMAX3
	COM port	1 (3-pin) header
Security	TPM	Supports 13-pin (SPI) TPM modules

Note1: SAS is supported by additional RAID card only; The Slimline1 is reserved only to extend SAS from RAID card to ExaMAX3.
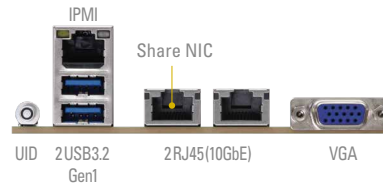
intel
XEON
PLATINUM

SP2C621D16-2T

SP2C621D16-2L+

DDR4 3200 — 3200

PCI-E 4.0 — PCI-E 4.0

10G — 10Gbase-T

SLOT2: PCIe4.0x16
SLOT4: PCIe4.0x16
SLOT6: PCIe4.0x16

SLOT1: PCIe4.0x8
SLOT3: PCIe4.0x16
SLOT5: PCIe4.0x16

1 M.2 (PCIe4.0x4)

2 SlimSAS (PCIe4.0x8)

2 SATA6Gb/s

3 Mini-SAS HD (SATA6Gb/s)
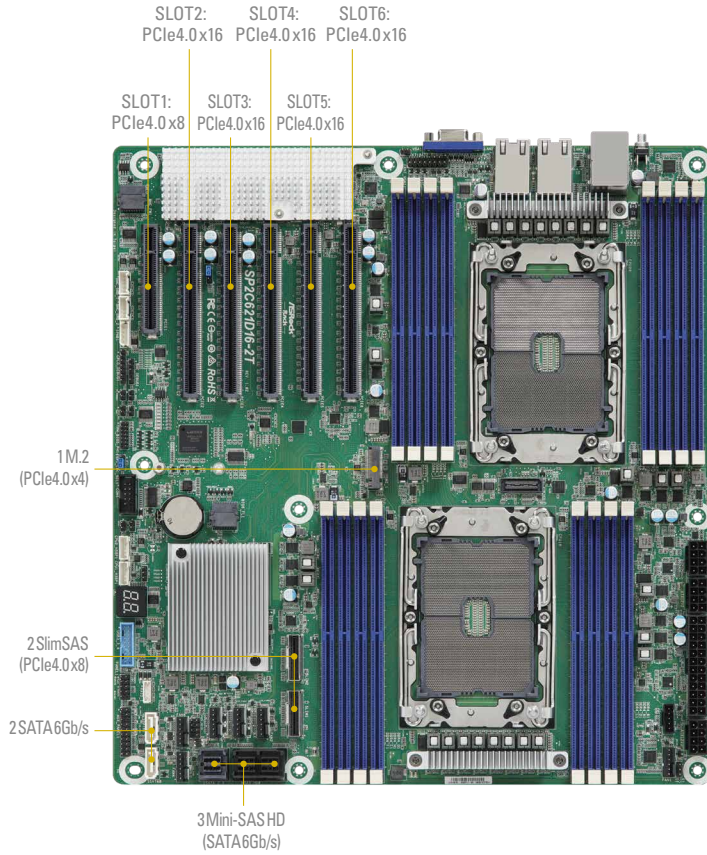
Application

· Storage Server
· Mainstream server for SMB
· High-end workstation/ industrial application

IPMI

Share NIC

UID

2 USB3.2 Gen1

2 RJ45 (10GbE)

VGA

		SP2C621D16-2T	SP2C621D16-2L+
Form Factor		EEB (12" x 13")	
Processor System	CPU	1+1 Socket P+ 4189 pin; Supports 3rd Gen Intel® Xeon® Scalable Processors	
	PCH	Intel® C621A	
Memory	Capacity	8+8 DDR4 288-pin DIMM Slots (1DPC), supports:	
		RDIMM up to 64GB each, max. 3200MHz	
		LRDIMM up to 128GB each, max. 3200MHz	
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz	
		Intel® Optane™ Persistent Memory 200 Series	
Expansion	PCIe slot	3 PCIe4.0 x16 [CPU1]	
		2 PCIe4.0 x16, 1 PCIe4.0 x8 [CPU0]	
	Others	2 SlimSAS (PCIe4.0 x8) [CPU0]	
Storage	M.2	1 M-key (PCIe4.0 x4), supports 22110/2280 form factor	
	SATA port	14 SATA 6Gb/s: 3 Mini-SAS HD, 2 SATA 7-pin	
Network	RJ45	2 RJ45 (10GbE) by Intel® X550-AT2	2 RJ45 (1GbE) by Intel® I350-AM2
Management	BMC	ASPEED AST2500: IPMI 2.0	
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E	
I/O	USB	4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header	
	COM port	9-pin header	
Security	TPM	Supports 13-pin (SPI) TPM modules	

intel **XEON** PLATINUM

SP2C621D16N-2L2T

SP2C621D16N

4189   intel Xeon Scalable

3200   DDR4 3200

PCI-E 4.0   PCI-E 4.0

SLOT3: PCIe4.0 x8
SLOT4: PCIe4.0 x16
SLOT5: PCIe4.0 x8
SLOT6: PCIe4.0 x16
SLOT7: PCIe4.0 x16
1 M.2 (PCIe3.0 x4 or SATA)

low-profile SlimSAS (PCIe4.0x8)

2SATA
Mini-SAS HD (SATA6Gb/s)

low-profile SlimSAS (PCIe4.0x8)
low-profile SlimSAS (PCIe4.0x8)

IPMI
Shared NIC

2USB3.2 Gen1
2RJ45 (1GbE)
VGA
UID
2RJ45 (10GbE)

Application

- Enterprise Mission Critical Application
- Hybrid storage server
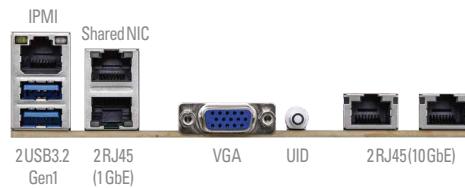
		SP2C621D16N-2L2T	SP2C621D16N
Form Factor		EEB (12.2" x 13.12")	
Processor System	CPU	1+1 Socket P+ 4189 pin; Supports 3rd Gen Intel® Xeon® Scalable Processors	
	PCH	Intel® C621A	
Memory	Capacity	8+8 DDR4 288-pin DIMM Slots (1DPC), supports:	
		RDIMM up to 64GB each, max. 3200MHz	
		LRDIMM up to 128GB each, max. 3200MHz	
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz	
		Intel® Optane™ Persistent Memory 200 Series	
Expansion	PCIe slot	2 PCIe4.0 x16 [CPU0]	
		1 PCIe4.0 x16, 2 PCIe4.0 x8 [CPU1]	
	Others	1 low-profile SlimSAS (PCIe4.0 x8) [CPU0]	
		2 low-profile SlimSAS (PCIe4.0 x8) [CPU1]	
Storage	M.2	1 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/2260 form factor	
	SATA port	7 SATA 6Gb/s: 1 Mini-SAS HD, 2 SATA 7-pin, 1 M.2	
Network	RJ45	2 RJ45 (10GbE) by Intel® X550-AT2 2 RJ45 (1GbE) by Intel® i210	2 RJ45 (1GbE) by Intel® i210
Management	BMC	ASPEED AST2500: IPMI 2.0	
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E	
I/O	USB	4 USB3.2 Gen1 ports: 2 rear Type-A, 2 via 19-pin header	
	COM port	9-pin header	
Security	TPM	Support 13-pin (SPI) TPM module	

intel **XEON** PLATINUM

SP2C621D32TM3

OCP NIC 3.0   **DDR4 3200**   **PCI-E 4.0**

OCP NIC 3.0   3200   PCI-E 4.0

2 M.2 (PCIe3.0 x4 or SATA)
1 OCP NIC 3.0 (PCIe4.0 x16)
Gen Z 8C (PCIe4.0 x32)
Gen Z 8C (PCIe4.0 x32)
Gen Z 4+ (PCIe4.0 x16)
2 Mini-SAS HD (PCIe3.0 x4 or 4 SATA)
support SATA DOM
2 SlimSAS (PCIe4.0 x8)
2 SlimSAS (PCIe4.0 x8)
Share NIC
VGA   1 RJ45 (COM)   IPMI   UID   2 RJ45 (1GbE)   2 USB 3.1 Gen1
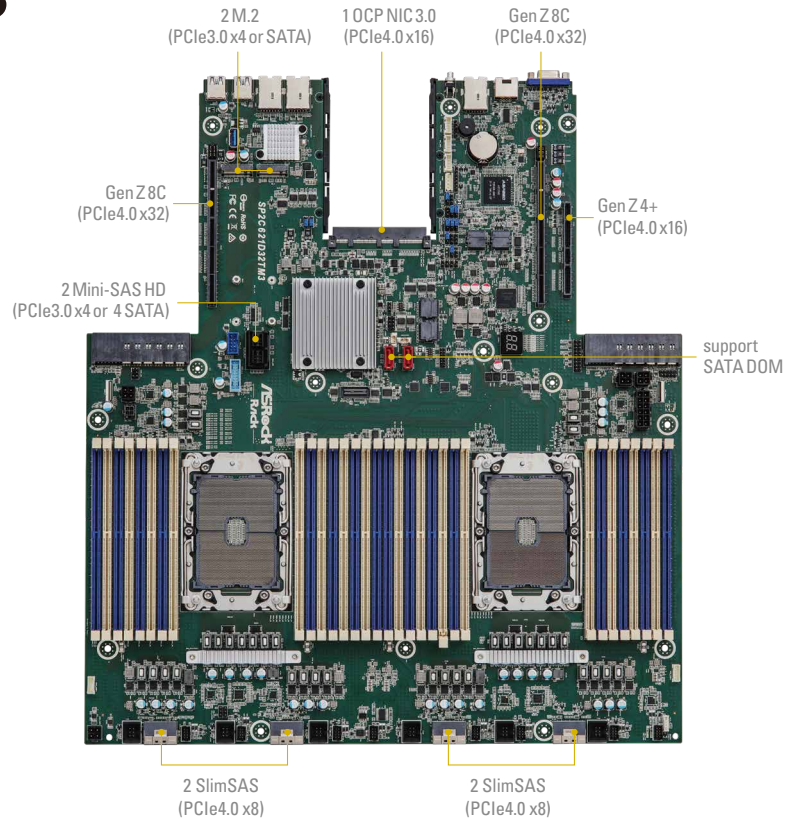
Application

· Software-defined application
· E-commerce
· HCI

		SP2C621D32TM3
Form Factor		Proprietary T-shape (18.87" x 16.84")
Processor System	CPU	1+1 Socket P+ 4189 pin; Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	16+16 DDR4 288-pin DIMM Slots (2DPC); Supports:
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	Gen Z 8C (PCIe4.0 x32) [CPU0]
		Gen Z 8C (PCIe4.0 x32), Gen Z 4C+ (PCIe4.0 x16) [CPU1]
	Others	2 SlimSAS (PCIe4.0 x8) [CPU0]
		2 SlimSAS (PCIe4.0 x8) [CPU1]
Storage	M.2	2 M-key[Note1] (PCIe3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor
	SATA port	10 SATA 6 Gb/s: 2 MiniSAS-HD, SATA DOM, SATA DOM or M.2
Network	RJ45	2 RJ45 (1GbE) by Intel® i350-AM2
	OCP NIC	1 OCP NIC 3.0 (PCIe4.0 x16) [CPU0]
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	6 USB3.2 Gen1 ports: 2 rear Type-A, 1 vertical Type-A, 1 via 26-pin header, 2 via 19-pin header
		3 USB2.0 ports: 1 via 26-pin hedaer, 2 via 9-pin header
	COM port	1 RJ45
Security	TPM	Supports 13-pin (SPI) TPM modules
	PFR	BTO

Note1: 1 SATA DOM will be disabled when M.2_1 populated with SATA device

intel **XEON** PLATINUM

SP2C621D32LM3

4189

DDR4 3200 — 3200

PCI-E 4.0 — PCI-E 4.0

OCP NIC 3.0 — OCP NIC 3.0

16+16 DIMMS — 16+16 DIMMS

Board labels:
- PCIe4.0 x24
- PCIe4.0 x24
- OCP NIC 3.0 (PCIe4.0 x16)
- PCIe4.0 x16
- SATA
- support SATA DOM
- 3 Mini-SAS HD (4 SATA)
- M.2 (PCIe3.0 x4 or SATA)
- SlimSAS (PCIe4.0 x8)
- SlimSAS (PCIe4.0 x8)
- 2 SlimSAS (PCIe4.0 x8)
- 2 SlimSAS (PCIe4.0 x8)

Rear I/O:
- SYS LED
- PWR BTN
- UID
- IPMI
- 2 USB3.2 Gen1
- VGA
- COM
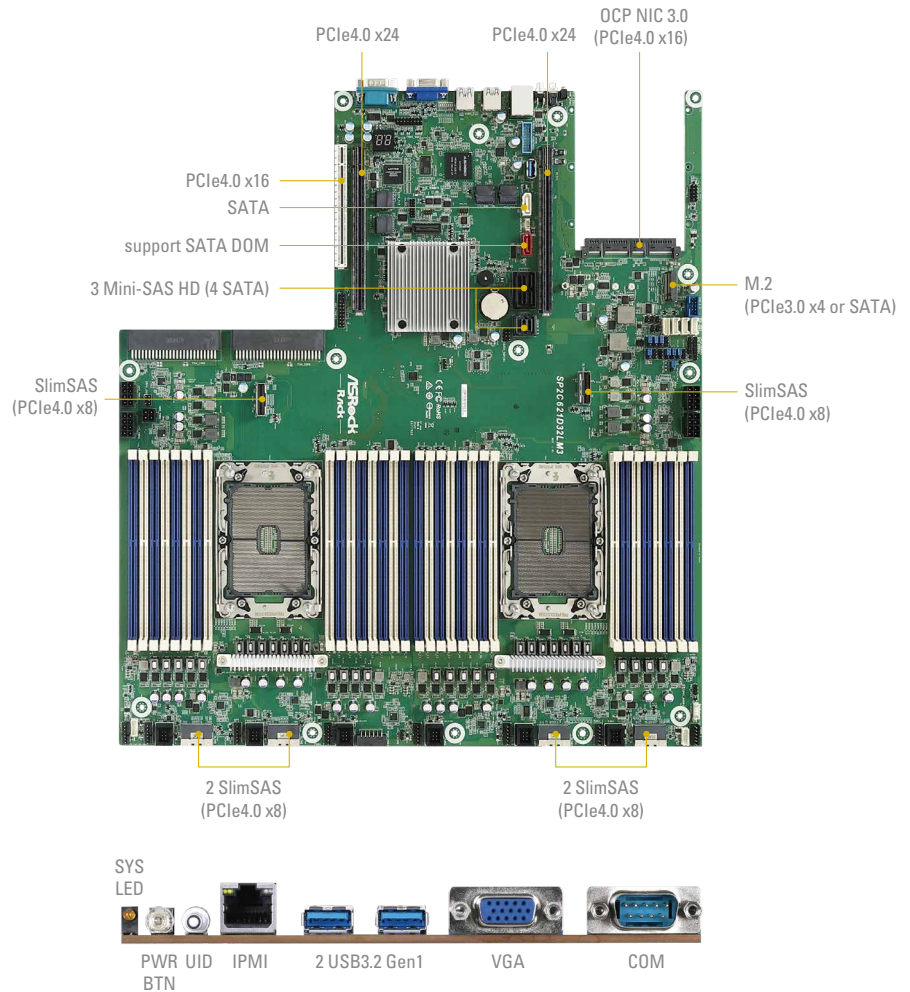
Application

· HCI
· E-commerce
· Software-defined applications

		SP2C621D32LM3
Form Factor		Proprietary L-shape (18.8607" x17.0149")
Processor System	CPU	1+1 Socket P+ (4189 pin) ; Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	16+16 DDR4 288-pin DIMM Slots (2DPC); Supports:
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	1 PCIe4.0 x24 [CPU0]
		1 PCIe4.0 x24, 1 PCIe4.0 x16 [CPU1]
	Others	3 SlimSAS (PCIe4.0 x8) [CPU0]
		3 SlimSAS (PCIe4.0 x8) [CPU1]
Storage	M.2	1 M-key Note1 (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/2260/2242 form factor
	SATA port	14 SATA 6Gb/s: 3 Mini-SAS HD, SATA DOM, SATA DOM or M.2
Network	OCP NIC	1 OCP NIC 3.0 (PCIe4.0 x16) [CPU0]
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	5 USB3.2 Gen1 ports: 2 rear Type-A, 1 vertical Type-A, 2 via header
		2 USB2.0 ports: 2 via 9-pin header
	COM port	1 rear DB9
Security	TPM	Supports 13-pin (SPI) TPM modules
	PFR	BTO

Note1: SATA DOM will be disabled when M.2 is populated with SATA device

intel
XEON
PLATINUM

SP2C621D32GM-2T

intel
Xeon Scalable
4189

DDR4 3200
3200

PCI-E 4.0
PCI-E 4.0

16+16 DIMMS
16+16 DIMMS
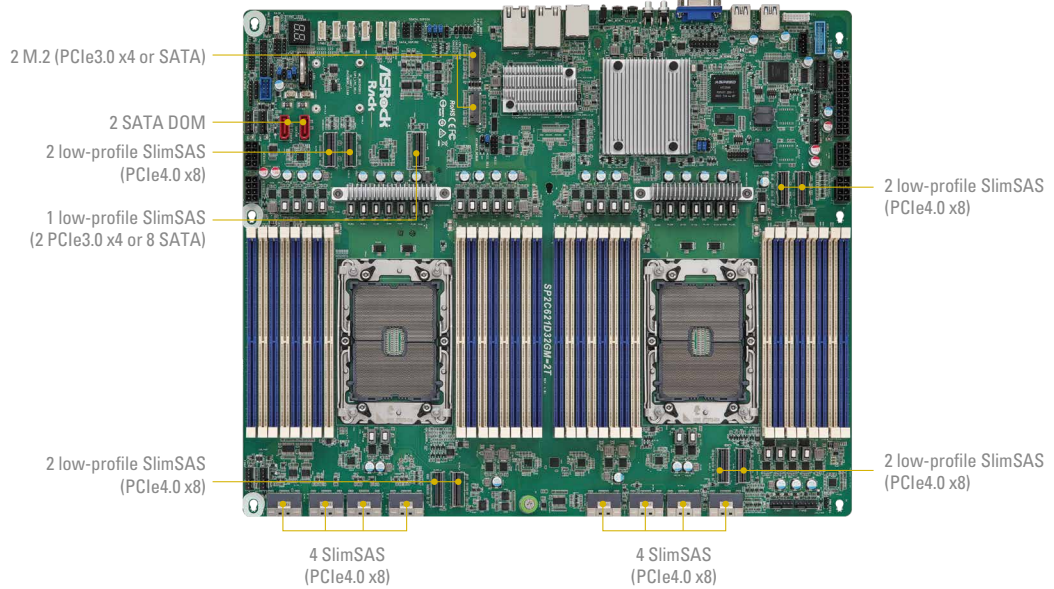
Application

· All Flash NVMe Storage Server
· GPGPU Computing
· High-end Network Appliance

2 M.2 (PCIe3.0 x4 or SATA)
2 SATA DOM
2 low-profile SlimSAS (PCIe4.0 x8)
1 low-profile SlimSAS (2 PCIe3.0 x4 or 8 SATA)
2 low-profile SlimSAS (PCIe4.0 x8)
2 low-profile SlimSAS (PCIe4.0 x8)
2 low-profile SlimSAS (PCIe4.0 x8)
4 SlimSAS (PCIe4.0 x8)
4 SlimSAS (PCIe4.0 x8)

HDD LED   Shared NIC
Reset NMI
4 USB3.2 Gen1   VGA   UID PWR   SYS LED IPMI   2 RJ45(10GbE)

		SP2C621D32GM-2T
Form Factor		Proprietary (16.53'' x 13.79'')
Processor System	CPU	1+1 Socket P+ (4189 pin) ; Supports 3rd Gen Intel® Xeon® Scalable Processors
	PCH	Intel® C621A
Memory	Capacity	16+16 DIMM Slots (2DPC); Supports DDR4
		RDIMM up to 64GB each, max. 3200MHz
		LRDIMM up to 128GB each, max. 3200MHz
		RDIMM/LRDIMM-3DS up to 256GB each, max. 3200MHz
		Intel® Optane™ Persistent Memory 200 Series
Expansion	PCIe slot	-
	Others	4 SlimSAS (PCIe4.0 x8) [CPU0]
		4 low-porfile SlimSAS(PCIe4.0 x8) [CPU0]
		4 SlimSAS(PCIe4.0 x8) [CPU1]
		4 low-profile SlimSAS(PCIe4.0 x8) [CPU1]
		1 low-profile SlimSAS Note1 (2 PCIe3.0 x4 or 8 SATA 6Gb/s) [PCH]
Storage	M.2	2 M-key Note1 (PCIe 3.0 x4 or SATA 6Gb/s), supports 22110/2280 form factor
	SATA port	10 SATA 6Gb/s: SlimSAS or M.2, 2 SATA DOM
Network	RJ45	2 RJ45 (10GbE) by Intel® X710-AT2
Management	BMC	ASPEED AST2500: IPMI 2.0
	Dedicated IPMI	1 RJ45 via Realtek RTL8211E
I/O	USB	6 USB3.2 Gen1 ports: 4 rear Type-A, 2 via 19-pin header
		2 USB2.0 ports: 2 via 9-pin header
	COM port	9-pin header
Security	TPM	Supports 13-pin (SPI) TPM modules
	PFR	BTO

Note1: SLIM9 from PCH will only support PCIe3.0 x4 or 4 SATA when M.2_2 is populated

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