



## Key Features

- Web Server, Firewall Apps.
- Corporate-Wins, DNS, Print, Login
- Gateway, provisioning servers
- Compact Network Appliance
- Cloud Computing

1. Dual Socket P (LGA 3647) support  
2nd Gen Intel® Xeon® Scalable  
processors (Cascade Lake/Skylake)†

2. 12 DIMMs; up to 3TB 3DS ECC  
DDR4-2933MHz‡ RDIMM/LRDIMM,  
Supports Intel® Optane™ DCPMM††

3. 2 PCI-E 3.0 x16 (FHHL) slots,  
1 PCI-E 3.0 x8 (LP) slot,  
1 PCI-E 3.0 x16 for Add-on-Module  
(Support SAS3 Storage controller),  
1 PCI-E 3.0 x4 NVMe M.2 slot

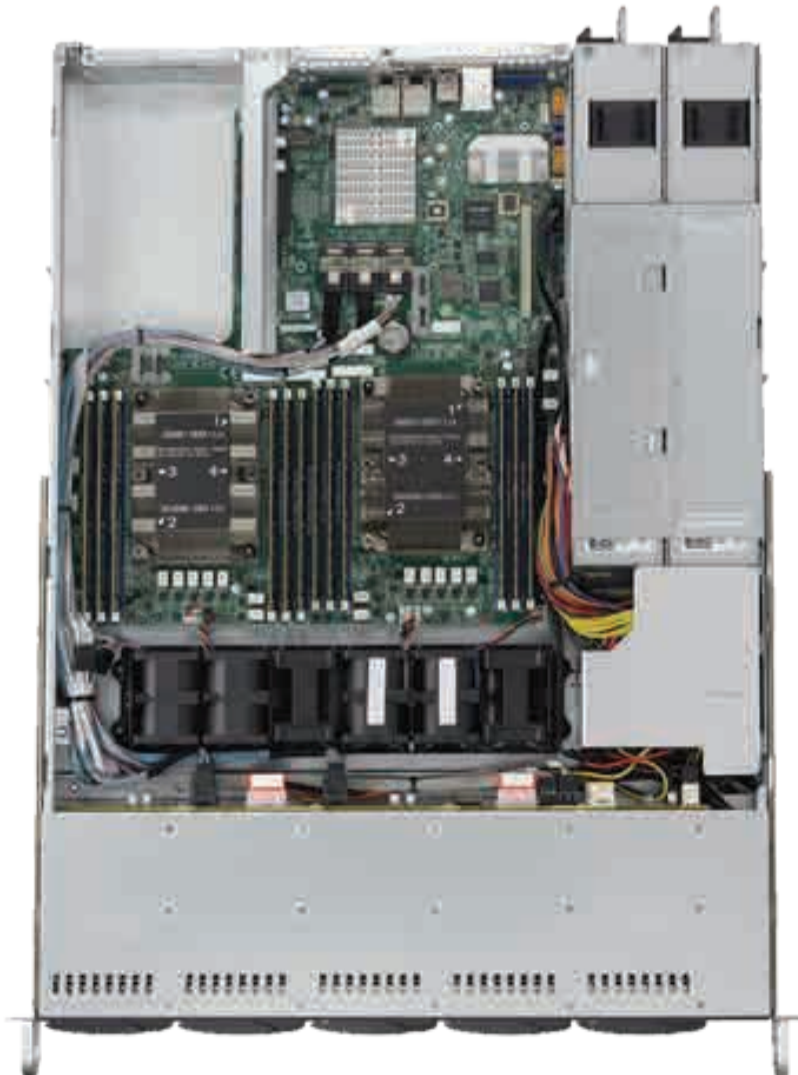
4. 10 Hot-swap 2.5" SAS/SATA HDD bays  
(default 8 SATA3, 2 NVMe or SATA3)

5. 2x 10GBase-T LAN ports via Intel C622

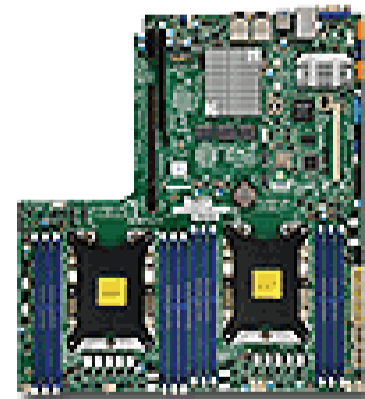
6. 1 VGA, 6 USB 3.0 (4 rear, 2 front)

7. 2 SuperDOM (Disk on Module) ports

8. 750W Redundant Power Supplies  
**Platinum Level** High-efficiency



## Integrated Board



## Super X11DDW-NT

Views: | Angled View | Top View |  
| Front View | Rear View |

# Specifications

## Product SKUs

<b>SYS-1029P-WTRT</b>	<ul style="list-style-type: none"> <li>SuperServer 1029P-WTRT (Black)</li> </ul>
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## Motherboard

**Super X11DDW-NT**

## Processor/Cache

<b>CPU</b>	<ul style="list-style-type: none"> <li>Dual Socket P (LGA 3647)</li> <li>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors<sup>‡</sup>,</li> <li>Dual UPI up to 10.4GT/s</li> <li>Support CPU TDP 70-165W*</li> </ul>
<b>Cores</b>	<ul style="list-style-type: none"> <li>Up to 28 Cores</li> </ul>
<b>Note</b>	* Certain high frequency optimized CPUs within 165W TDP are not supported, such as Intel Gold 6144, 6146, 6244 and 6246.
<b>Note</b>	<sup>‡</sup> BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).  Extended thermal solutions may be required to support CPUs higher than 165W TDP, please contact Supermicro Technical Support for additional information.

## System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>12 DIMM slots</li> <li>Up to 3TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM</li> <li>Supports Intel® Optane™ DCPMM<sup>††</sup></li> </ul>
<b>Memory Type</b>	<ul style="list-style-type: none"> <li>2933<sup>†</sup>/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM</li> </ul>
<b>Note</b>	<sup>†</sup> 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro <sup>††</sup> Cascade Lake only. Contact your Supermicro sales rep for more info.

## On-Board Devices

<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® C622 chipset</li> </ul>
<b>SATA</b>	<ul style="list-style-type: none"> <li>SATA3 (6Gbps); RAID 0, 1, 5, 10</li> </ul>
<b>Network Controllers</b>	<ul style="list-style-type: none"> <li>Dual LAN with 10Gbase-T from C622</li> </ul>
<b>IPMI</b>	<ul style="list-style-type: none"> <li>Support for Intelligent Platform Management Interface v.2.0</li> <li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>

## Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>8 SATA3 (6 Gbps) ports and 2 NVMe/SATA3 hybrid ports</li> </ul>
<b>LAN</b>	<ul style="list-style-type: none"> <li>2 RJ45 10GBase-T ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>6 USB 3.0 ports (4 rear, 2 front via header)</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>1 VGA port</li> </ul>
<b>DOM</b>	<ul style="list-style-type: none"> <li>2 SuperDOM (Disk on Module) ports</li> </ul>

## System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>AMI 32Mb SPI Flash ROM</li> </ul>
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## Management

<b>Software</b>	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li>IPMI 2.0</li> <li>KVM with dedicated LAN</li> <li>SSM, SPM, SUM</li> <li>SuperDoctor® 5</li> <li>Watch Dog</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> </ul>

## PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>4+1 Phase-switching voltage regulator</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>Fans with tachometer monitoring</li> <li>Status monitor for speed control</li> <li>Pulse Width Modulated (PWM) fan connectors</li> </ul>
<b>Temperature</b>	<ul style="list-style-type: none"> <li>Monitoring for CPU and chassis environment</li> <li>Thermal Control for fan connectors</li> </ul>

## Chassis

<b>Form Factor</b>	<ul style="list-style-type: none"> <li>1U Rackmount</li> </ul>
<b>Model</b>	<ul style="list-style-type: none"> <li>CSE-116AC2-R706WB2</li> </ul>

## Dimensions and Weight

<b>Width</b>	<ul style="list-style-type: none"> <li>17.2" (437mm)</li> </ul>
<b>Height</b>	<ul style="list-style-type: none"> <li>1.7" (43mm)</li> </ul>
<b>Depth</b>	<ul style="list-style-type: none"> <li>23.5" (597mm)</li> </ul>
<b>Gross Weight</b>	<ul style="list-style-type: none"> <li>46 lbs (20.9kg)</li> </ul>
<b>Available Colors</b>	<ul style="list-style-type: none"> <li>Black</li> </ul>

## Front Panel

<b>Buttons</b>	<ul style="list-style-type: none"> <li>Power On/Off button</li> <li>UID button</li> </ul>
<b>LEDs</b>	<ul style="list-style-type: none"> <li>Power status LED</li> <li>HDD activity LED</li> <li>Network activity LEDs</li> <li>Universal Information (UID) LED</li> </ul>

## Expansion Slots

<b>PCI-Express</b>	<ul style="list-style-type: none"> <li>2 PCI-E 3.0 x16 (FHHL) slots</li> <li>1 PCI-E 3.0 x8 (LP) slot</li> <li>1 PCI-E 3.0 x16 for Add-on-Module (AOM)</li> <li>1 PCI-E 3.0 x4 NVMe M.2 slot</li> </ul> <p><b>(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and AOC Support for details.)</b></p>
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## Drive Bays

<b>Hot-swap</b>	<ul style="list-style-type: none"> <li>8 SATA3 (6Gbps) ports and 2 NVMe/SATA3 hybrid ports (connected to onboard storage controller)</li> </ul>
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## Backplane


SAS/SATA HDD Backplane

## System Cooling

<b>Fans</b>	<ul style="list-style-type: none"> <li>4 Counter-rotating 4cm PWM fans, 2 fans for AOC cooling</li> </ul>
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## AC/DC240V Input Redundant Power Supply

700W/750W Redundant Power Supplies with PMBus

<b>Total Output Power</b>	<ul style="list-style-type: none"> <li>700W/750W</li> </ul>
<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"> <li>54.5 x 40.25 x 320 mm</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>100 - 140Vac / 8 - 6A / 50-60Hz</li> <li>200 - 240Vac / 4.5 - 3.8A / 50-60Hz</li> <li>200 - 240Vdc / 4.5 - 3.8A (CCC Only)</li> </ul>
<b>+12V</b>	<ul style="list-style-type: none"> <li>Max: 58A / Min: 0.5A (100 - 140Vac)</li> <li>Max: 62A / Min: 0.5A (200 - 240Vac)</li> <li>Max: 62A / Min: 0.5A (200 - 240Vdc) (CB/CCC Only)</li> </ul>
<b>+5V sb</b>	<ul style="list-style-type: none"> <li>Max: 3A / Min: 0A</li> </ul>
<b>Output Type</b>	<ul style="list-style-type: none"> <li>Gold Finger Connector Mating with Molex 45984-4343</li> </ul>
<b>Certification</b>	 <b>Platinum Certified [ Test Report ]</b>

## Operating Environment

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)</li> <li>Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X11DDW-NT	1	Super X11DDW-NT Motherboard
	CSE-116AC2-R706WB2	1	1U Chassis
<b>Backplane</b>	BPN-SAS3-116A-N2	1	10-port 1U SAS3 12Gbps Hybrid backplane, support up to 8x 2.5-inch SAS3/SATA3 HDD/SSD and 2x SAS3/SATA3/NVMe Storage Devices
<b>Storage Cable 1</b>	CBL-SAST-0388L-02	1	MINI SAS-4 SATA,INT,75/75/90/90CM,90CM SB,30AWG
<b>Storage Cable 2</b>	CBL-SAST-0507-01	2	MINI SAS HD-MINI SAS,6G,INT,80CM,SB,28AWG
<b>Rubber Pad</b>	MCP-150-00015-0B	2	Rubber pad, 3.0mm H, 10x10mm
<b>Air Shroud</b>	MCP-310-19019-0B	2	SC113/SC116/SC815/SC515, DP X11DDW Mylar air shroud
<b>Fan Holder</b>	MCP-320-00061-0B	1	CR foam for air block in SC113/SC116/SC815
<b>Manual</b>	MNL-2004-QRG	1	1029P-WTRT Quick Reference Guide,HF,RoHS.
<b>Riser Card (left)</b>	RSC-R1UW-2E16	1	1U LHS WIO Riser card with two PCI-E x16 slots
<b>Riser Card (right)</b>	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
<b>Heatsink w/ Retention</b>	SNK-P0067PSMB	2	1U Passive High Performance Front CPU Heat Sink w/ an 18-mm Wide Middle Air Channel for X11 Purley Platform Equipped w/ a Narrow Retention Mechanism/Bolster
<b>* Power Supply</b>	PWS-706P-1R	2	1U 750W redundant power width 54.5mm(Platinum),HF,RoHS/REACH,PBF
<b>* Power Cord</b>	CBL-0160L	2	NEMA5-15P to C13 US power cord 16AWG 6ft, PBF (default for high watt)
<b>* FAN</b>	FAN-0101L4	4	40x56,4 Pin PWM,Primary for SC809,111, Sec.for SC816,819,808
<b>* Rail Set</b>	MCP-290-00063-0N	1	Rail set, quick/quick, default for 1U 17.2"W for SC113/SC116,RoHS/REACH

- Notes:
- Parts with \* come with the chassis
  - Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

### Optional Parts List

	Part Number	Qty	Description
<b>NVMe Drive Tray with Lock &amp; NVMe Cable</b>	MCP-220-00127-0B & CBL-SAST-0929	-	Black gen-3 2.5" NVMe drive tray (Orange tab. PUSH button with key lock); OCuLink source to MiniSAS HD target V.91,INT,PCIe NVMe SSD, 57CM,34AWG,RoHS
<b>Add-on card for additional M.2 NVMe</b>	AOC-SLG3-2M2	-	Low Profile PCI-E x8 add-on card supports 2 PCI-E 3.0 x4 M-Key M.2 NVMe Modules
<b>Intel VROC RAID Key</b>	<u>AOC-VROCINTMOD</u> <u>AOC-VROCSTNMOD</u> <u>AOC-VROCPREMOD</u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only) Intel VROC Standard, RAID 0, 1, 10 Intel VROC Premium, RAID 0, 1, 5, 10
<b>Additional Fan</b>	FAN-0101L4	-	40x56,4 Pin PWM,Primary for SC809,111, Sec.for SC816,819,808
<b>Storage Controller Card &amp; Cables</b>	AOM-S3108M-H8 & 2x CBL-SAST-0531 & 1x FAN-0101L4 AOC-S3108L-H8IR-16DD & 2x CBL-SAST-0593 AOC-S3008L-L8i & 2x CBL-SAST-0593 AOC-S3008L-L8e & 2x CBL-SAST-0593	-	Supercap LP, 8 internal ports (12Gb/s) SAS Mezzanine; RAID 0, 1, 5, 6, 10, 50, 60; 80cm MiniSAS HD Cable 40x56,4 Pin PWM,Primary for SC809,111, Sec.for SC816,819,808 Standard LP, 8 internal ports (12Gb/s) Gen-3, 16HDD; RAID 0, 1, 5, 6, 10, 50, 60; 60cm MiniSAS HD Cable Standard LP, 8 internal ports (12Gb/s) Gen-3, 63HDD; RAID 0, 1, 10; 60cm MiniSAS HD Cable Standard LP, 8 internal ports (12Gb/s) Gen-3, 122HDD; HBA; 60cm MiniSAS HD Cable
<b>Alternative Storage Controller Cable</b>	CBL-SAST-0531	-	Internal Mini-SAS HD to Mini-SAS HD 80cm,30AWG,12Gb/s, up to 4 drives per cable
<b>CacheVault (for 3108)</b>	BTR-CV3108-1U1 BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05 BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	1	CacheVault for Broadcom 3108 with SuperCap mounting in 1U 40x56 fan tray CacheVault for Broadcom 3108; SuperCap mounting bracket for PCI-E location CacheVault for Broadcom 3108; SuperCap mounting bracket for 2.5" HDD location
<b>Network Card(s)</b>	AOC-SGP-i2 AOC-SGP-i4 AOC-STGS-i1T AOC-STGS-i2T AOC-STG-i4T AOC-STGN-i1S AOC-STGN-i2S AOC-STG-i4S AOC-S25G-i2S AOC-MCX555A-ECAT AOC-MCX556A-ECAT	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel® i350AM2 Standard LP, 4x GbE RJ45, PCI-E x4, Intel® i350AM4 Standard LP, 1x 10GbE RJ45, PCI-E x4, Intel® X550-AT Standard LP, 2x 10GbE RJ45, PCI-E x4, Intel® X550-AT2 Standard LP, 4x 10GbE RJ45, PCI-E x8, Intel® XL710-BM1 Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel® 82599EN Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel® 82599ES Standard LP, 4x 10GbE SFP+, PCI-E x8, Intel® XL710-BM1 Standard LP, 2x 25GbE SFP28, PCI-E x8, Intel® XXV710 + Marvell Unionville Standard LP, 1x 100GbE (and EDR IB) QSFP28, PCI-E x16, Mellanox® ConnectX-5 Standard LP, 2x 100GbE (and EDR IB) QSFP28, PCI-E x16, Mellanox® ConnectX-5
<b>Front Bezel</b>	MCP-210-11601-0B	1	Black Front Bezel for SC113, SC113M, SC116, SC119, SC119U, SC514 (No LED indicator support)
<b>Cable Management Arm</b>	MCP-290-00085-0N	1	Supercap Cable Management Arm for 1U Chassis
<b>TPM security module (optional, not included)</b>	AOM-TPM-9670V AOM-TPM-9671V	1	SPI capable TPM 2.0 with Infineon 9670 controller; vertical form factor SPI capable TPM 1.2 with Infineon 9670 controller; vertical form factor
<b>Global Services &amp; Support</b>	<u>OS4HR3/2/1</u> <u>OSNBD3/2/1</u>	- -	3/2/1-year onsite 24x7x4 service 3/2/1-year onsite NBD service
<b>Software</b>	<u>SFT-OOB-LIC</u> • eStore	1	OOB Management Package (per node license)
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)