High-Density *NVMe* Systems

High-Performance All-Flash Server Solutions

1U 36 NF1 *NVMe* Drives

1U 32 U.2 *NVMe* Drives

1U 32 "Ruler" *NVMe* Drives

2U, 4 nodes BigTwin with 24 *NVMe* SSDs or 6 *NVMe* SSDs per node

2U SBB with 48 Dual-port *NVMe* SSDs

2U Simply Double with 48 *NVMe* SSDs

www.supermicro.com

June 2018

Introducing New Generation Extremely High-Density and High-Capacity All-Flash NVMe 1U Servers

1 of 36 Hot-swap NF1 Drives

SSG-1029P-NMR36L

1U 36 NF1 *NVMe* Drives

Key Features

- Up to 36 NF1 SSDs (4-16TB capacity per drive)
- Up to 10 million IOPS in 1U
- Front-loading bays with optimized air-flow
- Hot-swap and Power Loss Protection

Quick Specs

- Dual Intel® Xeon® Scalable processors
- 24 DIMM slots DDR4-2666
- Dual onboard 10Gbase-T
- 3 PCI-E 3.0 slots
- Redundant ***Titanium Level*** (96%) power supplies
- 30" chassis depth

SYS-1029P-N32R
1U 32 U.2 NVMe Drives

SYS-1029P-NR32R
1U 32 "Ruler" NVMe Drives

Key Features

- 32 hot-swap ***NVMe*** SSDs (U.2 or Intel® "Ruler")
- 2 M.2 ***NVMe***/SATA3 slots
- Intel® QuickAssist Technology support
- Front-loading and tool-less drive trays
- Remote power cycling for each Individual SSD

Quick Specs

- Dual Intel® Xeon® Scalable processors
- 24 DIMM slots DDR4-2666
- Dual onboard 10Gbase-T
- 2 PCI-E 3.0 slots
- Redundant ***Platinum Level*** power supplies
- 35.95" chassis depth

Technical Specifications

1U with 36 Samsung NF1

SSG-1029P-NMR36L

1U with 32 U.2 SSDs

SYS-1029P-N32R

1U with 32 Intel ruler SSDs

SYS-1029P-NR32R

	SSG-1029P-NMR36L	SYS-1029P-N32R	SYS-1029P-NR32R
Processor	Dual Socket P (LGA 3647), Intel® Xeon® Scalable Processors, 3 UPI up to 10.4GT/s	Dual Socket P (LGA 3647), Intel® Xeon® Scalable Processors, Dual UPI up to 10.4GT/s	Dual Socket P (LGA 3647), Intel® Xeon® Scalable Processors, Dual UPI up to 10.4GT/s
Serverboard	SUPER® X11DSF	SUPER® X11DPS-R	SUPER® X11DPS-R
Chipset	Intel® C627 chipset	Intel® C627 chipset	Intel® C627 chipset
Memory	Up to 3TB ECC 3DS LRDIMM, 3TB ECC RDIMM, DDR4 up to 2666MHz in 24 DIMM slots	Up to 3TB ECC 3DS LRDIMM, 3TB ECC RDIMM, DDR4 up to 2666MHz in 24 DIMM slots	Up to 3TB ECC 3DS LRDIMM, 3TB ECC RDIMM, DDR4 up to 2666MHz in 24 DIMM slots
Expansion Slots	• 2 PCI-E 3.0 x16 slots • 1 PCI-E 3.0 x4 (Low profile) slot	2 PCI-E 3.0 x16 slots	2 PCI-E 3.0 x16 slots
Drive Bays	• 32 Hot-swap PCI-E NF1 drive bays • 4 Hybrid PCI-E NF1 or SATA3 M.2 drive bays	32 Hot-swap 2.5" *NVMe* SSDs (2 sleds with 16 drives per sled)	Dual Drawer/Tray with a total of 32 Hot-swap *NVMe* Ruler SSDs
On-board Video	1 VGA D-Sub connector port	ASPEED AST2500 BMC	ASPEED AST2500 BMC
Management	Intel® Node Manager, IPMI 2.0, KVM with dedicated LAN NMI, SSM, SPM, SUM, SuperDoctor® 5, Watch Dog	Intel® Node Manager, IPMI 2.0, KVM with dedicated LAN, NMI, SSM, SPM, SUM, SuperDoctor® 5, Watch Dog	Intel® Node Manager, IPMI 2.0, KVM with dedicated LAN, NMI, SSM, SPM, SUM, SuperDoctor® 5, Watch Dog
Power Supply	1600W Redundant Power Supplies with PMBus	1600W Redundant Power Supplies with PMBus	1600W Redundant Power Supplies with PMBus
Cooling	8 Heavy duty 4cm counter-rotating fans with air shroud & optimal fan speed control	8 Hot-swap 40mm counter-rotating fans	8 Hot-swap 40mm counter-rotating fans
Form Factor	1U Rackmount	1U Rackmount	1U Rackmount
Dimensions	1.7" (43mm) x 17.26" (438.4mm) x 30.04" (763mm)	1.7" (43mm) x 17.26" (438.4mm) x 35.95" (913mm)	1.7" (43mm) x 17.26" (438.4mm) x 35.95" (913mm)
Weight	Net Weight: 40 lbs (18.1kg) Gross Weight: 52 lbs (23.6kg)		

Technical Specifications

1U with 20 x 7mm NVMe SSDs

SYS-1029UZ-TN20R25M

1U with 10 x U.2 NVMe SSDs

SYS-1029U-TN10RT

1U with 32 U.2 SSDs

SSG-136R-N32JBF

	SYS-1029UZ-TN20R25M	SYS-1029U-TN10RT	SSG-136R-N32JBF
Processor	Dual Intel® Xeon® Processor Skylake product family	Dual Intel® Xeon® Processor Scalable Family (Skylake-SP) with UPI up to 10.4 GT/s	N/A
Serverboard	SUPER® X11DPU-Z+	SUPER® X11DPU	SUPER®
Chipset	Intel® C621 chipset	Intel® C621 Chipset	N/A
Memory	24x DIMM slots, Up to 3TB ECC 3DS LRDIMM, Up to 2666 MHz	Up to 3TB 3DS ECC RDIMM/LRDIMM; DDR4 up to 2666MT/s, in 24 DIMM slots	N/A
Expansion Slots	• Up to 2 PCI-E 3.0 x8(FH, FL) • For 20 ***NVMe*** configuration, only 1 PCI-E 3.0 x8 is available • For 18 ***NVMe*** configuration, 2 PCI-E 3.0 x8 will be available	2 PCI-E 3.0 x16 (2 FH, 10.5"L)	• 2 PCI-E 3.0 x16 slots • 4 PCI-E 3.0 x16 Mini-SAS HD ports
RAID Controller	Intel® C621 SATA3 (6Gb/s) controller	Intel® C621 SATA3 (6 Gbps) controller	N/A
Drive Bays	20 Hot-***Swappable 2.5" 7mm drive bays***: 8 ***NVMe*** ports and 2 SAS/SATA3/***NVMe*** Hybrid Ports from CPU1 and 10 ***NVMe*** ports from CPU2	10 Hot-***Swappable 2.5" drive bays***: 6 ***NVMe*** ports (***NVMe*** from CPU1) 4 ***NVMe***/SAS3 hybrid ports for optional SAS3/SATA3 (***NVMe*** from CPU 2)	32 Hot-swap 2.5" ***NVMe*** SSDs (2 sleds with 16 drives per sled)
On-board Video	1 VGA, 1 Aspeed AST2500 BMC;	2 VGA ports (1 rear, 1 onboard) 1 Aspeed AST2500 BMC	N/A
Management	Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI; SPM; SSM; SUM; SuperDoctor® 5; Watchdog;	Intel® Node Manager; Redfish API; IPMI2.0; KVM with dedicated LAN; NMI; SPM; SSM; SUM; SuperDoctor® 5	IPMI 2.0 with Dedicated LAN
Power Supply	1600W ***Titanium Level*** Power Supply	Redundant 1000W ***Titanium Level*** Power Supply	Redundant(1+1) 1000W Titanium level high efficiency power supplies
Cooling	8 Heavy Duty fans w/ Optimal Fan Speed Control , 2 Air Shroud	8 Heavy Duty fans w/ Optimal Fan Speed Control , 1 Air Shroud	8x 40mm Fans, N/A
Form Factor	1U Chassis	1U Chassis	1U Rackmount
Dimensions	Enclosure: 437 x 43 x 706mm (17.2" x 1.7" x 27.8")	Enclosure: 432 x 25 x 706mm (17.2" x 1.7" x 27.8")	Enclosure: 437 x 44 x 800mm (17.2" x 1.75" x 31.5")
Weight	Gross Weight: 48 lbs (21.8 kg)	Gross Weight: 48 lbs (21.8 kg)	Net Weight: 49 lbs (22.2kg) Gross Weight: 65 lbs (29.5kg)

Technical Specifications

1U with 32 Ruler SSDs

SSG-136R-NR32JBF

2U SBB with 32 Ruler SSDs

SSG-2029P-DN2RR32L*

2U Ultra with 20 directly connected NVMe SSDs

SYS-2029UZ-TN20R25M

	SSG-136R-NR32JBF	SSG-2029P-DN2RR32L*	SYS-2029UZ-TN20R25M
Processor	N/A	Dual socket P (LGA 3647) supports Intel® Xeon® Scalable Processors, Dual UPI up to 10.4GT/s per node	Dual Intel® Xeon® Processor Scalable Family (Skylake-SP) with UPI up to 10.4 GT/s
Serverboard	SUPER®	SUPER® X11DSN-TSQ per node	SUPER® X11DPU-Z+
Chipset	N/A	Intel® C620 series chipset per node	Intel® C621 chipset
Memory	N/A	Up to 1.5TB ECC 3DS LRDIMM, 512GB ECC RDIMM, DDR4 up to 2666MHz in 12 DIMM slots per node	Up to 3TB 3DS ECC RDIMM/LRDIMM; DDR4 up to 2666MT/s, in 24 DIMM slots
Expansion Slots	• 2 PCI-E 3.0 x16 slots • 4 PCI-E 3.0 x16 Mini-SAS HD ports	• 32 RSSD PCI-E 3.0 x4 slots per node • 2 PCI-E 3.0 x16 Low-profile slots per node • 1 PCI-E 3.0 x16 SIOM slot from CPU2 per node • x8 signals shared with QAT enabled board per node	1 PCI-E 3.0 x8 (LP)
RAID Controller	N/A		Intel® C621 SATA3 (6Gb/s) controller
Drive Bays	Dual Drawer/Tray with a total of 32 ***NVMe*** Ruler SSDs	Up to 32 Hot-swap ***NVMe*** Ruler SSDs (1 PB Capacity)	24 Hot-swap 2.5" ***NVMe*** Drive Bays; Optional 20 ***NVMe*** + 4 ***NVMe***/SAS3
On-board Video	N/A	1 VGA port per node	2 VGA ports (1 rear, 1 onboard); 1 Aspeed AST2500 BMC
Management	IPMI 2.0 with Dedicated LAN	Intel® Node Manager, IPMI 2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog	Intel® Node Manager; Redfish API; IPMI2.0; KVM with dedicated LAN; NMI; SPM; SSM; SUM; SuperDoctor® 5;
Power Supply	Redundant(1+1) 1000W Titanium level high efficiency power supplies	2000W Redundant Power Supplies with PMBus	1600W Redundant Power Supplies with PMBus
Cooling	8x 40mm Fans, N/A	• 4 40x40x56 mm counter rotating rear exhaust fans • 6 60x60x76 mm counter rotating mid-fans	4 8cm heavy duty PWM fans
Form Factor	1U Rackmount	2U Rackmount	2U Rackmount
Dimensions	Enclosure: 437 x 44 x 800mm (17.2" x 1.75" x 31.5")	17.2" (437mm) x 3.5" (89mm) x 33.3" (630mm)	Enclosure: 437 x 89 x 705mm (17.2" x 3.5" x 27.76")
Weight	Net Weight: 49 lbs (22.2kg) Gross Weight: 65 lbs (29.5kg)	Gross Weight: 85 lbs (38.6kg) Net Weight: 89 lbs (40.4 kg)	Net Weight: 36 lbs (16.4 kg) Gross Weight: 72 lbs (32.7 kg)

** Optimized for mission-critical, enterprise-level storage applications, Supermicro's innovative Super SBB (Storage Bridge Bay) system features a fully redundant, fault-tolerant "Cluster-in-a-box" architecture.*

Technical Specifications

2U Ultra with 24 NVMe SSDs

SYS-2029U-TN24R4T

2U, 4 nodes BigTwin with 24 NVMe SSDs or 6 NVMe SSDs per node

SYS-2029BT-HNR

2U, 2 nodes BigTwin with 24 NVMe SSDs or 12 NVMe SSDs per node

SYS-2029BT-DNR

	SYS-2029U-TN24R4T	SYS-2029BT-HNR	SYS-2029BT-DNR
Processor	Dual Intel® Xeon® Processor Scalable Family (Skylake-SP) with UPI up to 10.4 GT/s	Intel® Xeon® Scalable Processors with QPI up to 10.4 GT/s	Dual Intel® Xeon® Scalable processors; dual UPI up to 10.4GT/s
Serverboard	SUPER® X11DPU	SUPER® X11DPT-B	SUPER® X11DPT-B
Chipset	Intel® C621 chipset	Intel® C621 chipset	Intel® C621 chipset
Memory	Up to 3TB 3DS ECC RDIMM/LRDIMM; DDR4 up to 2666MT/s, in 24 DIMM slots	Up to 3TB ECC 3DS RDIMM/LRDIMM, DDR4 up to 2666MHz, in 24 DIMM slots per Node	Up to 3TB ECC 3DS RDIMM/LRDIMM, DDR4 up to 2666MHz, in 24 DIMM slots per Node
Expansion Slots	• 2 PCI-E 3.0 x16 (FH, 10.5"L) • 1 PCI-E 3.0 x8 (LP)	• 2 PCI-E 3.0 X16 (LP) • 1 SIOM card support *Note: Must bundle with Network Card*	• 2 PCI-E 3.0 x8 • 1 PCI-E 3.0 x16 • 1 SIOM card support *Note: Must bundle with Network Card*
RAID Controller	Intel® C621 SATA3 (6Gb/s) controller	***NVMe***	***NVMe***
Drive Bays	24 Hot-swap 2.5" ***NVMe*** Drive Bays; Optional 20 ***NVMe*** + 4 ***NVMe***/SAS3; 2x 2.5" 2 Rear Hot-swap 2.5" Drive Bays (2x SATA3 ports default)	6 Hot-swap 2.5" ***NVMe*** drive bays per node	12 Hot-swap 2.5" ***NVMe*** drive bays per node
On-board Video	2 VGA ports (1 rear, 1 onboard); 1 Aspeed AST2500 BMC	Aspeed AST2500 BMC	Aspeed AST2500 BMC
Management	Intel® Node Manager; Redfish API; IPMI2.0; KVM with dedicated LAN; NMI; SPM; SSM; SUM; SuperDoctor® 5;	Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; SPM; SSM; SUM; SuperDoctor® 5; Watchdog	Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; SPM; SSM; SUM; SuperDoctor® 5; Watchdog
Power Supply	1600W Redundant Power Supplies with PMBus	Redundant 2200W ***Titanium Level*** high-efficiency power supplies with I2C&PMbus	Redundant 2200W ***Titanium Level*** high-efficiency power supplies with I2C&PMbus
Cooling	4 8cm heavy duty PWM fans	4x 80mm heavy duty PWM fans with air shroud	4x 80mm heavy duty PWM fans with air shroud
Form Factor	2U Rackmount	2U (4-node) Rackmount	2U (2-node) Rackmount
Dimensions	Enclosure: 437 x 89 x 705mm (17.2" x 3.5" x 27.76")	Enclosure: 447 x 88 x 730mm (17.6" x 3.47" x 28.75")(9.76" x 24.65" x 45.28")	Enclosure: 447 x 76 x 730mm (17.6" x 3.47" x 28.75")
Weight	Net Weight: 39 lbs (17.7 kg) Gross Weight: 63 lbs (28.6 kg)	Gross Weight: 85lbs Net Weight: 54.5lbs	Gross Weight: 85lbs (38.56kg) Net Weight: 54.5lbs

Technical Specifications

2U SBB with 24 Dual-port NVMe SSDs

SSG-2028R-DN2R24L*

2U SBB with 48 Dual-port NVMe SSDs

SSG-2028R-DN2R48L*

2U Simply Double with 48 NVMe SSDs

SSG-2028R-NR48N

	SSG-2028R-DN2R24L*	SSG-2028R-DN2R48L*	SSG-2028R-NR48N
Processor	Intel® Xeon® processor E5-2600 V3 Intel® Xeon® processor E5-2600 V4 with QPI up to 9.6GT/s per node	Intel® Xeon® processor E5-2600 V3 Intel® Xeon® processor E5-2600 V4 with QPI up to 9.6GT/s per node	Intel® Xeon® processor E5-2600 V3 Intel® Xeon® processor E5-2600 V4 with QPI up to Dual 8.0GT/s per node
Serverboard	SUPER® X10DSN-TS per node	SUPER® X10DSN-TS per node	SUPER® X10DSC+ per node
Chipset	Intel® C612 chipset per node	Intel® C612 chipset per node	Intel® C612 chipset per node
Memory	1TB Registered ECC, DDR4-2400/2133 MHz in 16 DIMM slots per node	1TB Registered ECC, DDR4-2400/2133 MHz in 16 DIMM slots per node	Up to 768GB Registered ECC, DDR4-2400MHz in 24 DIMM slots per node
Expansion Slots	• 1 PCI-E 3.0 x16 HHHL per node • 1 PCI-E 3.0 x8 HHHL per node • 1 SIOM per node	• 1 PCI-E 3.0 x16 HHHL per node • 1 PCI-E 3.0 x8 HHHL per node • 1 SIOM per node	• 2 PCI-E 3.0 x16 per node • 1 PCI-E 3.0 x8 per node
RAID Controller	Intel® C612 controller for 2 SATA3 (6 Gbps) ports per node	Intel® C612 controller for 2 SATA3 (6 Gbps) ports per node	Onboard ***NVMe*** controller
Drive Bays	24x 2.5" dual port ***NVMe*** drive bay	48x 2.5" dual port ***NVMe*** drive bay	48x 2.5" hot-swap drive bay per node
On-board Video	1 VGA by Aspeed AST2400 BMC per node	1 VGA by Aspeed AST2400 BMC per node)	Onboard ***NVMe*** controller per node
Management	Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI;	Intel® Node Manager; IPMI2.0; KVM with dedicated LAN; NMI;	Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
Power Supply	Redundant PWS-2K05A-1R	Redundant PWS-2K05A-1R	1600W Redundant ***Titanium Level*** high-efficiency power supplies with I2C & PMBus
Cooling	5x 8cm high-performance PWM fans;	5x 8cm high-performance PWM fans;	5x 8cm hot-swap redundant PWM cooling fans.
Form Factor	2U Rackmount	2U Rackmount	2U Rackmount
Dimensions	17.2" (437mm) x 3.5" (89mm) x 25.6" (650mm)	17.2" (437mm) x 3.5" (89mm) x 33.3" (846mm)	17.2" (437mm) x 3.5" (89mm) x 30" (684mm)
Weight	Gross Weight: 67 lbs (30.4 kg)	Gross Weight: 86.9 lbs (39.42 kg)	

** Optimized for mission-critical, enterprise-level storage applications, Supermicro's innovative Super SBB (Storage Bridge Bay) system features a fully redundant, fault-tolerant "Cluster-in-a-box" architecture.*

We Keep IT Green®

Disaggregated Resource Saving Architectures

BigTwin™
4/2 DP Nodes in 2U, 3 UPI
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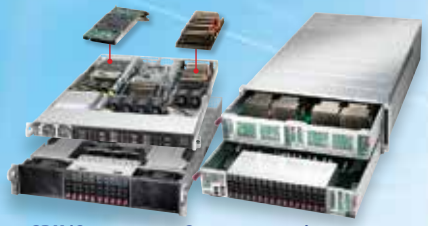

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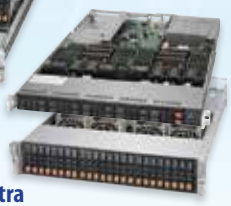

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