



A+ H13 EPYC Products

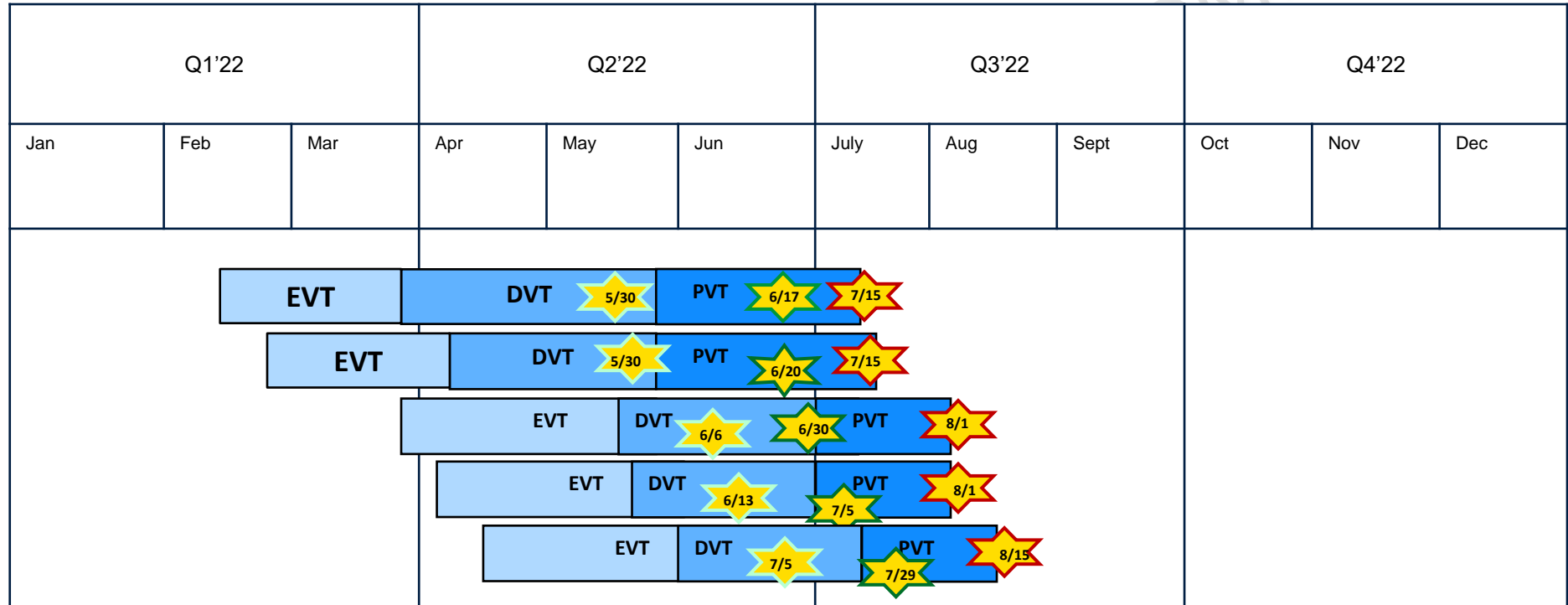
Supermicro Server Department

H13 Roadmap

February 4, 2022



A+ Genoa SP5 H13 Server Schedule



- H13 UP GrandTwin RIO
- H13 DP 4U 10 GPU
- H13 DP Hyper
- H13 UP CloudDC
- H13 UP 2U 2Node GPU Server

- Perfect Sample
- Beta Release
- Final Release

EVT

DVT

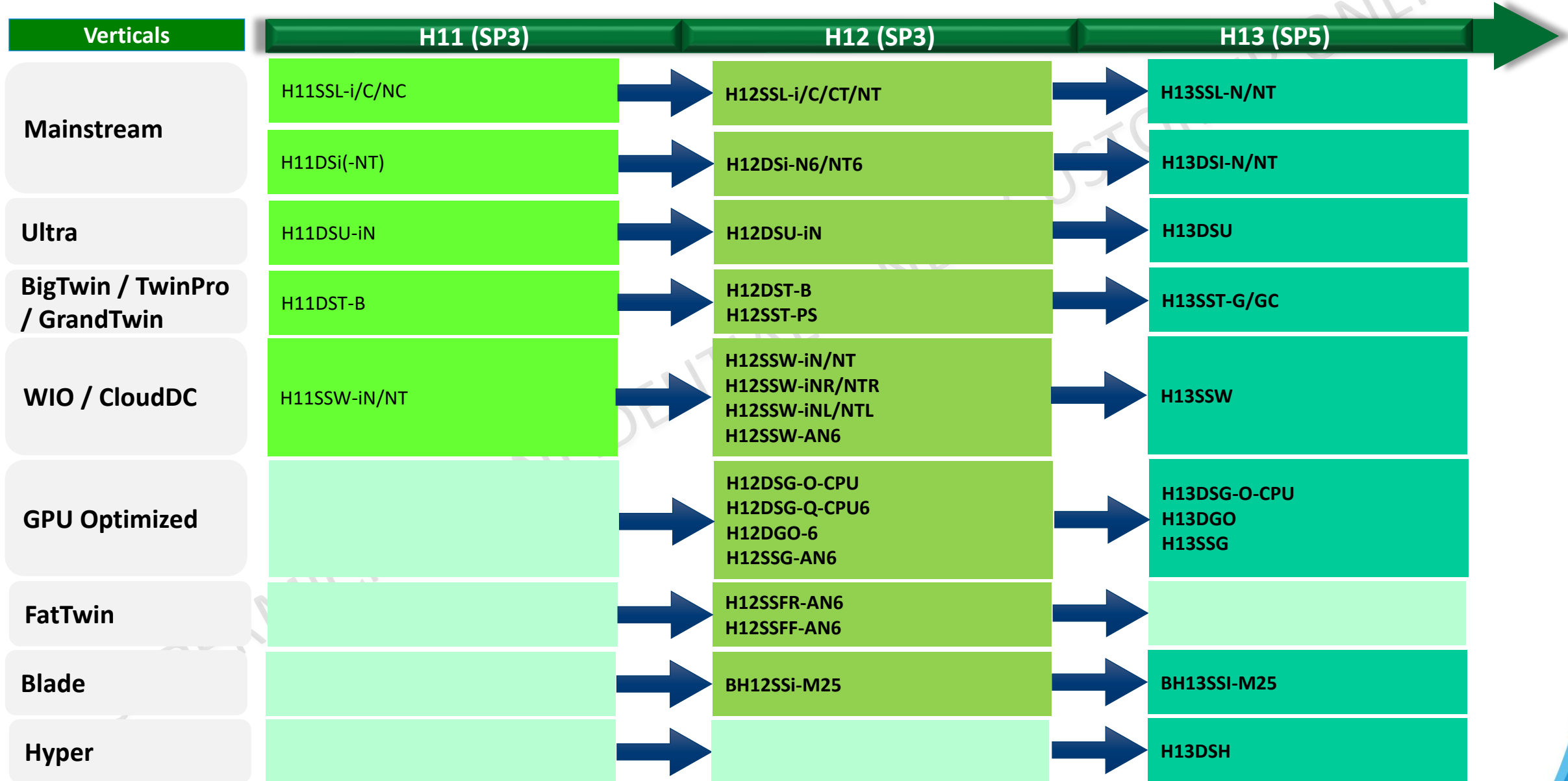
PVT

EPYC Product Overview (Genoa vs. Milan)



Spec	H13 - Socket SP5 EPYC Genoa CPU	H12 - Socket SP3 EPYC Milan CPU (2021)
CPU TDP	120W ~ 320W (cTDP: 400W)	120W ~ 280W
Socket	Socket SP5 (LGA 6096)	Socket SP3 (LGA 4094)
Scalability	1S, 2S	1S, 2S
Cores	Up to 96C / 192 threads per socket	Up to 64C / 128 threads per socket
Memory	12 channels DDR5 per socket RDIMM, LRDIMM, NVDIMM-N, 3DS DIMM	8 channels DDR4 per socket RDIMM, LRDIMM, NVDIMM-N, 3DS DIMM
	1DPC = up to 5200, 2DPC = 4800 MT/s Up to 3TB per socket	1DPC = up to 3200, 2DPC = up to 2933, No 3DPC support Up to 4TB per socket
Cache	L2: 1MB per core L3: 384 MB (32MB shared by 8 cores/CCD)	L2: 512 KB per core (16 MB total) L3: 256 MB shared cache (32 MB per 8 cores)
PCIe	PCIe 5.0 (32 GT/s)	PCIe 3.0 / 4.0 (8.0, 16.0 GT/s)
	1S: 128 lanes PCIe5 + up to 8 lanes PCIe3 2S: 128 lanes (160 w/ 3-link XGMI) PCIe5 + 12 lanes PCIe3 (6 per socket)	1S: 128 lanes 2S: 128 lanes (162 lanes option)
SATA	1S: up to 32 SATAs 2S: up to 32 SATAs (16 per socket)	1S: up to 32 SATAs 2S: up to 32 SATAs (16 per socket)
Process	5nm+ (Zen4)	7nm+ (Zen3)

A+ MBD Transition Chart





A+ H13 EPYC Products

Supermicro Server Department

GrandTwin





AS -2115GT-HNTR (Rear IO)

Product Kick Off

Front



Rear



Design Features (Per Node)

- Configurable up to 6 2.5" Drive Bays supporting NVMe or SATA
- Front accessible nodes for easy maintenance
- Flexible networking options with AIOM / OCP 3.0 support
- 2 M.2 slots on motherboard

Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W) per node
Memory	• 12x DIMM slots, DDR5-5200memory per node
NIC	• Up to 2 AIOM/OCP 3.0 Slot w/NCSI per node
Storage	• Optional 2 / 4 / 6 NVMe or SATA support* per node • 2 M.2 NVMe/SATA 80mm/110mm slots (for Boot) per node
USB	• 2 Rear USB Port (shared via KVM switch)
BMC	• ASPEED AST2600
Video	• 1 VGA port (shared via KVM switch)
Remote Management	• 1 BMC GbE LAN Port per node
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 2200W Redundant Titanium Level Power Supply*
Chassis	• CSE-GT214

Q3'21			Q4'21			Q1'22			Q2'22			Q3'22		
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept
Development						EVT			DVT			MP		

The air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SATA configurations
³Optional parts required but must for AIOM
⁴ Full redundancy base on configuration and application load



AS -2115GT-FHNTR (Front IO) TBD

Front



Rear



Possible system configurations:

2.5" Drive	AIOM	GrandTwin I/O
2.5" Drive	Venting	
2.5" Drive	2.5" Drive	GrandTwin I/O
2.5" Drive	2.5" Drive	

Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W) per node
Memory	• 12x DIMM slots, DDR5-5200memory
NIC	• Up to 1 AIOM/OCPI 3.0 in front bay, and GrandTwin I/O module for 1G, 25G, or 100G options*, per node
Storage	• Optional 2/4 NVMe or SATA support* per node • 2 M.2 NVMe/SATA 80mm/110mm slots (for Boot) per node
USB	• 2 front USB Port per node from GrandTwin I/O module
BMC	• ASPEED AST2600
Video	• 1 front VGA port per node from GrandTwin I/O module
Remote Management	• 1 front BMC GbE LAN Port per node from GrandTwin I/O module
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 2200W Redundant Titanium Level Power Supply*
Chassis	• CSE-GT214

The air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SATA configurations
³Optional parts required but must for AIOM
⁴ Full redundancy base on configuration and application load



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Hyper



H13 DP Hyper Server Solutions



AS -1125HS-TNR

Dual socket

AS -2125HS-FTNR

Dual socket



Density Optimized Solutions

- Up to 8 PCIe 5.0x8 or Up To 4 PCIe 5.0 x16 for GPU solution
- 24 DIMM DDR 5

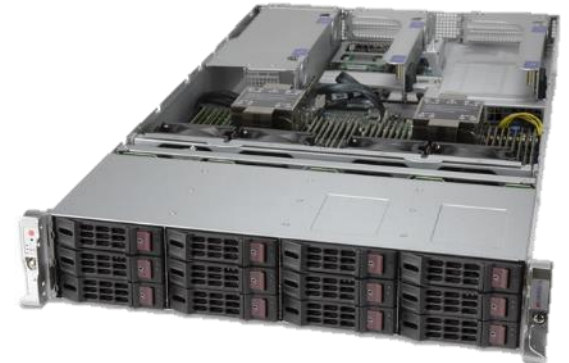


AS -2125HS-TNR

Dual socket

AS -2025HS-TNR

Dual socket



Storage Optimized Solutions

- Up to 24 HDD Solution combine NVME/SATA /SAS
- 24 DIMM DDR 5

- Up to 12 HDD NVMe/SATA or SAS
- Up to 4 PCI-E 5.0 x16 Slots or up to 8 PCI-E 5.0 x8 Slots
- 24 DIMM DDR 5

Subject to change without notice

1U DP Hyper Server AS -1125HS-TNR



Product Specifications

Processor	• Dual AMD Genoa SP5 processors up to 320W
Memory	• 24 x DIMM slots, DDR5 -5200 memory support up to 6 TB
PCI-E Slots	• 3 PCI-E 5.0 x16 Slots
NIC	• 1 AIOM/OCP NIC 3.0 Slot
Storage	• 8 Hot-swap 2.5" NVMe/SAS/SATA ² (Option for up to 12 drives) • 2 M.2 NVMe 80mm/110mm (Boot)
USB	• 2 USB
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 1200W Redundant Power Supplies (Titanium Level) Optional Configuration: • 1600W Redundant Power Supplies (Titanium Level) (Full redundancy based on configuration and application load)

Chassis • 1U (17.2" x 29.52")
Subject to change without notice

Hight Wattage TDP CPU air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
Photo as a reference during Development Stage

Design Features

- Configurable capable support up to 12 2.5" Drive Bays NVMe/SAS/SATA (require optional kit)
- Flexible networking options with AIOM / OCP NIC 3.0 support
- 3 PCI-E 5.0 x16 slots
- Best-in-class serviceability features – Tool-less chassis/board design
- 29.52" (749.81mm) chassis depth



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CloudDC



UP CloudDC H13 Solution



Optimized Economical IO & Storage Solutions



AS -2015CS-TNR

Single socket

- Up to 12 HDD NVMe/SATA or SAS
- Up to 4 PCI-E 5.0 x16 & 2 AIOM NIC slot
- 12 DIMM in UP support DDR5



AS -1115CS-TNR

Single socket

- Up to 10 HDD NVMe/SATA or SAS
- Up to 3 PCI-E 5.0 x16 & 2 AIOM NIC slot
- 12 DIMM in UP support DDR5



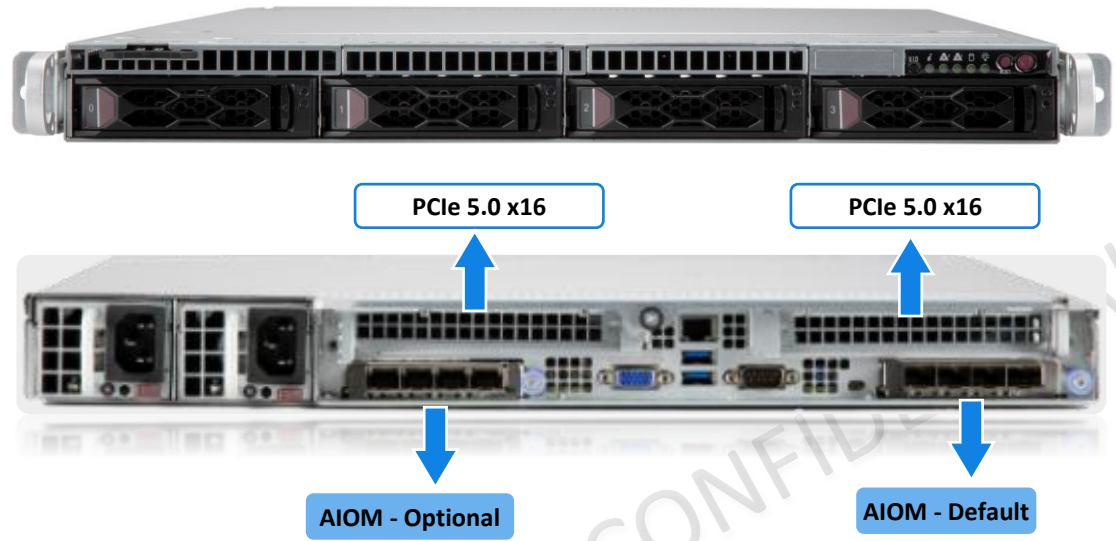
AS -1015CS-TNR

Single socket

- Configurable up to 4 3.5" Drive Bays supporting NVMe/SATA hybrid mode
- Flexible networking options with AIOM / OCP NIC 3.0 support
- 2 PCI-E 5.0 x16 slots
- Best-in-class serviceability features – Tool-less chassis design



AS -1015CS-TNR



Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W)
Memory	• 12 x DIMM slots, DDR5-5200memory
PCI-E Slots	• 2 PCI-E 5.0 x16 (FHHL) slots
NIC	• 2 AIOM/OCP NIC 3.0 Slot
Storage	• 4 Hot-swap 3.5" NVMe/SAS/SATA ² • 2 M.2 NVMe/SATA 80mm/110mm (Boot)
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	•860W Redundant Platinum Level Power Supply (Full redundancy based on configuration and application load)
Chassis	• 1U (17.2" x 23.5")

Design Features

- Configurable up to 4 3.5" Drive Bays supporting NVMe/SATA hybrid mode
- Flexible networking options with AIOM / OCP NIC 3.0 support
- 2 PCI-E 5.0 x16 slots
- Best-in-class serviceability features – Tool-less chassis design

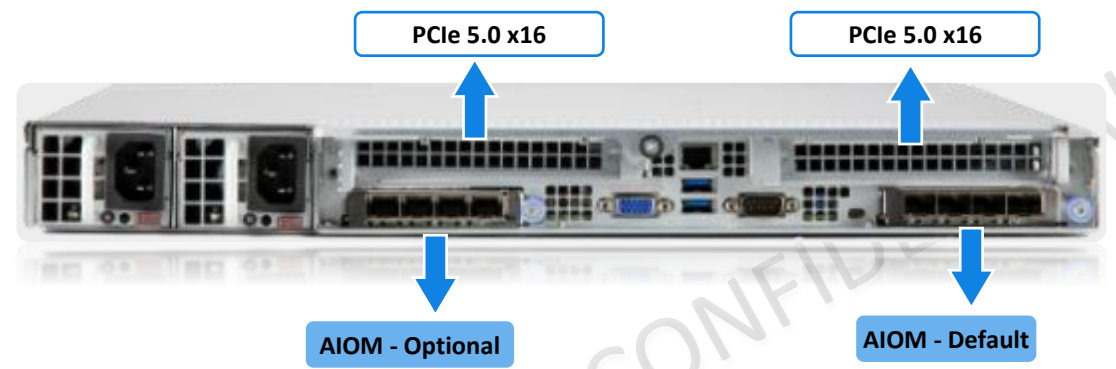
¹280W TDP CPU & Up air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations

AS -1115CS-TNR



Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W)
Memory	• 12 x DIMM slots, DDR5-5200memory
PCI-E Slots	• 2 PCI-E 5.0 x16 (FHHL) slots
NIC	• 2 AIOM/OCP NIC 3.0 Slot
Storage	• 10 Hot-swap 2.5" NVMe/SAS/SATA • 2 M.2 NVMe/SATA 80mm/110mm (Boot)
USB	• 4 USB (2 Front USB, 2 Rear USB)
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 860W Redundant Platinum Level Power Supply (Full redundancy based on configuration and application load)
Chassis	• 1U (17.2" x 23.5")

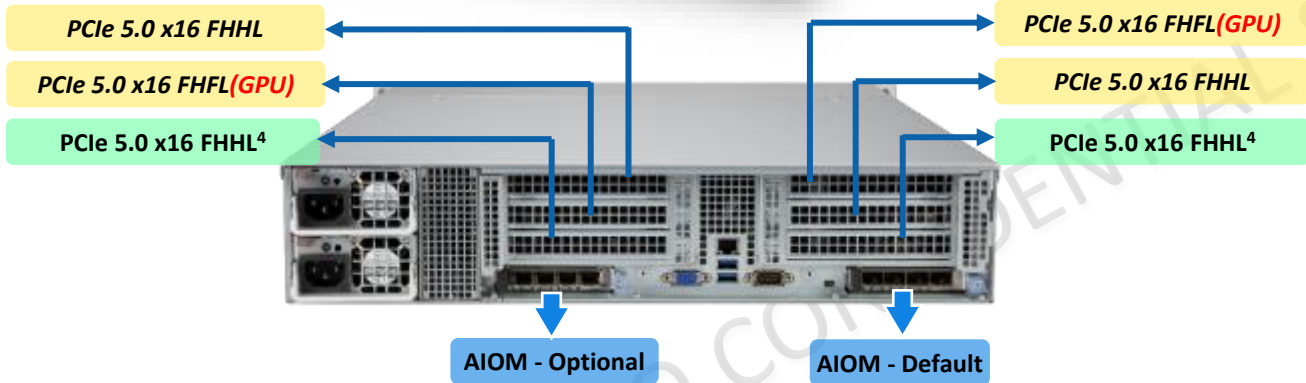


Design Features

- Configurable up to 10 2.5" Drive Bays supporting NVMe/SAS/SATA²
- Flexible networking options with AIOM / OCP NIC 3.0 support
- 2 PCI-E 5.0 x16 slots.
- Best-in-class serviceability features – Tool-less chassis design
- 23.5" (5971mm) chassis depth

¹280W TDP CPU & Up air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations

AS -2015CS-TNR



Design Features

- Configurable up to 12 3.5" Drive Bays supporting NVMe/SAS/SATA²
- Flexible networking options with AIOM / OCP NIC 3.0 support
- 4 PCI-E 5.0 x16 slots with support up to two double-width GPU
- Best-in-class serviceability – Tool-less chassis design with Tool-Less HDD trays
- 25.5" (648mm) chassis depth

Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W)
Memory	• 12 x DIMM slots, DDR5-4800 memory
PCI-E Slots	• 4 PCI-E Gen 5.0 x16 (Capable convert to 2 PCI-E 5.0 x16 ,4 PCI-E 5.0 x8)
NIC	• 2 AIOM/OCP NIC 3.0 Slot
Storage	• 12 Hot-swap 3.5" NVMe/SAS/SATA ² • 2 M.2 NVMe/SATA 80mm/110mm (Boot)
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	•1200W Redundant Titanium Level Power Supply (Full redundancy based on configuration and application load)
Chassis	• 2U (17.2" x 25.5")

¹280W TDP CPU & Up air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations
⁴Some feature will not be available with enable this PCIe slots

AS -2115CS-TNR



Product Specifications

Processor	• Single AMD Genoa SP5 processors up to 320W (extreme 400W)
Memory	• 12 x DIMM slots, DDR5-5200 memory
PCI-E Slots	• 2 PCI-E Gen 5.0 x16
NIC	• 2 AIOM/OCP NIC 3.0 Slot
Storage	• 24 Hot-swap 2.5" NVMe/SAS/SATA ² • 2 M.2 NVMe/SATA 80mm/110mm (Boot)
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 1200W Redundant Titanium Level Power Supply (Full redundancy based on configuration and application load)
Chassis	• 2U (17.2" x 25.5")

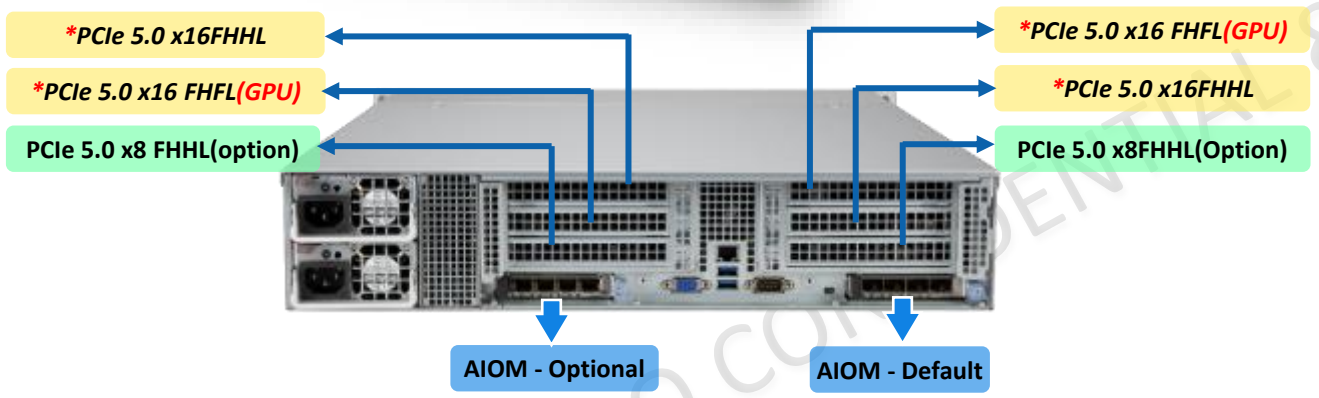
Design Features

- Configurable up to 24 2.5" Drive Bays supporting NVMe/SAS/SATA²
- Flexible networking options with AIOM / OCP NIC 3.0 support
- Best-in-class serviceability – Tool-less chassis design with Tool-Less HDD trays
- 25.5" (648mm) chassis depth

¹280W TDP CPU & Up air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations



AS -2015CS-TNR



Product Specifications

Processor	• Single AMD Genoa SP5 processors
Memory	• 12 x DIMM slots, DDR5 memory
PCI-E Slots	• 2 PCI-E Gen 5.0x16 • 4 PCI-E 5.0 x8 (can be convert to 2 PCI-E 5.0 x16)
NIC	• 2 AIOM/OCP NIC 3.0 Slot
Storage	• 12 Hot-swap 2.5" NVMe/SAS/SATA ² • 2 M.2 NVMe 80mm/110mm (Boot)
USB	• 3 USB (1 Front USB 3.1, 2 Rear USB 2.0)
BMC	• ASPEED AST2600
Video	• 1 VGA Port
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	• 920W Redundant Platinum Lever Power Supply
Chassis	• 2U (17.2" x 25.5")

Design Features

- Configurable up to 12 Drive Bays supporting NVMe/SAS/SATA
- Flexible networking options with AIOM / OCP NIC 3.0 support
- Optional front IO configuration with 2 AIOM/OCP NIC 3.0 slots
- 3 PCI-E 5.0 x16 slots with support for one double-width GPU³
- Best-in-class serviceability features – Tool-less chassis/board design

¹300W TDP CPU air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations



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GPU



H13 GPU Optimized Solution



AS -4125GS-TNR

Dual socket

- More than 128 PCI-E Lanes
- All direct attached PCI-E devices
- 24 DIMM DDR 5



AS -2115GT-DNR

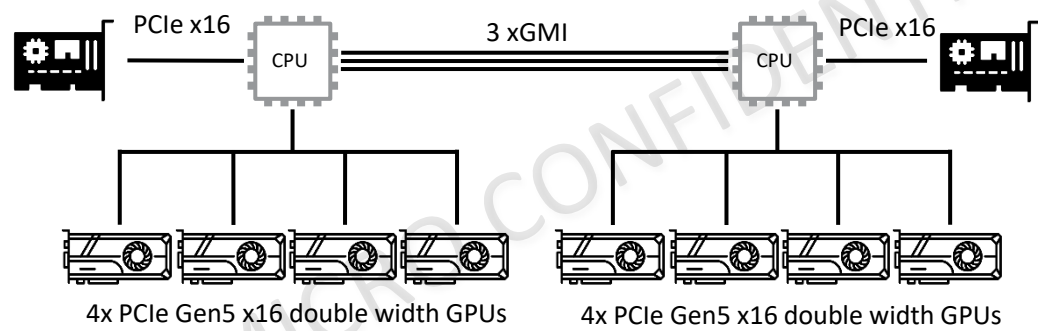
Single socket

- Up to 2/4 PCIe 5.0 Active / Passive GPU
- NVMe support
- 12 DIMM DDR 5

Subject to change without notice



4U DP 8 GPU Server AS -4125GS-TNR



Design Features

- 8 Direct attached GPUs
- PCIe Gen 5.0 AMD Radeon Instinct, Nvidia Enterprise level GPUs
- Flexible Architecture

Product Specifications

Processor	• Dual AMD Genoa SP5 processors up to 320W TDP
Memory	• 24 x DIMM slots, DDR5-5200 memory
PCI-E Slots	8 PCIe x16 Gen5 (GPU slots) 1 PCIe x16 Gen5 or 2 PCIe x8 in x16 slot
NIC	• 2 10GbaseT LAN
Storage	Up to 4 NVMe 2x SATA support 2x M.2 onboard
USB	• 2 USB 3.0
Video	• 1 VGA Port
BMC	• ASPEED AST2600
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	4x 2200W Titanium redundant power supply
Chassis	• 2U

¹320W TDP CPU air-cooled support is limited to specific configurations
²Optional parts required for NVMe/SAS/SATA configurations
³GPU support is limited to specific configurations



2U 2 Nodes UP GPU Server AS -2115GT-DNR



Product Specifications

Processor	• Single AMD Genoa SP5 processors per node
Memory	• 12 x DIMM slots, DDR5 memory (Per Node)
PCI-E Slots	4 PCI-E 5.0 x16 (FHFL), 1 PCI-E 5.0 x16 (LP) and 1 PCI-E 5.0 x8 AIOM
NIC	• 1 VGA, 2 Rear USB 3.0 and 1 IPMI dedicated LAN port.(Per Node)
Storage	Up to 2 U.2 NVMe (Per Node) and 2 M.2
USB	• 1 Front USB 2.0 and 2 Rear USB 3.0
Video	• 1 VGA Port
BMC	• ASPEED AST2600
Remote Management	• 1 BMC GbE LAN Port
Security	• TPM 2.0 • HW Root of Trust
Power Supply	2600W Titanium redundant power supply
Chassis	• 2U

Design Features

- Per Node
- 2 DW PCIe GPUs or 4 SW Support
- PCIe Gen 5.0 AMD Radeon Instinct, Nvidia Enterprise level GPUs
- Flexible Architecture

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