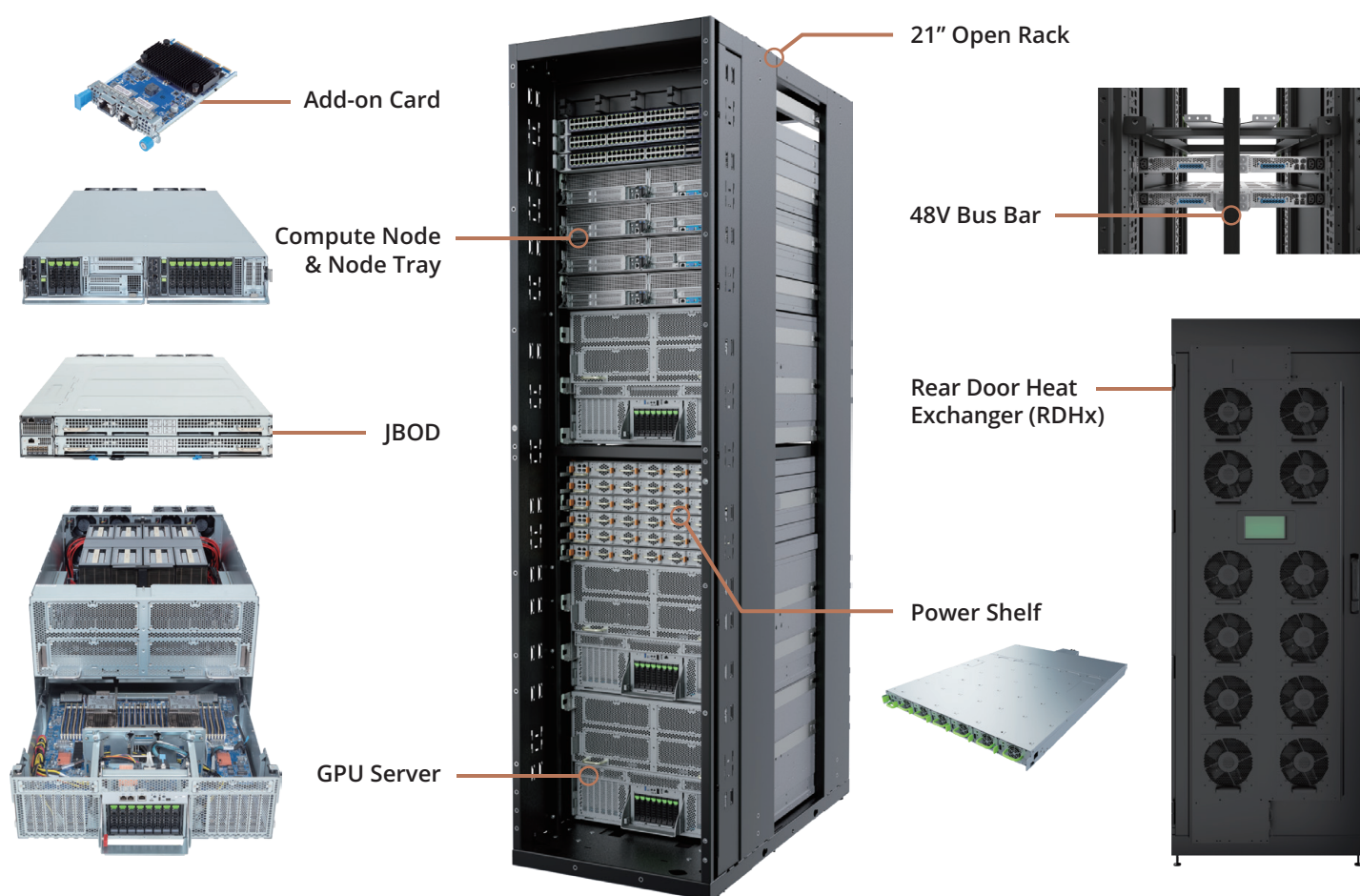# GIGABYTE™

GIGABYTE OCP ORV3 Compliant Solutions

GIGABTYE is an active member of the Open Compute Project (OCP), regularly attending the OCP's annual summits and continuously designing and releasing new server nodes and racks based on the OCP's Open Rack Standard specifications as well as providing the best performing add-on cards for your OCP solution.

GIGABYTE One Stop OCP Solutions

Empowering Innovation, Built for Open Compute.

The Open Compute Project (OCP) is a global, collaborative community focused on open-sourcing and redesigning hardware technology for scalable computing, primarily for data centers.

GIGABTYE is an active member of the OCP, regularly attending the OCP's annual summits and continuously designing and releasing new compute, storage and GPU server hardware based on the OCP Open Rack Standard specifications and providing the best performing mezzanine cards for your OCP solution. GIGABYTE's latest OCP server product line is based on OCP Open Rack V3 (ORV3) specification requirements. The products are designed for a OCP rack and feature a separate PSU system, with power supplied to each server node by a bus-bar system running along the rear of the rack.

Add-on Card

Compute Node & Node Tray

JBOD

GPU Server

21" Open Rack

48V Bus Bar

Rear Door Heat Exchanger (RDHx)

Power Shelf

GIGABYTE OCP Solutions Advantages

Efficient Rack Density

Optimized node configurations balance compute density with power consumption needs.

Thermal Optimization

Best-in-class thermal design, utilizing the cold aisle/hot aisle concept to effectively manage heat.

Greater Power Efficiency

Centralized power shelf reduces operating expenses with a low Power Usage Effectiveness (PUE).

Simplified Maintenance

Front-access, tool-less design for easier serviceability and component replacement.

Higher Reliability (MTBF)

Centralized power and fewer components increase system Mean Time Between Failures (MTBF).

GIGAPOD: Scalable AI Supercomputing Cluster

Unleash a Turnkey AI Data Center with High Throughput and an Incredible Level of Compute

GIGABYTE GIGAPOD is a scaling supercomputing solution designed for groundbreaking AI workloads, from large language model (LLM) training to real-time inference. Made up of 32 topline GIGABYTE GPU Servers incorporating 256 accelerators, GIGAPOD can be deployed across 9 racks if cooled by air, or a highly dense configuration of 5 racks if utilizing direct liquid cooling (DLC).

32 x GPU Nodes	**2** x Management Nodes	**22** x Storage Nodes

In AI data center planning, the GPU/Accelerator is the foundational hardware choice. GIGABYTE's industry partners (AMD, Intel, NVIDIA) each offer uniquely advanced products. The selection is complex, relying on factors like performance (AI training or inference), cost, availability, and ecosystem. GIGABYTE simplifies this by offering the choices, customization, and expertise needed to create data centers ideal for demanding AI/ML models.

In addition to hardware, GIGAPOD features GIGABYTE POD Manager (GPM) software to provide complete central control and foster an ideal AI environment. Used by hyperscalers the world over, GIGAPOD is the starting point of modern AI triumphs.

Applications & Cloud Services

Software Management - GIGABYTE POD Manager (GPM)

Workload Management

AI	NVIDIA AI Enterprise	MLOps Platform	Bare-metal, HPC, Virtualization, Containers, NVIDIA Omniverse™, etc.

Cluster Management

NVIDIA Base Command™	GIGABYTE Cluster Manager

Infrastructure Management

Compute Nodes	Management Nodes	Storage Systems	Cooling Systems
Network Fabrics	OS Provisioning	Power Resource	Monitoring

Architecting Service

- Project Consultation and Evaluation
- Site Planning and Floor Plan Design
- Hardware and Software Integration
- Cabling Design and Installation
- Power and Thermal Management
- Data Center Deployment and Validation

Open Rack

| DOA3-ST0	
Open Rack Version	Open Rack Version 3
Dimensions (WxHxD)	21" 44OU Rack 600 x 2286 x 1068 mm *19" EIA Compatible
Available Node Spac	22OU + 21OU *23rd OU occupied by reinforced bar
Bus Bar	1 x 48V DC bus bar
Power Shelf	Optional 1OU 33 kW power shelf *Support N+N redundancy
Option Parts	EIA conversion shelves, L-shaped shelves, Structural add-ons, Cable management...

Front View   Rear View

GPU Node
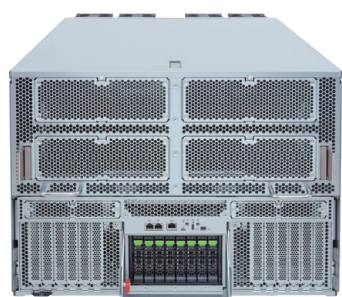
	TO86-SD1-AA05	TO86-ZX1-AA03
Dimensions (WxHxD)	8OU GPU Server 537 x 380.5 x 853 mm	8OU GPU Server 537 x 380.5 x 853 mm
GPU	Air-cooled NVIDIA HGX™ B200	Air-cooled AMD Instinct™ MI350X
CPU	Dual Intel® Xeon® 6700/6500 series	Dual AMD EPYC™ 9005/9004 series
Memory	32 x DDR5 DIMMs 8-Channel RDIMM/MRDIMM	24 x DDR5 DIMMs 12-Channel RDIMM
Networking	2 x 10GbE LAN 1 x MLAN	2 x 10GbE LAN 1 x MLAN
Storage	8 x 2.5" Gen5 NVMe drives 1 x M.2 slot (PCIe 5.0 x4)	8 x 2.5" Gen5 NVMe drives 2 x M.2 slots (PCIe 3.0 x4 & x1)
Expansion Slots	12 x FHHL PCIe 5.0 x16 slots	12 x FHHL PCIe 5.0 x16 slots
Power Supply	48V to 54V DC bus bar	48V to 54V DC bus bar

Storage Node

	TO24-JD0	TO24-JD1	TO24-JD2	TO24-JD3
Dimensions (WxHxD)	2OU JBOD 537 x 93 x 807.7 mm	2OU JBOD 537 x 93 x 807.7 mm	2OU JBOD 537 x 93 x 807.7 mm	2OU JBOD 537 x 93 x 807.7 mm
Storage	32 x 3.5" SATA/SAS4 *1 Host 32 drives	32 x 3.5" SATA/SAS4 *2 Host 32 drives	32 x 3.5" SATA/SAS3 *1 Host 32 drives	32 x 3.5" SATA/SAS3 *2 Host, each host 16 drives
Expander	3 x SAS4x32 Single-path	6 x SAS4x32 Dual-path, HA support	1 x SAS4x48 Single-path	2 x SAS4x32 Single-path
IO Port	4 x Mini-SAS HD ports 1 x MLAN	8 x Mini-SAS HD ports 1 x MLAN	4 x Mini-SAS HD ports 1 x MLAN	4 x Mini-SAS HD ports 1 x MLAN
BMC	ASPEED AST2520	ASPEED AST2520	ASPEED AST2520	ASPEED AST2520
Power Supply	48V DC bus bar	48V DC bus bar	48V DC bus bar	48V DC bus bar

Compute Node

	TO25-ZU4-AA01	TO25-ZU5-AA01	TO25-Z10-AA01	TO25-Z11-AA01
Dimensions (WxHxD)	2OU 2-node 258 x 86 x 771 mm	2OU 2-node 258 x 86 x 771 mm	2OU 2-node 265.1 x 90.7 x 742.9 mm	2OU 2-node 265.1 x 90.7 x 742.9 mm
CPU	Single AMD EPYC™ 9005/9004	Single AMD EPYC™ 9005/9004	Single AMD EPYC™ 9005/9004	Single AMD EPYC™ 9005/9004
Memory	12 x DDR5 RDIMM	12 x DDR5 RDIMM	12 x DDR5 RDIMM	12 x DDR5 RDIMM
Networking	1 x MLAN, 2 x 10GbE LAN	1 x MLAN, 2 x 10GbE LAN	1 x MLAN	1 x MLAN
Storage	2 x 9.5mm E1.S NVMe 4 x 2.5"NVMe/SATA/SAS4	2 x 9.5mm E1.S NVMe 8 x 2.5"NVMe/SATA/SAS4	4 x 9.5mm E1.S NVMe Optional 1 x M.2 NVMe	12 x 9.5mm E1.S NVMe Optional 1 x M.2 NVMe
Expansion Slots	2 x PCIe Gen5 x16 FHFL 2 x OCP 3.0 Gen5 x16	2 x PCIe Gen5 x16 LP	2 x PCIe Gen5 x16 LP 1 x OCP 3.0 Gen5 x16	1 x PCIe Gen5 x16 LP 1 x OCP 3.0 Gen5 x16
Power Supply	48V to 54V DC bus bar	48V to 54V DC bus bar	48V DC bus bar	48V DC bus bar

	TO25-Z12-AA01	TO25-S12-AA01	TO25-S10-AA01	TO25-S11-AA01	TO23-H60
Dimensions (WxHxD)	2OU 2-node 262.7 x 90 x 740 mm	2OU 2-node 265.1 x 90.7 x 742.9 mm	2OU 2-node 262.7 x 90 x 740 mm	2OU 2-node 262.7 x 90 x 740 mm	2OU 3-node 180 x 90 x 740 mm
CPU	AMD EPYC™ 9005/9004 Single processor	5th/4th Gen Intel® Xeon® Single processor	5th/4th Gen Intel® Xeon® Single processor	5th/4th Gen Intel® Xeon® Single processor	3rd Gen Intel® Xeon® Dual processors
Memory	12 x DDR5 RDIMM	8 x DDR5 RDIMM	8 x DDR5 RDIMM	8 x DDR5 RDIMM	16 x DDR4 RDIMM/LRDIMM
Networking	1 x MLAN	1 x MLAN	1 x MLAN	1 x MLAN	1 x MLAN
Storage	4 x 9.5mm E1.S NVMe Optional 1 x M.2 NVMe	2 x 9.5mm E1.S NVMe 1 x M.2 SATA	2 x 9.5mm E1.S NVMe 1 x M.2 SATA	10 x 9.5mm E1.S NVMe 1 x M.2 SATA	4 x 2.5" NVMe/SATA/SAS
Expansion Slots	2 x PCIe Gen5 x16 FHFL - Supports 1 x Dual slot GPU 1 x LP PCIe Gen5 x16 1 x OCP 3.0 Gen5 x16	2 x PCIe Gen5 x16 FHFL - Supports 1 x Dual slot GPU 2 x PCIe Gen5 x16 FHHL 1 x PCIe Gen5 x8 LP	2 x PCIe Gen5 x16 FHHL 1 x PCIe Gen5 x16 LP 1 x PCIe Gen5 x8 LP	2 x PCIe Gen5 x16 FHHL 1 x PCIe Gen5 x8 LP	2 x PCIe Gen4 x16 LP 2 x OCP 3.0 Gen4 x16
Power Supply	48V DC bus bar	48V DC bus bar	48V DC bus bar	48V DC bus bar	48V DC bus bar

Node Tray

	TO25-BT1-AA01	TO25-BT0-AA01	TO23-BT0
Dimensions (WxHxD)	2OU 2-node tray 537 x 93.5 x 883 mm	2OU 2-node tray 537 x 93.5 x 918.5 mm	2OU 3-node tray 537 x 93.2 x 803 mm
No. of Bus Bars	1 x 48V to 54V bus bar connector	1 x 48V bus bar connector	1 x 48V bus bar connector

OCP Immersion Cooling

Taking another step forward, GIGABYTE has also introduced an immersion cooling total solution. Similar to its air cooling and direct liquid cooling counterparts, the single-phase immersion cooling solution covers everything, from add-on cards to the immersion tank. This next-generation cooling solution is perfect for companies interested in adopting more environmentally friendly and cost-effective alternatives while wanting to avoid the complicated and time-consuming verification process.

A1O3-CC0 Immersion Tank

|	
Hardware Capacity	18OU + 2OU (power shelf) + 1U x 2 (EIA)
Heat Dissipation Capacity	80 kW with 25°C inlet water 60 kW with 35°C inlet water
Dimensions (L x W x H)	Tank: 0.91m x 1.16m x1.49m CDU: 0.86m x 0.48m x 1.62m
Weight	Tank: 450 kg (w/o coolant); CDU: 325 kg
CDU Power Consumption	0.75 kW
Coolant Volume	750 L
Electrical Connection	PDU: IEC 60309 32A-3P+N+E, 6H, Plug x1 Power Shelf: IEC 60309 63A-3P+N+E, 6H, Plug x1 CDU: IEC 60320 C19, Plug x1
Footprint	2.1m x 0.9m
Cooling Water Inlet	20-35°C
Water Flow Rate	240 LPM
PUE	1.02

	TO15-S40-IA01	TO15-S41-IA01	TO15-Z40-IA01	TO15-Z20-IA01
Dimensions (WxHxD)	1OU GPU Server 537 x 45 x 805.7 mm	1OU GPU Server 537 x 45 x 805.7 mm	1OU GPU Server 537 x 45 x 805.7 mm	1OU GPU Server 537 x 45 x 805.7 mm
CPU	5th/4th Gen Intel® Xeon® Dual processors	5th/4th Gen Intel® Xeon® Dual processors	AMD EPYC™ 9005/9004 Single processor	AMD EPYC™ 9005/9004 Single processor
Memory	24 x DDR5 DIMMs 8-Channel RDIMM	16 x DDR5 DIMMs 8-Channel RDIMM	24 x DDR5 DIMMs 12-Channel RDIMM	12 x DDR5 DIMMs 12-Channel RDIMM
Networking	2 x 10GbE LAN 1 x MLAN	2 x 10GbE LAN 1 x MLAN	2 x 10GbE LAN 1 x MLAN	2 x 10GbE LAN 1 x MLAN
Storage	4 x 15mm E1.S NVMe Optional 2 x M.2 slots (SATA)	4 x 15mm E1.S NVMe Optional 2 x M.2 slots (SATA)	4 x 15mm E1.S NVMe Optional 2 x M.2 slots (SATA)	4 x 15mm E1.S NVMe 2 x M.2 slots (PCIe Gen5 x4) Optional 2 x M.2 slots (SATA)
Expansion Slots	4 x Dual-slot Gen5 GPUs 2 x LP PCIe Gen5 x16 slots	8 x Single-slot Gen5 GPUs 2 x LP PCIe Gen5 x16 slots	4 x Dual-slot Gen5 GPUs 2 x LP PCIe Gen5 x16 slots	4 x Dual slot-Gen5 GPUs 2 x LP PCIe Gen5 x16 slots
Power Supply	48V DC bus bar	48V DC bus bar	48V DC bus bar	48V DC bus bar

OCP Direct Liquid Cooling

GIGABYTE Direct Liquid Cooling solution focuses on innovative breakthroughs in AI, HPC and cloud computing, delivering outstanding efficiency in heat dissipation while achieving high system availability and stability. GIGABYTE provides comprehensive DLC solutions, including optimized compute nodes, GPU servers, racks, and a full liquid cooling ecosystem with components like cold plate, coolant distribution unit (CDU), rack manifold, and rear door heat exchanger (RDHx). Tailored solutions are available for POC, small-scale adoption, and full-scale data center deployment.

DCA3-ST0 DLC Rack

Open Rack Version	Open Rack Version 3
Dimensions (W x H x D)	21" 44OU Rack 800 x 2286 x 1200 mm 800 x 2286 x 1450 mm (with RDHx)
Available Node Spac	22OU + 21OU *23rd OU occupied by reinforced bar
Bus Bar	1 x 48V DC bus bar
Power Shelf	Optional 1OU 33 kW power shelf Support N+N redundancy
Manifold	Single vertical manifold with UQD06 quick connectors
Option Parts	CDU, RDHx, DLC management server, EIA conversion shelves, L-shaped shelves, Structural add-ons, Cable management...

TO46-SD3-LA07 / TO46-ZX1-LA04
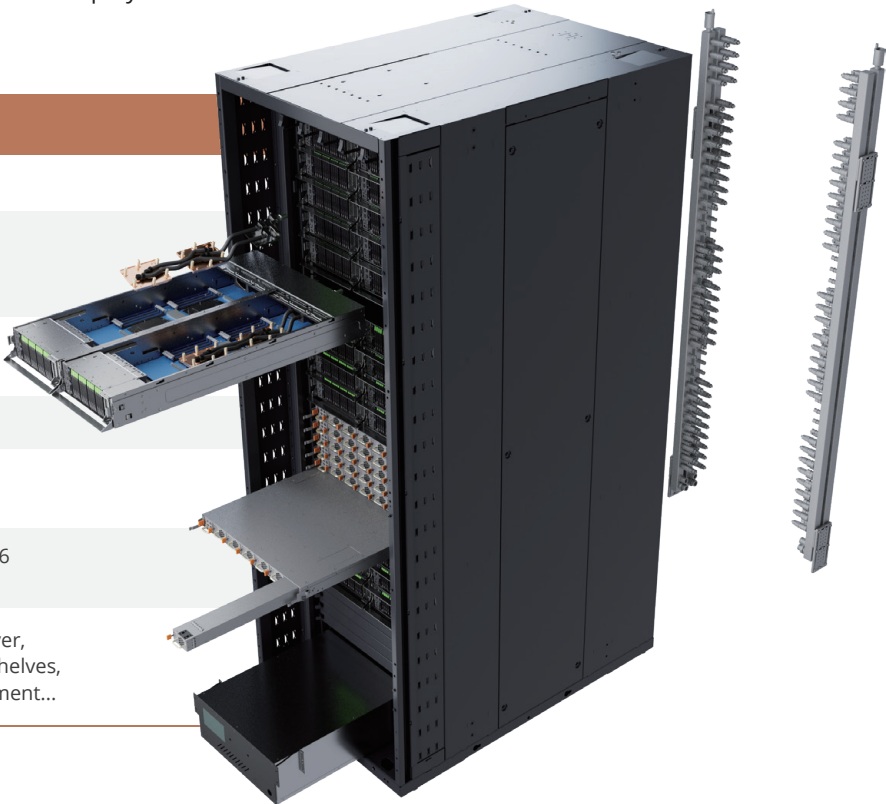
	TO46-SD3-LA07	TO46-ZX1-LA04
Dimensions (WxHxD)	4OU GPU Server 537.0 x 191 x 812.2 mm	4OU GPU Server 537.0 x 191 x 812.2 mm
GPU	Liquid-cooled NVIDIA HGX™ B300	Liquid-cooled AMD Instinct™ MI355X
CPU	Dual Intel® Xeon® 6700/6500 series	Dual AMD EPYC™ 9005/9004 series
Memory	32 x DDR5 DIMMs 8-Channel RDIMM/MRDIMM	24 x DDR5 DIMMs 12-Channel RDIMM
Networking	8 x 800Gb/S OSFP 2 x 10GbE LAN 1 x MLAN	2 x 10GbE LAN 1 x MLAN
Storage	8 x 2.5" Gen5 NVMe drives 1 x M.2 slot (PCIe 5.0 x4) 1 x M.2 slot (PCIe 5.0 x2)	8 x 2.5" Gen5 NVMe drives 1 x M.2 slot (PCIe 3.0 x4) 1 x M.2 slot (PCIe 3.0 x1)
Expansion Slots	4 x FHHL dual-slot PCIe 5.0 x16 slots	4 x FHHL dual-slot PCIe 5.0 x16 slots 8 x FHHL single-slot PCIe 5.0 x16 slots
Power Supply	48V to 54V DC bus bar	48V to 54V DC bus bar

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