Hardware RAID with JBOD expansion   *Hardware RAID with JBOD expansion*   *Hardware RAID with JBOD expansion*

Model	SSG-2028R-E1CR24N	SSG-6028R-E1CR12N	SSG-6038R-E1CR16N
Form Factor	2U / 24 - 2.5" SAS3/SATA3 bays	2U / 12 - 3.5" SAS3 bays	3U / 16 - 3.5" SAS3 bays
Storage Controller	Hardware RAID Broadcom® 3108 (AOC)	Hardware RAID Broadcom® 3108 (AOC)	Hardware RAID Broadcom® 3108 (AOC)
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	YES / Dual	YES / Dual	YES / Dual
Rear Hot-Swap Drive Bays	Internal Drive Bracket Option	Internal Drive Bracket Option	YES
Network Connectivity	Quad LAN - 10GBase-T	Quad LAN - 10GBase-T	Quad LAN - 10GBase-T
Serverboard / Chipset	SUPER●®X10DRi-T4+ / C612 Chipset	SUPER●®X10DRi-T4+ / C612 Chipset	SUPER●®X10DRi-T4+ / C612 Chipset
System Memory - DIMMs	24 DIMMs	24 DIMMs	24 DIMMs
PCI-E 3.0 Expansion Slots	6 (slot 3 & 4 occupied by controller and JBOD expansion port)	6 (slot 3 & 4 occupied by controller and JBOD expansion port)	6 (slot 3 & 4 occupied by controller and JBOD expansion port)
Dedicated IPMI 2.0 port	YES	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 1000W Titanium Level high-efficiency power supplies with I²C & PMBus	Redundant 920W Titanium Level high-efficiency power supplies with I²C & PMBus	Redundant 920W Titanium Level high-efficiency power supplies with I²C & PMBus

Hardware RAID with JBOD expansion   *Hardware RAID with JBOD expansion*

Model	SSG-6048R-E1CR24N	SSG-6048R-E1CR36N
Form Factor	4U / 24 - 3.5" SAS3/SATA3 bays	4U / 36 - 3.5" SAS3/SATA3 bays
Storage Controller	Hardware RAID Broadcom® 3108 (AOC)	Hardware RAID Broadcom® 3108 (AOC)
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	YES / Dual	YES / Dual
Rear Hot-Swap Drive Bays	YES	Internal Drive Bracket Option
Network Connectivity	Quad LAN - 10GBase-T	Quad LAN - 10GBase-T
Serverboard / Chipset	SUPER●®X10DRi-T4+ / C612 Chipset	SUPER●®X10DRi-T4+ / C612 Chipset
System Memory - DIMMs	24 DIMMs	24 DIMMs
PCI-E 3.0 Expansion Slots	6 (slot 3 & 4 occupied by controller and JBOD expansion port)	6 (slot 3 & 4 occupied by controller and JBOD expansion port)
Dedicated IPMI 2.0 port	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 920W Titanium Level high-efficiency power supplies with I²C & PMBus	Redundant 1280W Platinum Level high-efficiency power supplies with I²C & PMBus

Cost Optimized Hardware RAID   **4x Top-loading Hot-swap Bays**   **Simply Double - I/O Performance**

Model	SSG-6028R-E1CR12T	SSG-6028R-E1CR16T	SSG-2028R-E1CR48L/N
Form Factor	2U / 12 - 3.5" SAS3/SATA3 bays	2U / 16 - 3.5" SAS3 bays	2U / 48 - 2.5" bays
Storage Controller	Hardware RAID Broadcom® 3108 (on motherboard)	1x Hardware RAID Broadcom® 3108 (on motherboard)	Broadcom® 3008/3108 SAS3 add-on controller card
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	NO	NO	NO
Rear Hot-Swap Drive Bays	YES	YES	YES
Network Connectivity	Dual LAN - 10GBase-T	Dual 10G Base-T	Optional SIOM Networking (1GbE, 10GbE,...)
Serverboard / Chipset	SUPER●°X10DRH-CT / C612 Chipset	SUPER●°X10DRH-CT / C612 Chipset	SUPER●°X10DSC+ / C612 Chipset
System Memory - DIMMs	16 DIMMs	16 DIMMs	24 DIMMs
PCI-E 3.0 Expansion Slots	7	7	3
Dedicated IPMI 2.0 port	YES	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 920W Platinum Level high-efficiency power supplies with I²C & PMBus	Redundant 1000W Platinum Level high-efficiency power supplies with I²C & PMBus	Redundant 1600W Titanium Level (96%+) high-efficiency power supplies with I²C & PMBus

Simply Double 100% NVMe   **Simply Double Capacity & Throughput**

The Cable Management Arm is integrated into the rack mounting rails , included with the top-loading systems, allowing for easy Hot-swap serviceability of the drive bays.

Model	SSG-2028R-NR48N	SSG-6028R-E1CR24L/N
Form Factor	2U / 48 - 2.5" NVMe bays	2U / 24 - 3.5" SAS3/SATA3 bays
Storage Controller	Integrated PCI-E Connectivity	LSI 3008/3108 SAS3 IT mode controller card
Backplane	PCI-E Switched Topology	"E1C"/ Single Expander
JBOD Expansion Port	NO	NO
Rear Hot-Swap Drive Bays	YES	YES
Network Connectivity	Optional SIOM Networking (1GbE, 10GbE,...)	Optional SIOM Networking (1GbE, 10GbE,...)
Serverboard / Chipset	SUPER●°X10DSC+ / C612 Chipset	SUPER●°X10DSC+ / C612 Chipset
System Memory - DIMMs	24 DIMMs	24 DIMMs
PCI-E 3.0 Expansion Slots	3	3
Dedicated IPMI 2.0 port	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 1600W Titanium Level (96%+) high-efficiency power supplies with I²C & PMBus	1600W Redundant Titanium Level high-efficiency power supplies with I²C & PMBus

Certified By:

Flexible Scale-up & Scale-out   *Flexible Scale-up & Scale-out*   *Flexible Scale-up & Scale-out*

Model	SSG-2028R-E1CR24H/L	SSG-6028R-E1CR12H/L	SSG-6038R-E1CR16H/L
Form Factor	2U / 24 - 2.5" SAS3/SATA3 bays	2U / 12 - 3.5" SAS3/SATA3 bays	3U / 16 - 3.5" SAS3/SATA3 bays
Storage Controller	Broadcom® 3108 HW/3008 IT Mode/HBA	Broadcom® 3108 HW/3008 IT Mode/HBA	Broadcom® 3108 HW/3008 IT Mode/HBA
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	YES / Dual	YES / Dual	YES / Dual
Rear Hot-Swap Drive Bays	YES	YES	YES
Network Connectivity	Dual LAN - 10GBase-T	Dual LAN - 10GBase-T	Dual LAN - 10GBase-T
Serverboard / Chipset	SUPER●°X10DRH-iT / C612 Chipset	SUPER●°X10DRH-iT / C612 Chipset	SUPER●°X10DRH-iT / C612 Chipset
System Memory - DIMMs	16 DIMMs	16 DIMMs	16 DIMMs
PCI-E 3.0 Expansion Slots	7 (Slot 1 and 2 occupied by controller card and JBOD expansion Port)	7 (Slot 1 and 2 occupied by controller card and JBOD expansion Port)	7 (Slot 1 and 2 occupied by controller card and JBOD expansion Port)
Dedicated IPMI 2.0 port	YES	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 920W Titanium Level high-efficiency power supplies with I²C & PMBus	Redundant 920W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus	Redundant 920W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus

Flexible Scale-up & Scale-out   *Flexible Scale-up & Scale-out*   *72x Drives in 4U !*

Model	SSG-6048R-E1CR24H/L	SSG-6048R-E1CR36H/L	SSG-6048R-E1CR72L
Form Factor	4U / 24 - 3.5" SAS3/SATA3 bays	4U / 36 - 3.5" SAS3/SATA3 bays	4U / 72- 3.5" HDDs in 36x Hot-swap Drive Bays (2x HDD per bay)
Storage Controller	Broadcom® 3108 HW/3008 IT Mode/HBA	Broadcom® 3108 HW/3008 IT Mode/HBA	3x Broadcom® 3008 IT Mode /HBA
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	YES / Dual	YES / Dual	NO
Rear Hot-Swap Drive Bays	YES	YES	YES
Network Connectivity	Dual LAN - 10GBase-T	Dual LAN - 10GBase-T	Dual LAN - 10GBase-T
Serverboard / Chipset	SUPER●°X10DRH-iT / C612 Chipset	SUPER●°X10DRH-iT / C612 Chipset	SUPER●°X10DRH-iT / C612 Chipset
System Memory - DIMMs	16 DIMMs	16 DIMMs	16 DIMMs
PCI-E 3.0 Expansion Slots	7 (Slot 1 and 2 occupied by controller card and JBOD expansion Port)	7 (Slot 1 and 2 occupied by controller card and JBOD expansion Port)	7 (Slot 1, 2, and 3 occupied by controller cards)
Dedicated IPMI 2.0 port	YES	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35°C
Power Supply	Redundant 920W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus	Redundant 1280W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus	Redundant 2000W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus

Capacity Optimized

Cold Storage Optimized

Model	SSG-6048R-E1CR60N/L	SSG-6048R-E1CR90L
Form Factor	4U / 60- 3.5" Top-Loading HDDs	4U / 90- 3.5" Top-Loading HDDs
Storage Controller	Broadcom® 3108 HW/3008 IT Mode/HBA	Broadcom® 3008 SAS3 IT Mode/HBA
Backplane	"E1C"/ Single Expander	"E1C"/ Single Expander
JBOD Expansion Port	NO	NO
Rear Hot-Swap Drive Bays	YES	YES
Network Connectivity	Optional SIOM Networking (1GbE, 10GbE,...)	4x 10G SFP+ and Optional SIOM Networking (1GbE, 10GbE,...)
Serverboard / Chipset	PER●˚X10DSC+ / C612 Chipset	SUPER●˚X10DSC-TP4S / C612 Chipset
System Memory - DIMMs	24 DIMMs	8 DIMMs
PCI-E 3.0 Expansion Slots	3	N/A
Dedicated IPMI 2.0 port	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35℃	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35℃
Power Supply	2000W Redundant Titanium Level high-efficiency Digital Power Supplies with I²C & PMBus	4x 1000W Redundant Titanium Level high-efficiency Digital Power Supplies with I²C & PMBus

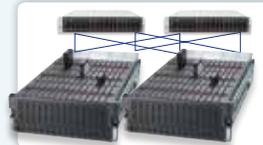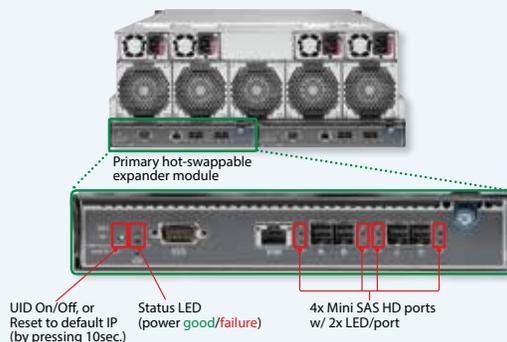**Low latency storage with Triple HW RAID**

Cold Storage

Kinetic Appliance

Model	SSG-2028R-ACR24H/L	SSG-5018A-AR12L	SSG-K1048-RT
Form Factor	2U / 24 - 2.5" SAS3/SATA3 bays	1U / 12 - 3.5" SATA bays	1U / 12 - 3.5" bays
Storage Controller	3x Broadcom® 3108 HW/3008 IT Mode/HBA	IT Mode	N/A, Ethernet connected drives
Backplane	"A"/ Direct Connect	N/A	N/A
JBOD Expansion Port	NO	NO	NO
Rear Hot-Swap Drive Bays	YES	NO	NO
Network Connectivity	Dual 10GBase-T	Dual GbE LAN ports with SoC	Redundant Dual 10GBase-T
Serverboard / Chipset	SUPER●˚X10DRH-iT / C612 Chipset	System on Chip chipset	NA, Built-in redundant Ethernet switch
System Memory - DIMMs	16 DIMMs	4 DIMMs	N/A
PCI-E 3.0 Expansion Slots	7 (Slot 1, 2, and 3 occupied by controller cards)	1	N/A
Dedicated IPMI 2.0 port	YES	YES	YES
Processor / Wattage Rating	Dual Intel® Xeon® Processor E5-2600 Series Socket R / Up to 145W @ 35℃	Intel® Atom™ Processor C2750	N/A
Power Supply	Redundant 920W Platium Level (94%+) high-efficiency power supplies with I²C & PMBus	Yes Redundant 2 Qty. PWS-406P-1R	400W Redundant Power Supplies w/Power Distributor, PMBus 1.2, I²C, and PFC

High Availability JBODs – for Mission-Critical Applications

Fully Redundant Hot-swap Design -12Gb/s SAS3 JBODs.
Featuring Hot-swap drive bays, I/O Modules, fans and
power supplies

- Tool-less drive tray design offers rapid serviceability
- Top-loading 3.5" & 2.5" drive bays
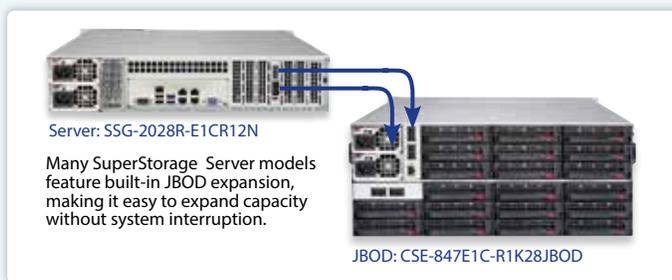- 90-Bay top-loading JBOD

Primary hot-swappable expander module

UID On/Off, or Reset to default IP (by pressing 10sec.)

Status LED (power good/failure)

4x Mini SAS HD ports w/ 2x LED/port

Up to 4x redundantly connected hosts!

Part Number	SSG-927R-E2CJB	SSG-937R-E2CJB	SSG-947R-E2CJB	CSE-946ED-R2KJBOD
Form factor	2U / 24x 2.5" bays	3U / 16 3.5" or 2.5" bays	4U / 24x 3.5" or 2.5" bays	4U / 90x 3.5 or 2.5 bays
Host Connectivity	8x SAS3 MiniSASHD ports per system	8x SAS3 MiniSASHD ports per system	8x SAS3 MiniSASHD ports per system	8x SAS3 MiniSASHD ports per system
Power supply	Redundant 1200W Platinum Level	Redundant 1200W Platinum Level	Redundant 1600W Platinum Level	2+2 Redundant 1000W Platinum Level

Cost Optimized JBODs –for Non-disruptive Server Expansion

Reliable High-bandwidth Architecture
supporting 12Gb/s SAS3/SATA3 and
Featuring Integrated Single and
Redundant Expanders

Server: SSG-2028R-E1CR12N

Many SuperStorage Server models
feature built-in JBOD expansion,
making it easy to expand capacity
without system interruption.

JBOD: CSE-847E1C-R1K28JBOD

SATA & SAS Drive Support	CSE-216BE1C-R741JBOD	CSE-847E1C-R1K28JBOD	CSE-847DE1C-R2K04JBOD
SAS Drive Support	CSE-216BE2C-R741JBOD	CSE-847E2C-R1K28JBOD	CSE-847DE2C-R2K04JBOD
Form factor	2U / 24x 2.5" bays for SAS or SATA	4U / 44x 3.5" bays for SATA or SAS	4U /90x 3.5"drives in 45x bays for SATA or SAS
Host Connectivity	4x SAS ports per expander with x8 lane connectivity (8x in 8x out)	4x SAS ports per expander with x8 lane connectivity (8x in 8x out)	4x SAS ports per expander with x8 lane connectivity (8x in 8x out)
Power supply	Redundant 740W Platinum Level power supplies	Redundant 1280W Platinum Level power supplies	Redundant 2000W Platinum Level power supplies

SuperStorage: Flexible Storage Options

Supermicro Servers are designed and optimized to address the toughest hyper-scale business challenges. Building on open industry standards is simply the starting point for Supermicro's exhaustive product portfolio. The innovative SuperStorage hardware solutions deliver the storage density, performance, and power efficiency for a full spectrum of targeted workloads. Flexible server options allow usage models from embedded and traditional structured data applications to the largest software defined cloud deployments of unstructured data.

Storage Options for Operating Systems

MCP-220-82609-0N	MCP-220-83605-0N	MCP-220-84606-0N	MCP-220-82611-0N	MCP-220-84701-0N	SATA DOM (Disk on Module)
• 2.5" Rear HDD Kit (2U) includes : • 2x SATA Cables • Mounting Hardware	• 2.5" Rear HDD Kit (3U) includes : • 2x SATA Cables • Power Extension Cable • Mounting Hardware	• 2.5" Rear HDD Kit (4U) includes : • 2x SATA Cables • Mounting Hardware	• 2.5" internal drive bracket Required Additional Parts : • 2x SATA Cables (CBL-0179L) • SATA Power (CBL-0289L)	• 2.5" or 3.5" Internal drive bracket • Required Additional Parts : • 2x SATA Cables (CBL-0179L) • SATA Power (CBL-0082L)	• Capacities up to 64GB • 3&4-Pin Power CBL included • 4-Pin Power Extension may be needed on some models (CBL-0182L)
SuperStorage Models : SSG-6027R-E1R12L SSG-6027R-E1R12T SSG-2028R-AR24 SSG-2028R-E1R24L SSG-6028R-E1CR12H/L	**SuperStorage Models :** SSG-6037R-E1R16N SSG-6037R-E1R16L SSG-6038R-E1CR16N/H/L	**SuperStorage Models :** SSG-6047R-E1R24N SSG-6047R-E1R24L SSG-6048R-E1CR24N/H/L	**SuperStorage Models :** SSG-6027R-E1R12N SSG-2028R-E1R24N SSG-6037R-E1R16N SSG-6047R-E1R24N SSG-6047R-E1R36N	**SuperStorage Models :** SSG-6047R-E1R36N SSG-6047R-E1R36L SSG-6048R-E1CR36N/H/L	**SuperStorage Models :** All SuperStorage Models include a single power header next to SATA port 1 Second SATA DOM can be installed using 4-pin power extension cable

SuperStorage Accessories

SuperStorage Hardware RAID controllers support options for cache backup using super capacitors for reliable data protection even through power outages. Broadcom® CacheCade™ offers a performance boost to optimize hot-file storage applications using a small number of SSDs.

- **CacheVault™ for Broadcom® 3108 AOC – Flash Backed Cache – BTR-TFM8G-AvagoCVM02**
- **CacheVault™ for Broadcom® 2208 AOC – Flash Backed Cache – BTR-0024LH-Avago00297**
- **PCI Slot Mount For CacheVault™ - BKT-BBU-BRACKET-05**
- **2.5" drive bay Mount For CacheVault™ - MCP-240-00127-0N**
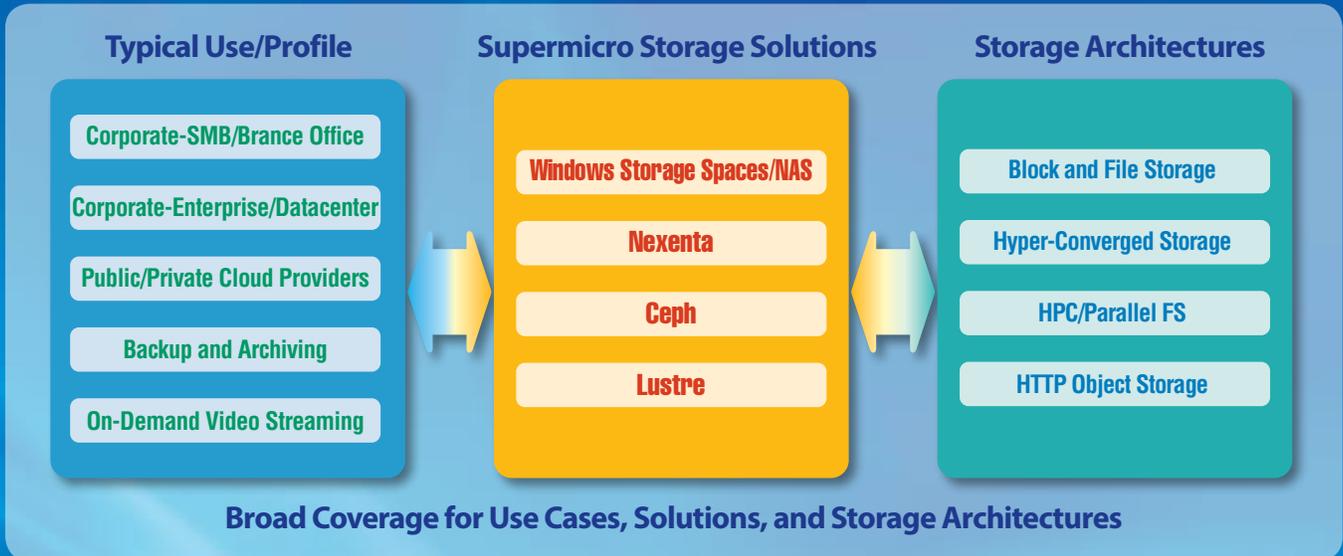- **Broadcom® CacheCade™ AOC-CHCD-PRO2-KEY**

Supported SuperStorage Server Models Rear Hot-swap 2.5" Drive Bracket

SuperStorage Server Models	Part Number
SSG-6028R-E1CR12L/H SSG-6028R-E1CR12T SSG-6028R-E1CR16T SSG-2028R-ACR24L/H SSG-2028R-E1CR24L/H	MCP-220-82609-ON
SSG-6038R-E1CR16N SSG-6038R-E1CR16L/H	MCP-220-83605-ON
SSG-6048R-E1RC24N SSG-6048R-E1CR24L/H	MCP-220-84606-ON

SuperStorage Server Models	Part Number
Internal 2.5" Drive Bracket	Part Number
SSG-6028R-E1CR12N SSG-2028R-E1CR24N SSG-6038R-E1CR16N SSG-6048R-E1CR24N	MCP-220-82611-ON
SSG-6048R-E1CR36N SSG-6048R-E1CR36L/H	MCP-220-84701-ON

Capacity Optimized Software Defined Storage Solutions

Typical Use/Profile	Supermicro Storage Solutions	Storage Architectures
Corporate-SMB/Brance Office	Windows Storage Spaces/NAS	Block and File Storage
Corporate-Enterprise/Datacenter	Nexenta	Hyper-Converged Storage
Public/Private Cloud Providers	Ceph	HPC/Parallel FS
Backup and Archiving	Lustre	HTTP Object Storage
On-Demand Video Streaming		

Broad Coverage for Use Cases, Solutions, and Storage Architectures

Supermicro Total Solutions

Ceph Storage

redhat.

Supermicro Ceph storage solutions are available as fully integrated and optimized Ceph storage clusters with flexible service and support packages designed to meet application specific workloads.

HPC Storage / Lustre

(intel)

Lustre Software

The evolution of software defined high availability platforms like ZFS running on Linux now make it possible to deliver the performance and capacity requirements of HPC.

Enterprise Unified Storage

nexenta®
Global Leader in Software-Defined Storage.

SuperStorage running Nexenta's software defined platform enables enterprise IT departments to deliver robust enterprise-class storage services without compromising availability, reliability, or functionality.

Windows Storage Spaces/NAS

Windows Server 2012
Certified

Storage Spaces

Supermicro's Windows Storage Spaces solutions provides a cost effective SAN alternative by utilizing features such as storage virtualization and tiered storage. The capacity and performance optimized solutions can be deployed as NAS or direct attach storage configurations.

SCALE