

GIGABYTE™



AMD Server Solution 2023

Jun.2023

Product Portfolio



R-Series

Affordable and expandable rackmount servers, offering ease-of-use, low power consumption and quiet operation



H-Series

Compact and scalable systems providing higher density computing power in a smaller footprint for cloud and other scale-out computing applications



G-Series

Versatile and scalable high performance computing with leading efficiency and performance. Ideal for datacenters



S-Series

Storage optimized servers that offer a high data density design, configuration flexibility, and HA and reliability features for data integrity



W-Series

A range of tower servers suitable for an office environment, from entry level to high end computing and HPC



E-Series

Edge computing is a distributed computing paradigm which brings computation and data storage closer to the location where it is needed, to improve response times and save bandwidth



OCP-Series

A datacenter solution simple in design, but also highly efficient in power consumption, computing power and configuration



L-Series

Following high core count CPU & high TDP developed, traditional air cooling can not afford anymore. L-series provide more efficient cooling to the system and keep the high computing performance at all times.



I-Series

More than L-series, Immersion cooling uses different ways to cool down. Not just CPU, but also the whole system's component. Special enclosure and tray design make all systems stay at the lowest temperature to compute.

End to end of AMD Products



AMD Product Line Up

High End



Low End

AMD 
INSTINCT

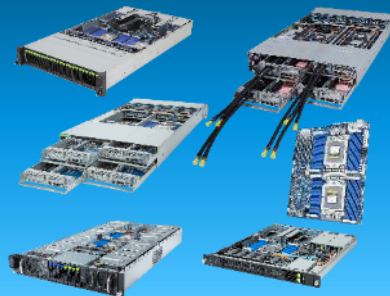
AMD 
EPYC

AMD 
RYZEN

GIGABYTE™



G series servers based on AMD Instinct MI250 OAM have been released for AI and HPC. All New AMD Instinct MI300 G series servers are under developing.



More than 70 SKUs of AMD 4th Gen EPYC servers have been released as first wave in launch time frame. Including the second wave release plan, all GIGABYTE server series will support AMD 4th Gen EPYC to different workloads and applications in 2023.



AMD Ryzen 7000 Raphael with BMC is our new entry server line-up targeting SMB and Web hosting. We created R and E series entry servers, and server motherboard with BMC as well.

The background is a vibrant blue gradient, transitioning from a lighter cyan on the left to a deeper blue on the right. Overlaid on this background is a complex network of white and light blue lines and dots, resembling a circuit board or a data network. The lines are thin and vary in length and orientation, some forming rectangular shapes while others are more irregular. Small dots are scattered along these lines, some appearing as solid white circles and others as faint, glowing blue circles. The overall effect is a sense of digital connectivity and high-tech infrastructure.

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GPU Solution

Gigabyte GPU Server Architecture (G)

2 x Low-profile Slot (@Gen4)



2 x 1GbE
1 x OCP 3.0 (@Gen5)



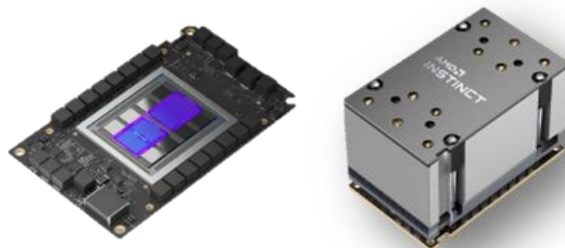
New: OAM GPU in 2U
& Thermal Optimized SKU

4 x Low-profile Slot (@Gen4)



Flexible Redundant PSU

4 x AMD Instinct MI250
OAM GPU modules in 2U



AMD
INSTINCT

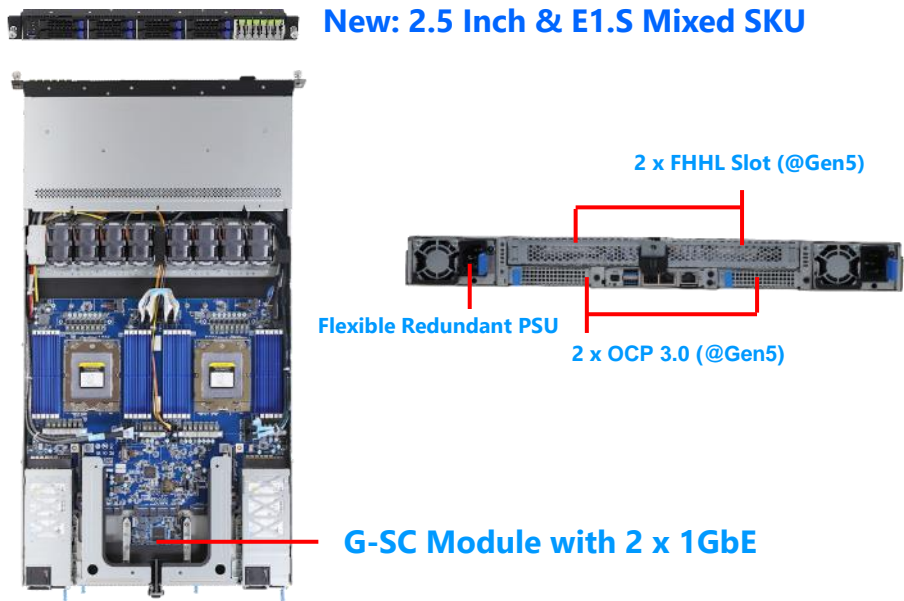
G262 Series

GIGABYTE™

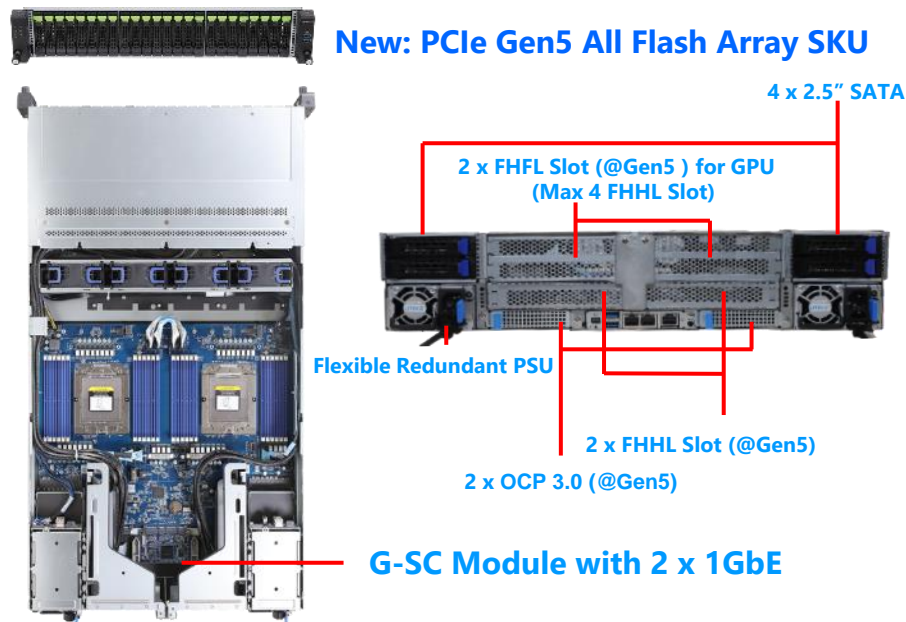


EPYC Solution

Gigabyte 3rd Gen Server Architecture (R)



R183 Series

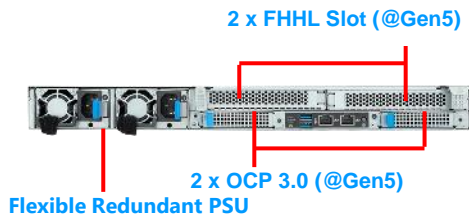


R283 Series

Gigabyte 3rd Gen Server Architecture (R)



New: PCIe Gen5 All Flash Array SKU

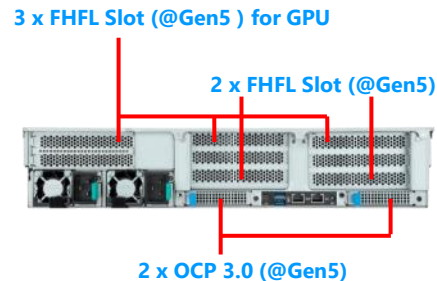


1 x 1GbE on board

R163 Series



New: PCIe Gen5 SKU



1 x 1GbE on board

R263 Series

Gigabyte 3rd Gen Server Architecture(H)



New: Thermal Optimized SKU



2 x Low-profile Slot (@Gen5) per node



2 x onboard 1GbE per node

1 x OCP 3.0 (@Gen5) per node

4 x DP Nodes in 2U

H273 Series



New: Thermal Optimized SKU



2 x Low-profile Slot (@Gen5) per node



2 x onboard 1GbE per node

1 x OCP 3.0 (@Gen5) per node

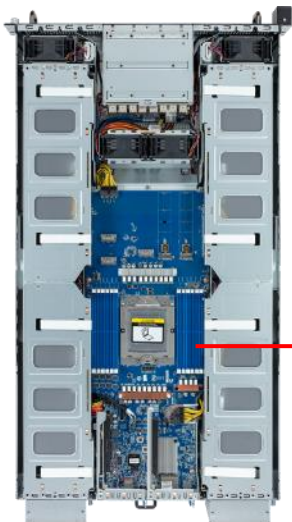
4 x GPU & 2 x DP Nodes in 2U

H233 Series

Gigabyte 3rd Gen Server Architecture(G)



**New: PCIe Gen5
& Thermal Optimized SKU**



2 x Low-profile Slot (@Gen5)



2 x onboard 10GbE

**8 x Double-slot GPU
in 2U (Both UP & DP SKUs)**

G293 Series

2 x Low-profile Slot (@Gen5)

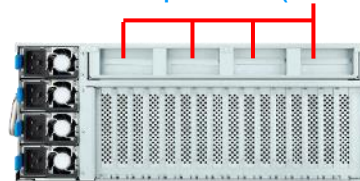


2 x 1GbE



**New: PCIe Gen5
& Thermal Optimized SKU**

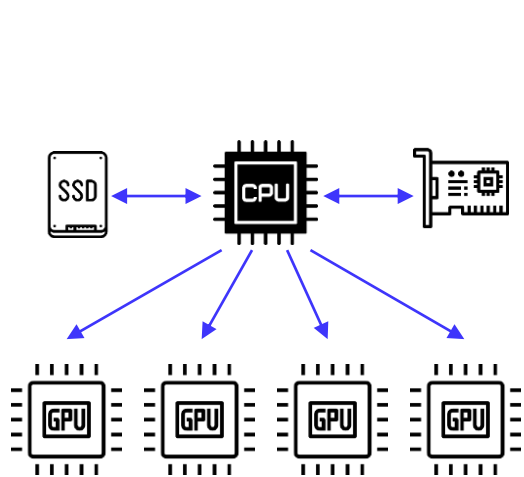
8 x Low-profile Slot (@Gen5)



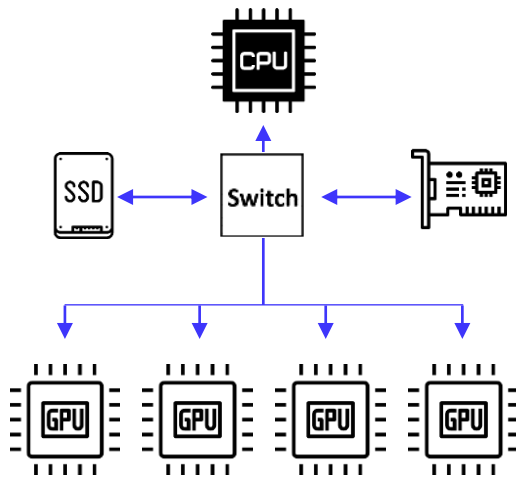
**8-10 x Double-slot GPU in 4U
(DP 24 & 48 DIMMs SKUs)**

G493 Series

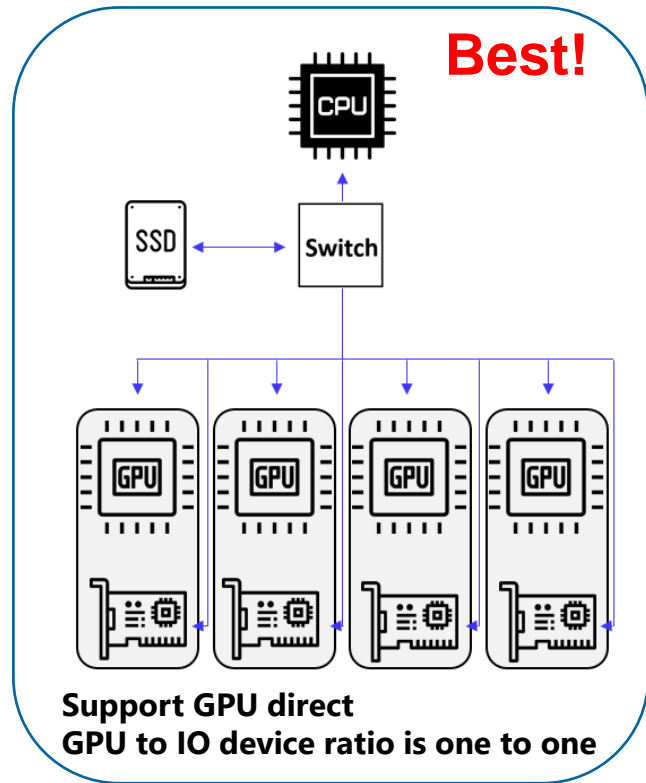
One to One Communication



IO devices and GPUs
communication on CPU



Support GPU direct
IO devices and GPUs
communication via PCIe Switch

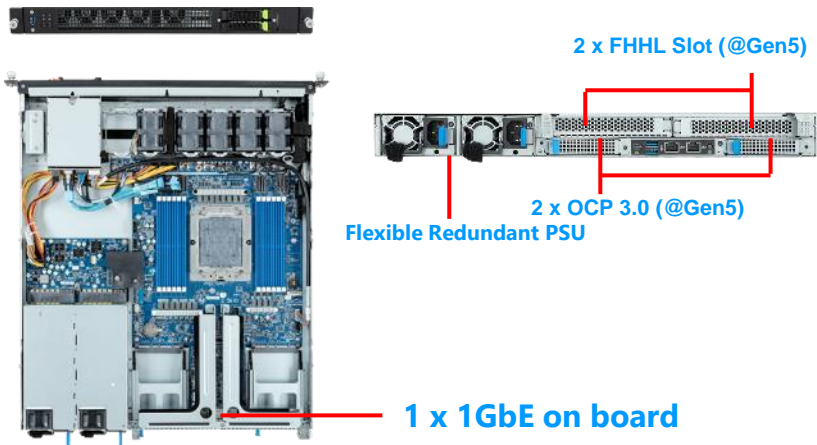


Best!

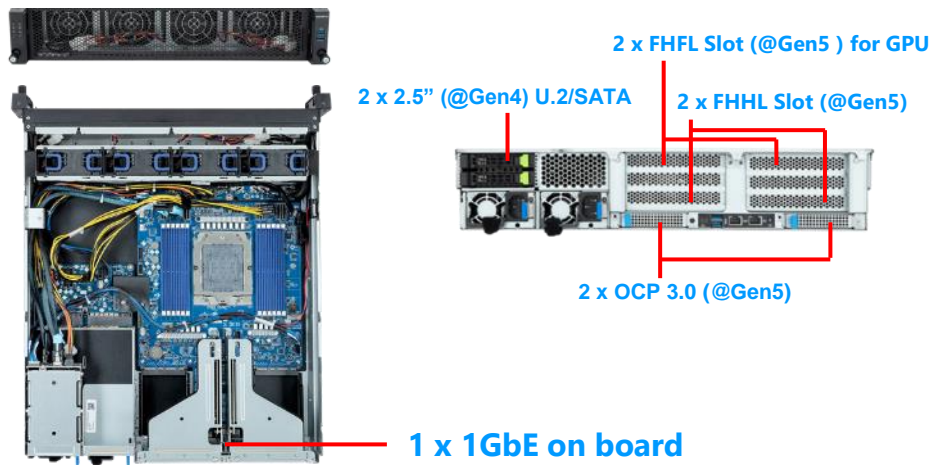
Support GPU direct
GPU to IO device ratio is one to one

: (IO device NIC or InfiniBand)

Gigabyte 3rd Gen Server Architecture(E)

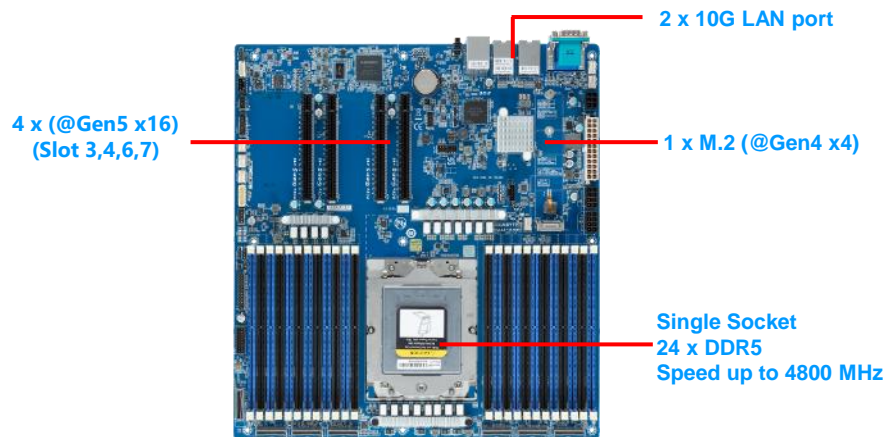


E163 Series

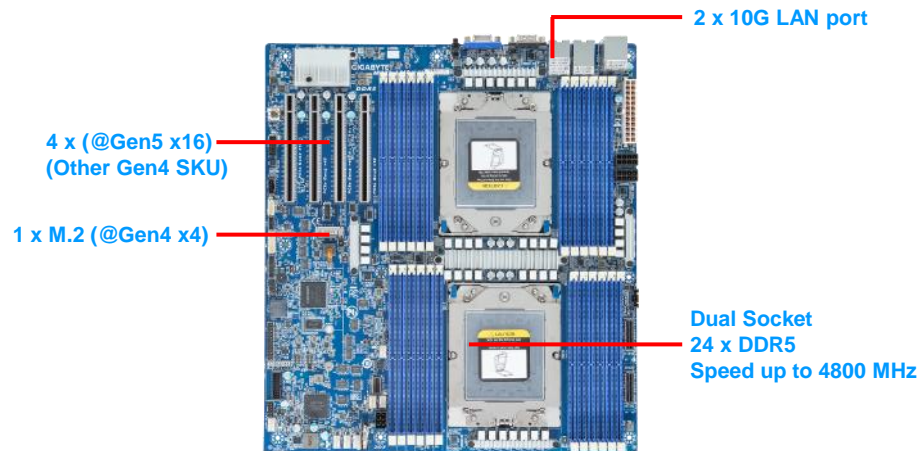


E263 Series

Gigabyte 3rd Gen Server Board (M)



MZ33 Series (EATX)



MZ73 Series EATX

Total Hardware Solution – Accessories

Storage Adapters



CSA4710
HBA 8 Port
Low-profile



CSA4820
HBA 16 Port
Low-profile

Ethernet NIC Adapters



CLNCA12
1G Dual
OCP3.0 NIC



CLNCB22
10G Dual
OCP3.0 NIC



CLNCD42
25G Dual
OCP3.0 NIC



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All Server Line-up Supported

Fit Broadcom's Storage and Ethernet NIC Solutions into GIGABYTE's Servers

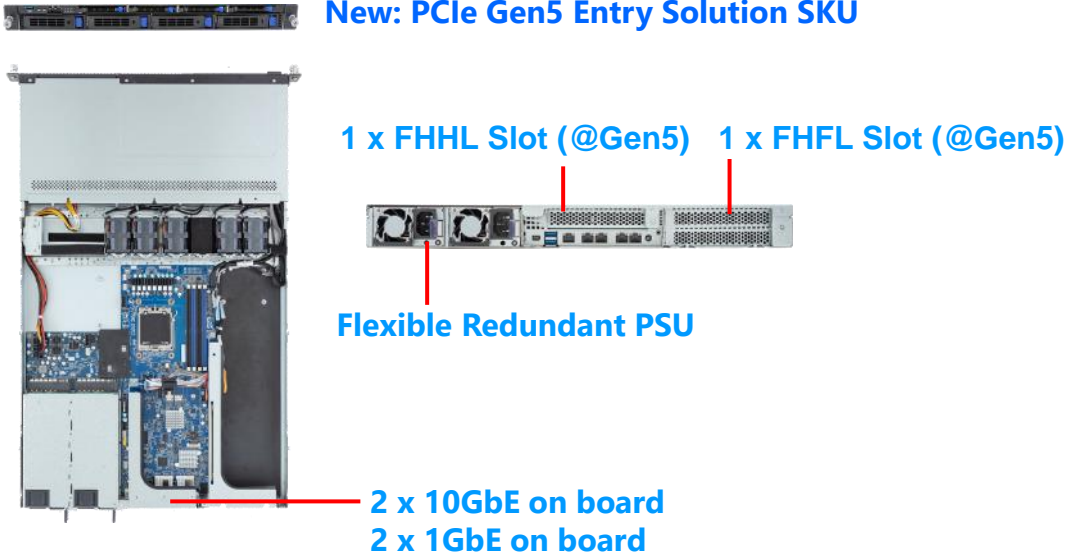
GIGABYTE created own OCP3.0 & LP cards with Broadcom's chips

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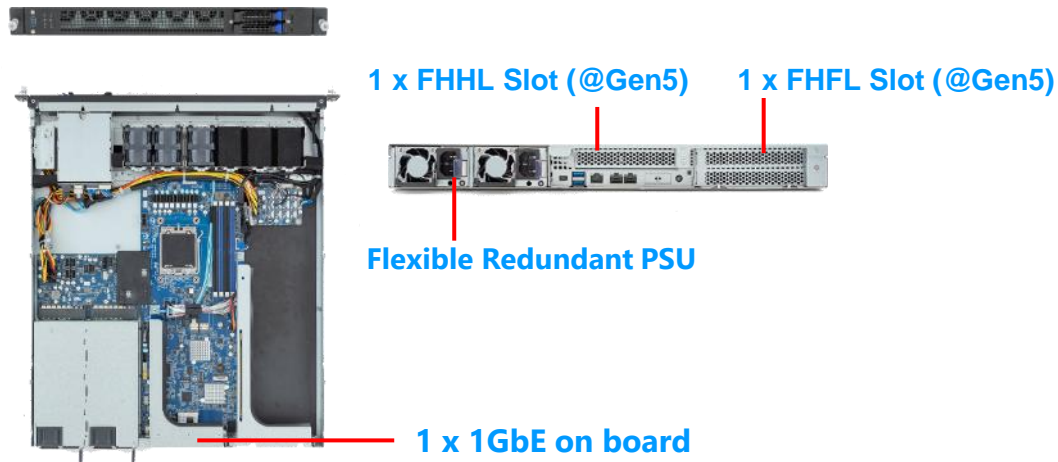
Ryzen Solution

Gigabyte Entry Server Architecture (R)



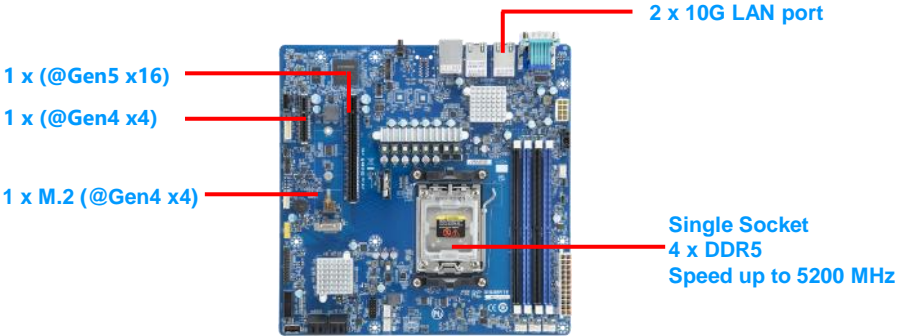
R133 Series

Gigabyte Edge Server Architecture(E)



E133 Series

Gigabyte Entry Server Board (M)



MC13 Series (mATX)

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Advanced Cooling Solution

Advanced Cooling Solution



Immersion cooling



Direct Liquid Cooling

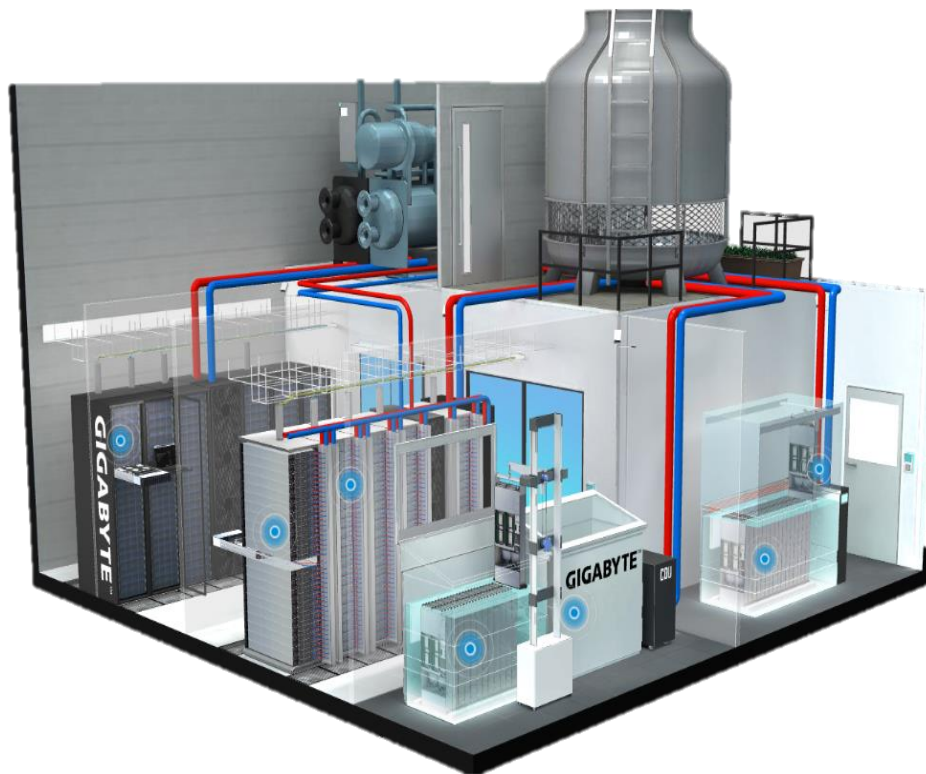


Air Cooling

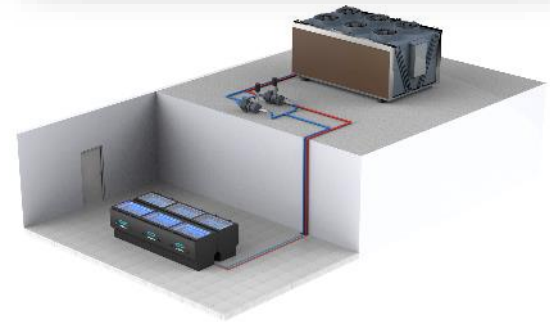
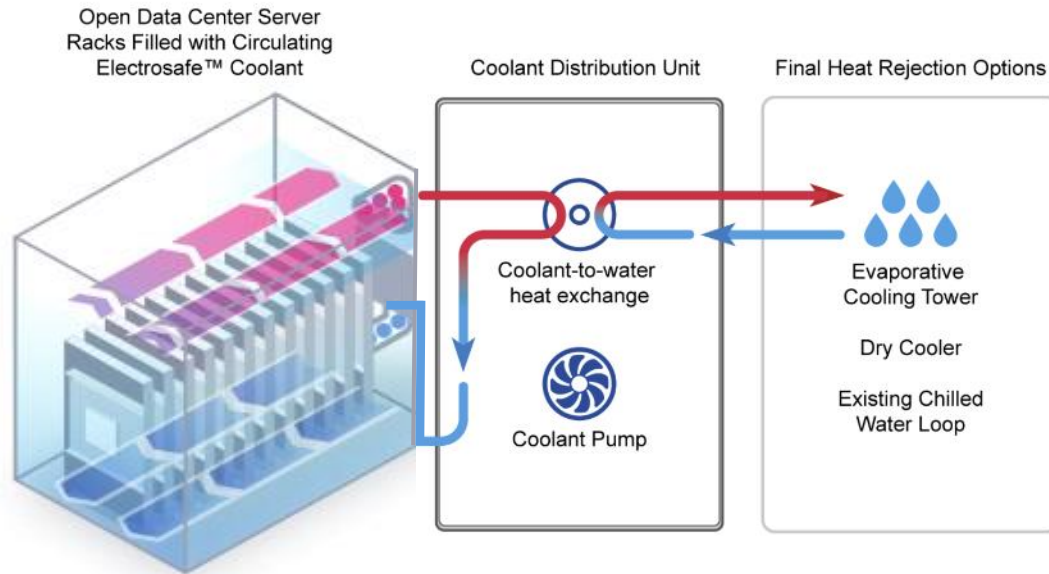
Load



TDP



1 Phase Immersion Cooling Architecture



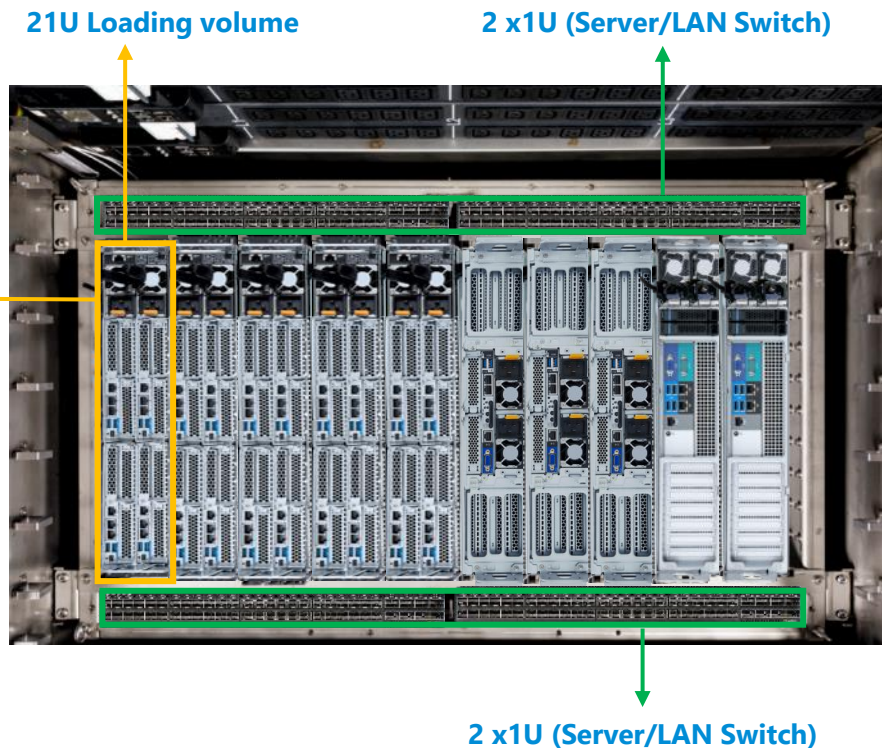
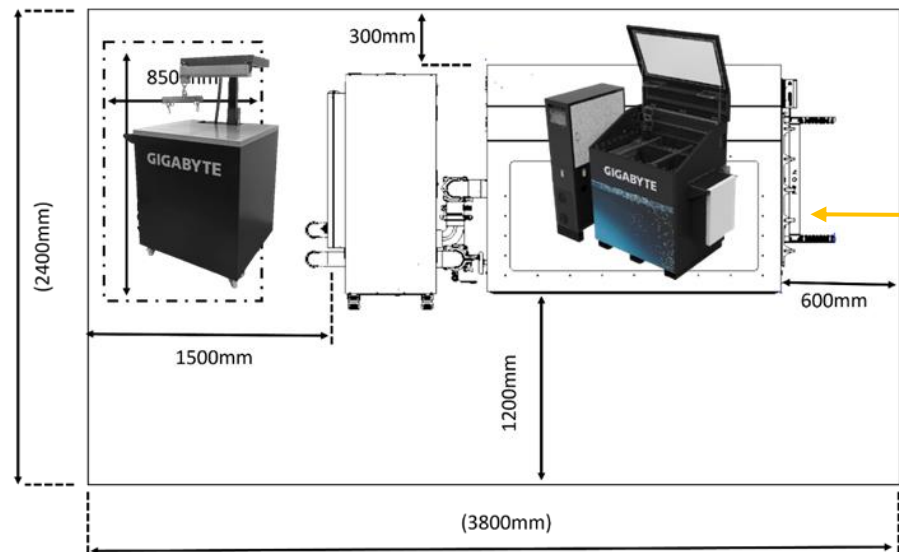
- Heated coolant exits top of rack. Coolant returns to rack from heat exchanger at user-specified temperature.

1-Phase Immersion Cooling Solution – 25U Tank



Item	SPEC
Server Support (U)	21U (Inner) + 4U (1U)
Cooling Power (kW)	80 kW
Unit Size (m)	Tank = 0.91(L) x 1.28(W) x 1.49(H) CDU = 0.90(L) x 0.55(W) x 1.62(H)
Unit Weight (kg)	Tank = 1100 kg (w/o Coolant) CDU = 300 kg
Coolant Tank Volume (L)	800 Litter
Power Plug	CE Type x 3 Plug 3P+N+E 63A IEC 60309
Power	AC 380-400V 63A 50/60Hz
Depth Supported	900 mm
Cooling Pipe Size	BSP 2"
Cooling Water Temp(°C) - Inlet	35°C
Cooling Water Flow (LPM)	240 LPM

1-Phase Immersion cooling Solution – Situation



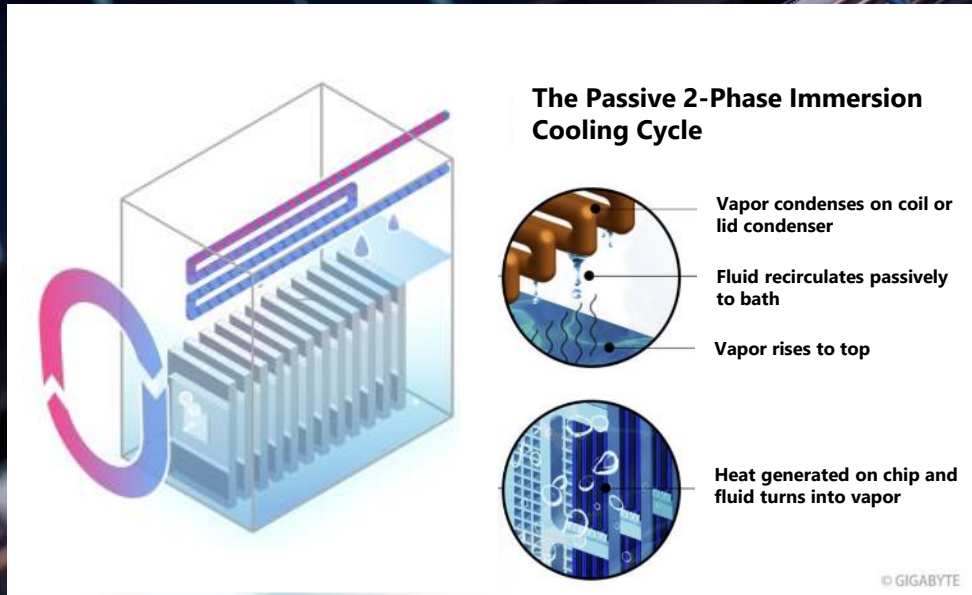
1-Phase Immersion Cooling Solution – 4U7KW tank



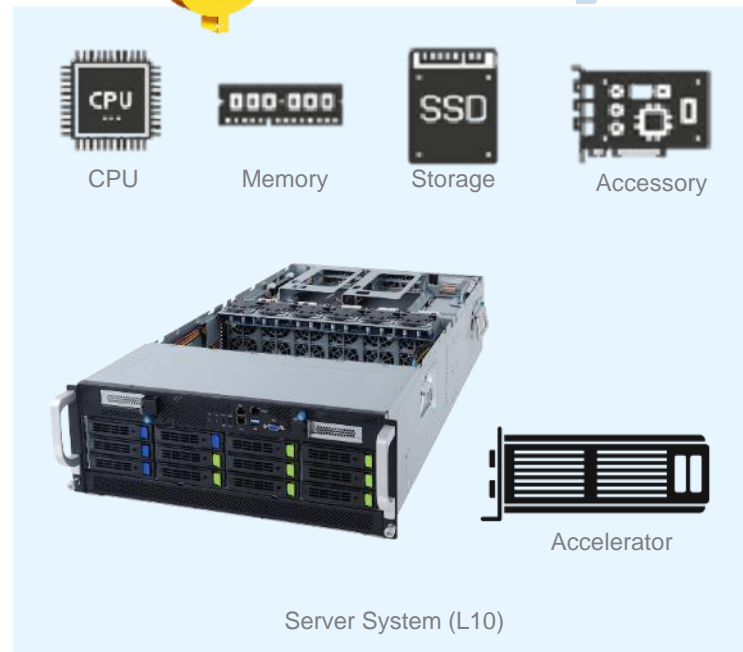
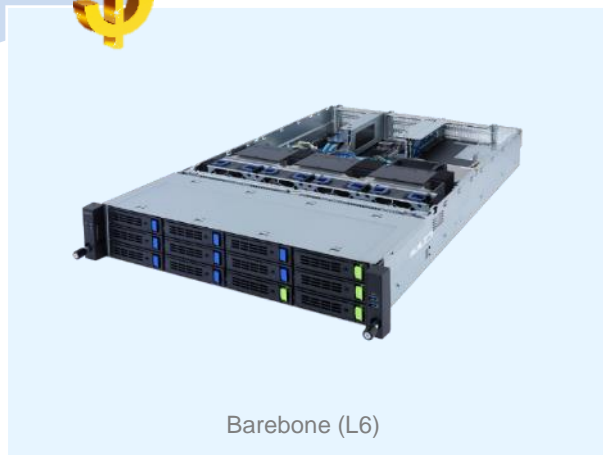
Item	SPEC
Server support (U)	4U
Cooling Power (kW)	7kW
Tank Size (m)	1.0(W) x 1.2(D) x 1.42(H)
Tank Weight (kg)	400 kg (w/o coolant)
Coolant Volume (L)	171 Litter (151kg)
Power Plug	CE Type x 1 Plug, 2P + N +E 16A IEC 60309
Power	CE Type x 1 Plug, AC 380-400V 50Hz
Power Usage	1.5 kW
Ambient Temp (°C)	5°C ~ 30°
Max Flow Rate	35 LPM
Oil Inlet Temp	30°C

2-Phase Immersion Cooling Architecture

Two-Phase Immersion Cooling
- Up to 250 kW/Rack



Flexible Business



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