SUPERMICRO®
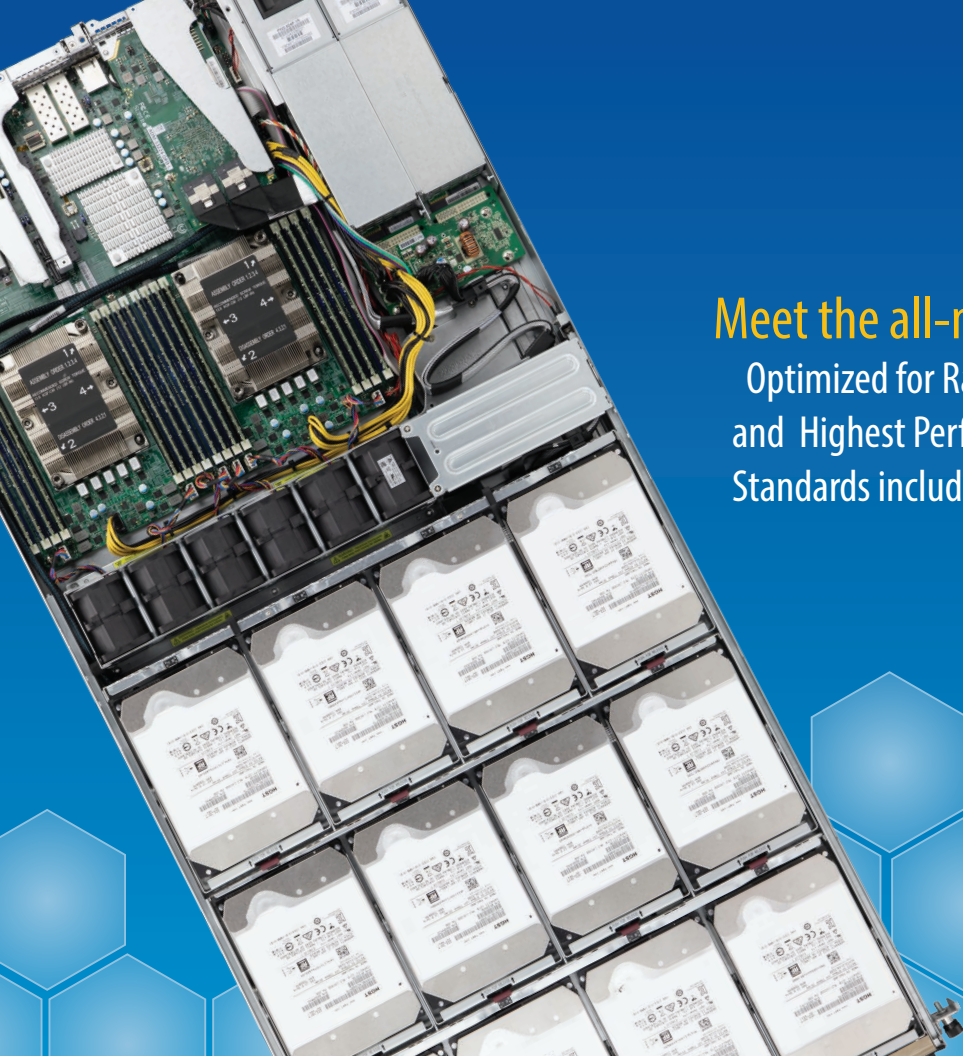
Supermicro MegaDC

The First Commercial Off The Shelf (COTS) Systems
Designed Exclusively for Hyperscale Datacenters

intel XEON PLATINUM inside™

Transform Your Datacenter TCO
with Supermicro servers featuring
the New 2nd Gen Intel® Xeon® Scalable Processors

Meet the all-new Supermicro MegaDC

Optimized for Rapid Large-Scale Deployments and Highest Performance-per-Dollar with Open Standards including OpenBMC and OCP V3.0 SFF Cards

BETTER
OPTIMIZED FOR HYPERSCALE INFRASTRUCTURES AND COST-EFFECTIVENESS

- Highly versatile and flexible platforms optimized for scalable high-performance compute, database/Big Data, AI/GPU, software-defined storage and I/O optimized applications
- Cost and performance optimizations at all component levels to deliver best performance, reliability, and efficiency
- Extended support of open standards including OpenBMC, OCP 3.0 SFF cards, and CRPS power supplies (for 2U models)

FASTER
RAPID DEPLOYMENT AND HIGHEST PERFORMANCE
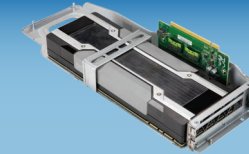
- Improved performance/dollar with the new 2nd Gen Intel® Xeon® Scalable processors (Cascade Lake-R), 16 DIMM slots and onboard 25G Ethernet
- More reliable and faster-to-replace drives with new slim storage drawer design
- Reduced infrastructure deployment times with bulk packaging

GREENER
REDUCED COOLING REQUIREMENTS AND LOWER IMPACT ON THE ENVIRONMENT

- Optimized mechanical designs to maximize airflow to CPUs, memory, and GPUs
- Low-resistance 12V single-source power distribution increases system reliability and energy-efficiency
- Better e-waste management with bulk packaging and options for included accessories

SUPERMICRO®

MegaDC Series

intel XEON BRONZE inside
intel XEON GOLD inside
intel XEON PLATINUM inside
intel XEON SILVER inside

www.supermicro.com/megadc

	1U Compute	**1U Storage**	**2U GPU**	**2U I/O**	**2U Compute**
	Compact Server with Onboard 25G Networking and AIOM	Top-Loading Storage Featuring New Slim Storage Drawer Design	2 Double-Wide (FHFL) Active- and Passive-Cooled GPUs	Flexible I/O 5 Low-Profile Cards	3.5" Storage and Processing Built to Scale
	NEW!	NEW!	NEW!	NEW!	NEW!
	SSG-1129P-ACR10N4L	SSG-6119P-ACR12N4L	SSG-6129P-ACR12N4G	SSG-6129P-ACR12N4L+	SSG-6129P-ACR12N4L
	Dual 2nd Gen Intel® Xeon® Scalable processors	Dual 2nd Gen Intel® Xeon® Scalable processors	Dual 2nd Gen Intel® Xeon® Scalable processors	Dual 2nd Gen Intel® Xeon® Scalable processors	Dual 2nd Gen Intel® Xeon® Scalable processors
	16 DIMM slots DDR4	16 DIMM slots DDR4	16 DIMM slots DDR4	16 DIMM slots DDR4	16 DIMM slots DDR4
	Onboard 25 Gigabit Ethernet plus AIOM slot	Onboard 25 Gigabit Ethernet plus AIOM slot	Onboard 25 Gigabit Ethernet plus AIOM slot	Onboard 25 Gigabit Ethernet plus AIOM slot	Onboard 25 Gigabit Ethernet plus AIOM slot
	10x 2.5" SAS3/SATA3 (4 hybrid NVMe)	12x 3.5" SAS3/SATA3 and 4x 2.5" (7mm) NVMe/ SATA3	12x 3.5" SAS3/SATA3 (4 hybrid NVMe)	12x 3.5" SAS3/SATA3 (4 hybrid NVMe)	12x 3.5" SAS3/SATA3 (4 hybrid NVMe)
	Two (x16) and one (x8) PCI-E 3.0 slots	Two (x16) and one (x8) PCI-E 3.0 slots	Two double-wide GPUs & two low-profile PCI-E slots	Two (x16) and three (x8) low-profile PCI-E 3.0 slots	Two (x16) and one (x8) low-profile PCI-E 3.0 slots
	PAGE 6	PAGE 8	PAGE 10	PAGE 12	PAGE 13

MegaDC 1U Compute

TCO and TCE Optimized Compact Servers for Hyperscale Datacenters

The 1U Compute node is a scalable, high-performance, and cost-efficient system with flexible I/O options optimized for general-purpose compute workloads.

Designed exclusively for rapid large-scale deployments in hyperscale infrastructure, the short-depth chassis design can be easily deployed to standard 19" racks with front hot-swap drive bays and redundant power supplies for easy access and maintenance.

In addition to the dual 25G onboard Ethernet, the 1U system supports the new flexible Supermicro AIOM networking adapters or any qualified OCP 3.0 card for extra I/O flexibility and capacity.

The dual onboard M.2 SSD slots are ideal for OS installation with optional high availability features through VROC.

FORM-FACTOR
- Easy-to-deploy compact chassis
- Chassis depth 23.5" (597mm)
- Rail kits included

POWER
- Redundant power supplies
- 800W rated output
- 80 Plus Platinum

CPU
- Dual Socket P (LGA-3647)
- Up to 205W CPU TDP
- Up to 2nd Gen Intel® Xeon® Scalable processors

MEMORY
- 16 DIMM slots
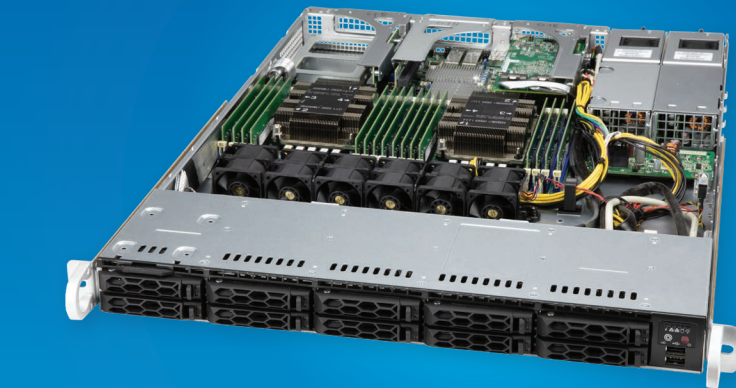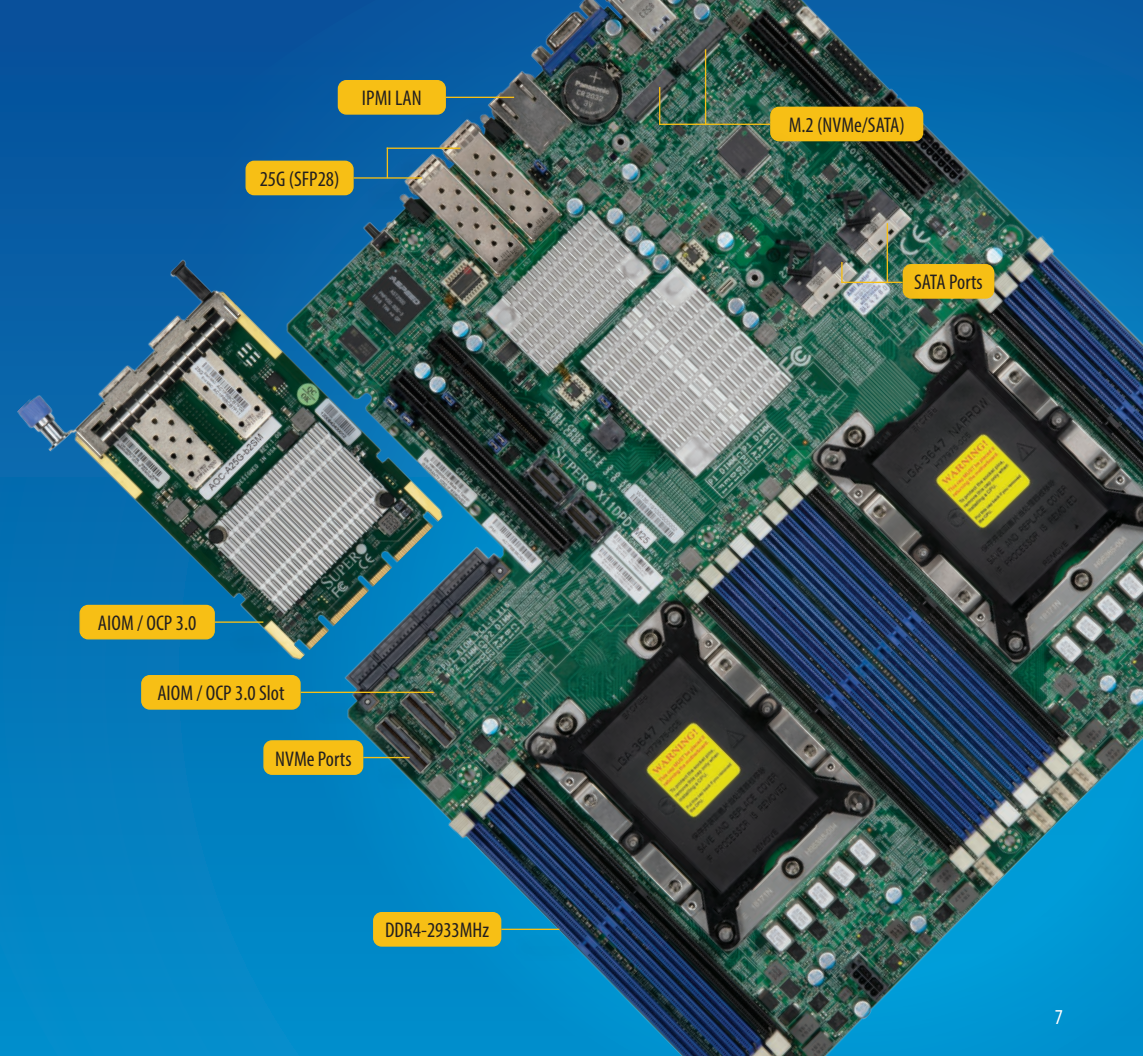- 2-1-1 DIMM channel topology optimized for Intel® PMem
- DDR4-2933MHz

STORAGE
- 10 front hot-swap 2.5" SAS/ SATA (4 hybrid NVMe)
- 2 onboard M.2 slots (NVMe/SATA)

I/O
- 2 SFP28 onboard 25GbE
- 1 AIOM slot (x16 link)
- 2 PCI-E 3.0 x16 LP, and 1 PCI-E 3.0 x8 LP slots

X11 MegaDC

A Highly Flexible, Future-Proof and Feature-Rich Powerhouse

The X11DPD serverboard (not sold separately) is specifically engineered to deliver the highest performance, flexibility and cost-effectiveness to the new MegaDC systems.

KEY FEATURES

- EATX (12"x13") form-factor
- Dual Socket-P (up to 205W CPU TDP)
- Intel® C621 chipset
- (16) DIMM slots, DDR4-2933MHz
- (3) PCI-E 3.0 onboard slots
- Up to (7) PCI-E 3.0 slots via risers
- (2) Slimline SAS x8 ports for (4) NVMe
- (2) M.2 slots for NVMe / SATA
- (12) SATA3 ports - Slimline
- (2) SFP28 ports for onboard 25G Ethernet with NC-SI
- (1) AIOM slot (supports OCP 3.0) with NC-SI
- (1) RJ45 LAN port and (1) VGA connector via IPMI
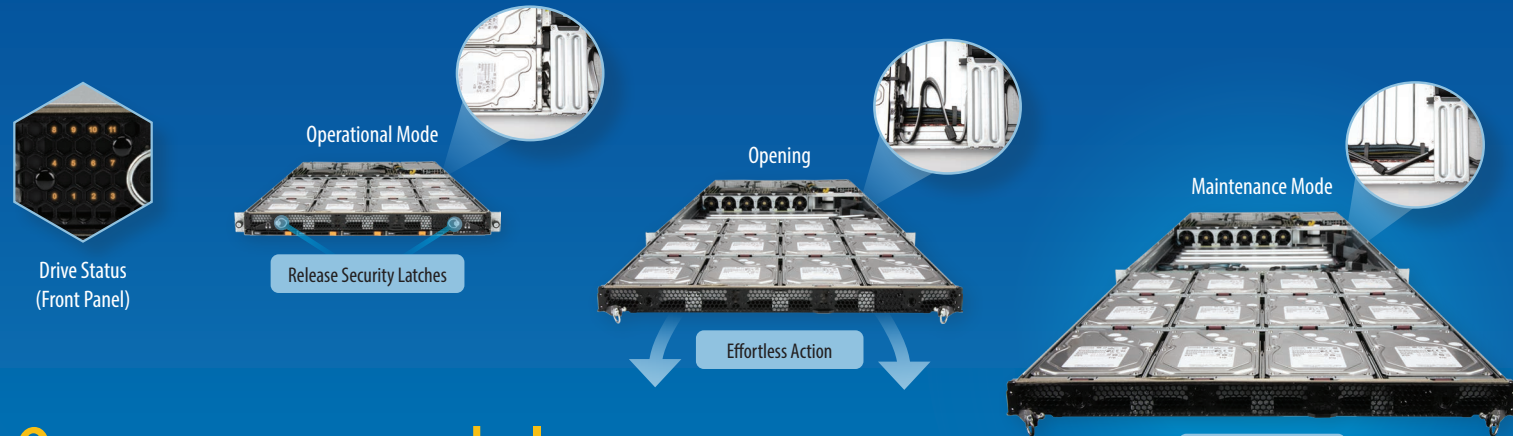- (1) Micro USB port for console access

IPMI LAN

M.2 (NVMe/SATA)

25G (SFP28)

SATA Ports

AIOM / OCP 3.0

AIOM / OCP 3.0 Slot

NVMe Ports

DDR4-2933MHz

MegaDC 1U Storage

Best Performance, Serviceability, and Density Featuring Slim Storage Drawer

The 1U storage drawer system is a high-density compute and storage platform designed with multiple tiers of cold, warm, and hot storage partitions in a 1U space, and is optimized for maximum cost-effectiveness and efficiency with software-defined storage (SDS) architectures:

- Hot Storage: Intel® Optane™ persistent memory and front hot-swap NVMe drives
- Warm Storage: Front hot-swap NVMe and/or internal hot-swap SAS3 SSDs
- Cold Storage: Internal hot-swap SATA3 SSDs/HDDs

The system features a new patented internal cable management design that increases system reliability, speeds up system deployment and maintenance, and reduces cabling and rack hardware costs.

Drive Status
(Front Panel)

Operational Mode

Release Security Latches

Opening

Effortless Action

Maintenance Mode

Hot-Swap Ready

FORM-FACTOR

- Internal storage drawer tray
- Front LED matrix for internal drives
- Chassis depth 37" (940mm)

CPU

- Dual Socket P (LGA-3647)
- Up to 205W CPU TDP
- Up to 2nd Gen Intel® Xeon® Scalable processors

STORAGE

- 12 hot-swap 3.5" SAS/SATA
- 4 front hot-swap NVMe/SATA (7mm)
- 2 onboard M.2 slots (NVMe/SATA)

POWER

- Redundant power supplies
- 800W rated output
- 80 Plus Platinum

MEMORY

- 16 DIMM slots
- 2-1-1 DIMM channel topology optimized for Intel® PMem
- DDR4-2933MHz

I/O

- 2 SFP28 onboard 25GbE
- 1 AIOM slot (x16 link)
- 2 PCI-E 3.0 x16 LP, and 1 PCI-E 3.0 x8 LP slots

Open, swap, and close.

Supermicro MegaDC Slim Storage Drawer

BETTER

- Designed for software-defined storage architectures
- A wide range of Supermicro server building blocks for application optimizations
- Patented internal slim storage drawer design for rapid deployment and maintenance

FASTER

- Dual CPU and a large memory footprint for demanding data-driven workloads
- Onboard 25GbE Ethernet with optional AIOM networking
- Non-expander storage backplane for full I/O bandwidth

GREENER

- High-density 1U form-factor
- Internal cable management reduces e-waste and eliminates potential connection faults
- High-efficiency power supplies with low-resistance 12V single-source power distribution

2.5" (7mm)
NVMe/SATA

3.5"
SAS/SATA

nvm EXPRESS®

Complete Tool-Less Experience

SSG-6129P-ACR12N4G

MegaDC GPU System

### Performance and Cost-Effective System Optimized For Rapid Multi-GPU Deployments

The 2U GPU system is a flexible Machine Learning platform in a 19" 2U form-factor that supports multiple double-wide and/or single-wide GPU configurations with either active or passive cooling solutions:

- 2 full-length, double-wide (x16) GPU cards for general-purpose GPU applications
- 5 low-profile, single-wide GPU cards for Machine Learning applications
- 2 full-length, double-wide (x16) and 2 low-profile, single-wide GPU cards (x16 and x8)

The system also supports a wide range of storage and networking options, including hot-swap U.2 and onboard M.2 NVMe SSDs, Intel® Optane™ PMem , dual onboard 25G Ethernet and a flexible AIOM slot.

2 single-wide GPUs or 1 double-wide GPU

1 double-wide GPU

Slot 3 (x16)
AIOM Slot (x16)
CRPS 1600W PSUs
Slot 1 & 2 (x16 & x16)
Slot 4 (x8)
Slot 5 (x16)
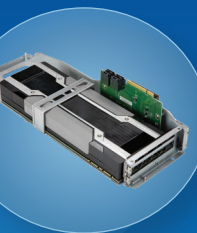
FORM-FACTOR
2U
- Optimized design to support multiple GPUs with active or passive cooling solutions
- Chassis depth 25.5" (647mm)

CPU
- Dual Socket P (LGA-3647)
- Up to 205W CPU TDP
- Up to 2nd Gen Intel® Xeon® Scalable processors

STORAGE
- 12 front hot-swap 3.5" SAS/SATA (4 hybrid NVMe)
- 2 onboard M.2 slots (NVMe/SATA)

POWER
- Common redundant power supplies (CRPS)
- 1600W/2000W rated output
- 80 Plus Titanium

MEMORY
- 16 DIMM slots
- 2-1-1 DIMM channel topology optimized for Intel® PMem
- DDR4-2933MHz

I/O
- 2 SFP28 onboard 25GbE
- 1 AIOM slot (x16 link)
- 5 PCI-E 3.0 slots (see the other side for more details)
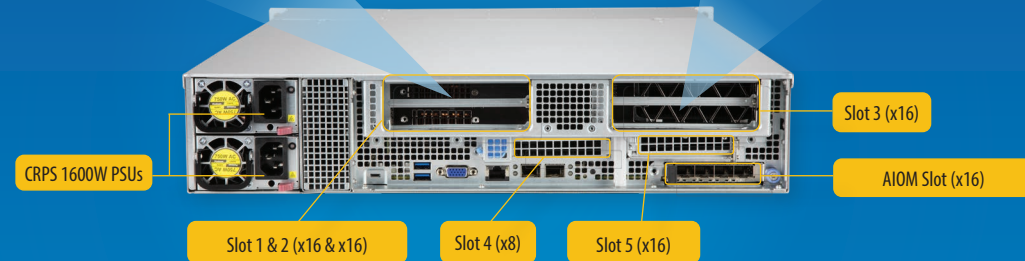
BETTER
- Configure up to 2 double-wide or 5 single-wide GPU cards
- Optimized system cooling design to support multiple GPUs with active or passive cooling solutions
- Redundant 1600W power supplies with optional 2000W; supports standard CRPS modules

FASTER
- Dual processors (up to 205W TDP) and 16 DIMM slots
- Up to 2 double-wide GPUs at full PCI-E 3.0 x16 link speed
- Onboard 25GbE ports and additional slot for AIOM options
- Up to 4 hot-swap U.2 NVMe and 2 onboard M.2 SSDs

GREENER
- 12V high-voltage power transmission to serverboard, GPUs, and storage backplane
- Improved cooling and power efficiency with few cables
- No-compromise system reliability under the most demanding workloads

MegaDC I/O Optimized

Cost-Effective Design Optimized For I/O Expandability at Scale

The MegaDC 2U I/O Optimized configuration brings the best cost-effectiveness for hosting multiple networking interface cards, standard PCI-E based Datacenter SSDs, and many PCI-E expansion possibilities to hyperscale datacenters.

The tool-less design for PCI-E slots and servicing front hot-swappable drive bays allow easy installation and maintenance.

MegaDC 2U Compute

High-Performance Platform For General Purpose Compute and Storage Applications

The 2U Compute node is a low-cost and versatile system that can be easily deployed at scale for general-purpose computing and storage applications for hyperscale infrastructure.

Supporting the new 2nd Generation Intel® Xeon® Scalable processors, the 2U Compute node is designed to operate at the highest performance, frequencies, and core counts with free-air cooling.

12 hot-swap 2.5" or 3.5" drive bays

FORM-FACTOR (2U)
- Optimized design for up to 5 PCI-E expansion cards
- Chassis depth 25.5" (647mm)

CPU
- Dual Socket P (LGA-3647)
- Up to 205W CPU TDP
- Up to 2nd Gen Intel® Xeon® Scalable processors

STORAGE
- 12 front hot-swap 3.5" SAS/SATA (4 hybrid NVMe)
- 2 onboard M.2 slots (NVMe/SATA)

POWER
- Common redundant power supplies (CRPS)
- 750W rated output
- 80 Plus Platinum

MEMORY
- 16 DIMM slots
- 2-1-1 DIMM channel topology optimized for Intel® PMem™
- DDR4-2933MHz

I/O
- 2 SFP28 onboard 25GbE
- 1 AIOM slot (x16 link)
- 2 PCI-E 3.0 x16 LP, and 3 PCI-E 3.0 x8 LP slots

Up to 5 PCI-E 3.0 low-profile cards

Up to 3 PCI-E 3.0 low-profile cards

FORM-FACTOR (2U)
- Standard 2U rackmount
- Chassis depth 25.5" (647mm)

CPU
- Dual Socket P (LGA-3647)
- Up to 205W CPU TDP
- Up to 2nd Gen Intel® Xeon® Scalable processors

STORAGE
- 12 front hot-swap 3.5" SAS/SATA (4 hybrid NVMe)
- 2 onboard M.2 slots (NVMe/SATA)

POWER
- Common redundant power supplies (CRPS)
- 750W rated output
- 80 Plus Platinum

MEMORY
- 16 DIMM slots
- 2-1-1 DIMM channel topology optimized for Intel® PMem
- DDR4-2933MHz

I/O
- 2 SFP28 onboard 25GbE
- 1 AIOM slot (x16 link)
- 2 PCI-E 3.0 x16, and 1 PCI-E 3.0 x8 LP slots

AIOM Networking Options

Delivering Flexibility and Scalability From the Edge to Datacenters

### NEXT-GENERATION SUPERMICRO NETWORKING

Supermicro AIOM (Advanced I/O Module) extends the OCP 3.0 specification with unique features that tackle some of the biggest challenges such as thermal control, ability to support a wide range of networking options in a small size form factor, remote management, and quick and simple deployment.

FUTURE-PROOF I/O

With AIOM, datacenters may enjoy longer refresh cycles and receive better ROI. As newer I/O technologies become available, it is easier and more cost effective to upgrade the I/O controller independently without triggering an entire datacenter refresh.

LARGE SCALE DEPLOYMENT AND SERVICEABILITY

For large scale cloud datacenters, AIOM provides improved mechanical and thermal designs (improved airflow) and increased serviceability, allowing the AIOM modules to be serviced and/or replaced without opening the chassis.
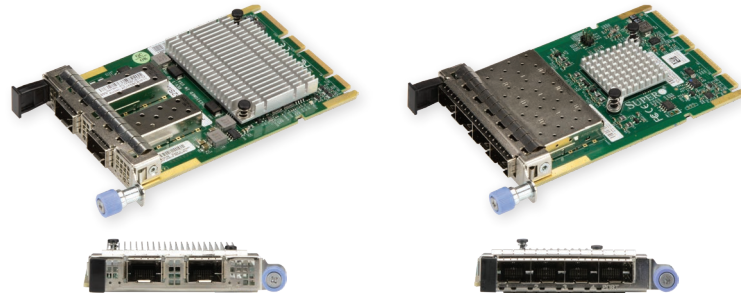
AOC-A25G-b2SM	AOC-AG-i4SM
Dual-Port 25 Gigabit Ethernet	Quad-Port Gigabit Ethernet
2x SFP28	4x SFP
7.7 Watts	4.4 Watts
Broadcom® BCM57414	Intel® I350-AM4

More AIOM options are coming soon!

4x 10G RJ45/SFP+   2x 25G SFP28 + 2x 10G RJ45   2x 100G QSFP28

Better. Faster. Greener.

Expect Better Datacenter Performance, TCO & Impact on the Environment

Systems featuring 2nd Gen Intel® Xeon® Scalable processors

Supermicro offers the broadest and deepest portfolio of advanced technology server and storage systems in the IT industry. This offers several advantages to our customers. First, customers can readily select the most optimized solutions to satisfy their business requirements, helping them to reduce their costs and improve the quality and time-to-market (TTM) of their offerings. Additionally, the breadth and depth of Supermicro's product line provides the efficiency, cost, and reduced complexity advantages of one-stop shopping.