



Computex

UP Server Deep Dive

Andrew Lynn



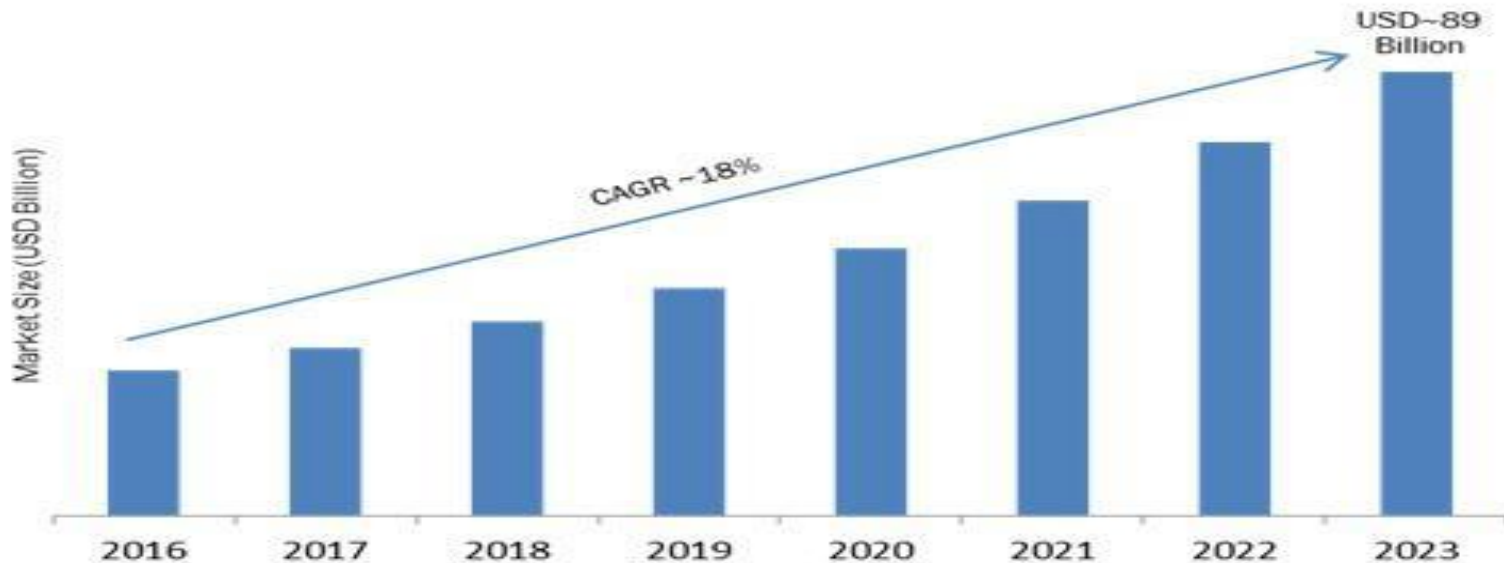
We Keep IT Green™



Global TAM Shipment (Gartner: 2017 forecast)

UP Server is about >35%
= >4,000,000 units

Region	2017 YR
North America	5,470.2
Latin America	637.7
Western Europe	
Eastern Europe	
Eurasia	
Middle East and N	
Sub-Saharan Afric	
Greater China	
Japan	
Mature Asia/Pacif	
Emerging Asia/Pa	
Grand Total	



Thousands

\$30B

X11 UP Purley

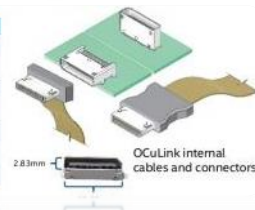
Skylake Scalable CPU





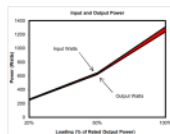
New Features of X11 Purley UP System

- **205W Computing Power**
 - ❖ Optimized thermal solution
 - ❖ Ultimate power efficiency
- **Lewisburg C622 support 10G LAN**
 - ❖ Integrate dual 10GbaseT
- **M.2 in 2280/22110**
 - ❖ > 1TB/2TB Capacity
- **Robust NVMe Native**
 - ❖ Solid & Direct Connectivity
- **96% Titanium Power**
 - ❖ 800W for 2U12 SSG & 1200W for 4U36



Required Efficiency depending on % of Rated Load

80 PLUS Certification	115V Internal Non-Redundant			230V Internal Redundant			
% of Rated Load	20%	50%	100%	10%	20%	50%	100%
80 PLUS	80%	80%	80%	---	---	N/A	---
80 PLUS Bronze	82%	85%	82%	---	81%	85%	81%
80 PLUS Silver	85%	88%	85%	---	85%	89%	85%
80 PLUS Gold	87%	90%	87%	---	88%	92%	88%
80 PLUS Platinum	90%	92%	89%	---	90%	94%	91%
80 PLUS Titanium	---	---	---	90%	94%	96%	91%



<https://plugloadsolutions.com/80PlusPowerSupplies.aspx#>

X11 UP Mainstream Features



❖ Top-bin 205W CPU Support



205W / 28-Core
Intel Xeon Skylake-SP Support

❖ Short 19.98 " Depth Support Redundant Power



4 Hot-Swap 3.5" Drive Bays;
SAS3, SATA Storage Options

8-DIMM / Up to 1TB
DDR4-2666



SAS3 Backplane



❖ High Power Efficiency & Density



M.2 in 2280 or 22110

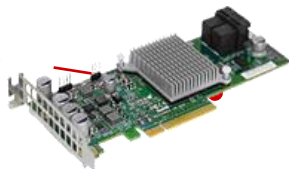


❖ Kernel/OS Drives (optional)

Dual SuperDOM Support



❖ Support BBP®



C622 PCH with 10Gb Support

1 Full-height PCI-e 3.0 x16 Expansion Slots

400W 1+1 Hot-swap redundant Power



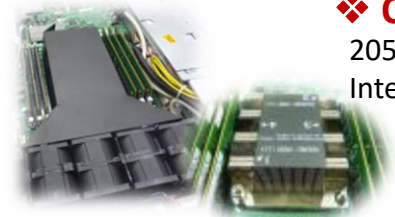
Dual 10Gbaset LAN

X11 UP WIO Features

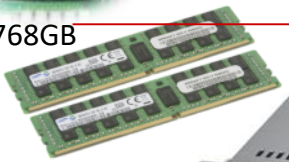


❖ Optimized Thermal Solution

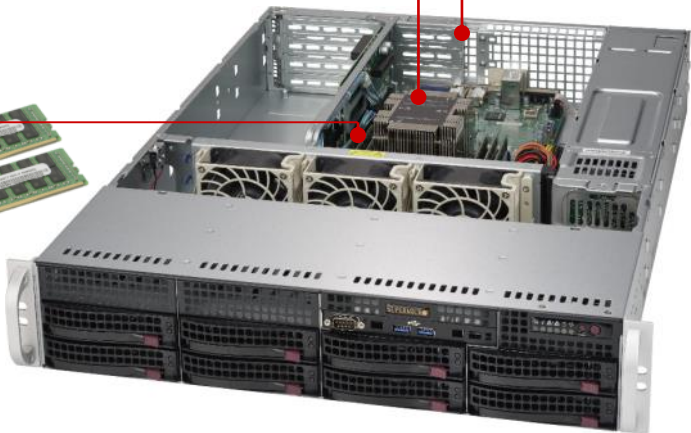
205W / 28-Core
Intel Xeon Skylake-SP Support



6-DIMM / Up to 768GB
DDR4-2666, 6-ch



SYS-5019P-WTR

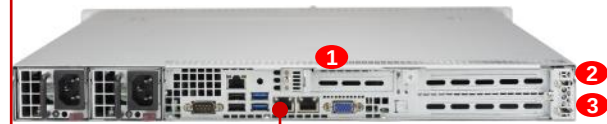


❖ Wide I/O Expandability

5 expansions in 2U with 4 full-height



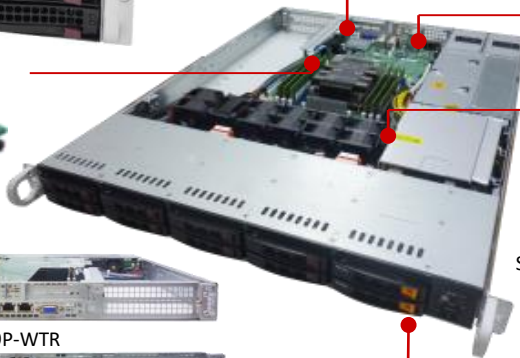
3 expansions in 1U with 2 full-height



Dual 10GbaseT LAN
C622 PCH with 10Gb Mac

❖ Kernel/OS Disks (optional)

Dual SuperDOM Support
M.2 in 2280 or 22110



SAS3 Backplane



SYS-1019P-WTR

3rd party review
in progress

Won an deal
that is an
Fortune Sub 35



SYS-1019P-WTR

SYS-5019P-WT/WTR



SYS-1019P/5019P-WTR

SYS-5019P-WT

Dual NVMe Optional

X11 UP 2U/4U SSG Features



❖ **24+12 Double-sided Storage Bay**
4U(SSG-5049P-E1CTR36L)

❖ **96% Titanium Level Power Efficiency**

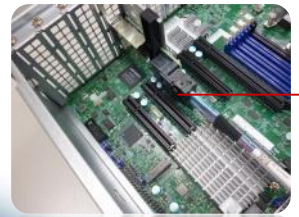


❖ **SAS3008 Onboard**
❖ **Native 2xNVMe**
❖ **M.2 in 2280(SATA/NVMe)**



2x 2.5" NVMe (Option)

❖ **JBOD Expandability**



4x PCIe slots available

3rd party review

2U(SSG-5029P-E1CTR12L)
<https://www.servethehome.com/supermicro-superstorage-ssg-5029p-e1ctr12l-2u-storage-server-review/>



X11 UP SSG Top-load 45-Bay Storage



NEW

- ❖ 45-Bay top-load >500TB in 4U for Big Data
- ❖ 2 NVMe (option) for Fast Data & 2 SATA for OS



❖ UP 45-bay



- ❖ Flexible AOC option
Max. 6 Slots for AOCs

Dimension:

- Height: 7" (178mm)
- Width 17.2" (437mm)
- Depth 25.9" (660mm)



660mm

25.9"

- ❖ Short Depth for all Racks
- ❖ Cable Arm included
- ❖ Hot-swap chassis Fan
- ❖ L=3008, H=3108

5

**Big Data/Cold/Object
Storage Customers**

Spec/Feature Summary of X11 Purley UP Series



Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P-MR	5019P-M	5019P-MTR	5019P-MT	1019P-WTR	5019P-WTR	5019P-WT	5029P-WTR	5029P-E1CTR12L	5049P-E1CTR36L	1019GP-TT	5019GP-TT
CPU TDP Max. watt	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	6	6	8	8	6	6	6	6	8	8	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	2 (Op.)	2 (Op.)	2 (Op.)	2 (Op.)	10	2 (Op.)	2 (Op.)	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)		
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/NVMe	x4/NVMe	x4/NVMe SATA	x4/NVMe SATA	x4/MVNe SATA	x4/NVMe SATA	x4/NVMe SATA	x4/NVMe SATA	x4/NVMe SATA	x4/NVMe SATA	x4/NVMe SATA	x4/NVMe SATA
M.2 Form Factor	2242/ 2280	2242/ 2280	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280	2280	2280	2280
PCI-E 3.0 x16 #	1	1	1	1	2	2	2	-	1/0	1/0	3	3
PCI-E 3.0 x8 #	-	-	-	-	1	1	1	5	2/3	2/3		
GPU Support #	-	-	-	-	-	-	-	-	-	-	2	2
SAS Controller	-	-	-	-	-	-	-	-	SAS3008	SAS3008	-	-
Networking (BaseT)	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	350W Single	500W 1+1	500W 1+1	600W Single	500W 1+1	800W 1+1	1200W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%

Spec/Feature Summary of X11 Purley UP Series

Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P-MTR	5019P-MT	5019P-MR	5019P-M	1019P-WTR	5019P-WTR	5019P-WT	5020P-WTR	5029P-E1CTR12L	5049P-E1CTR36L	1019GP-TT	5019GP-TT
CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	8	12	36	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	-	-	-	-	10	10	10	10	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	2 (Op.)	2 (Op.)	2 (Op.)	2 (Op.)	2 (Op.)	-	-
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 Form Factor	2280/ 22110	2280/ 22110	2242/2280	2242/2280	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280	2280	2280	2280
PCI-E 3.0 x16 #	1	1	1	1	2	2	2	-	1/0	1/0	3	3
PCI-E 3.0 x8 #	-	-	-	-	1	1	1	5	2/3	2/3	-	-
GPU Support #	-	-	-	-	-	-	-	-	-	-	2	2
SAS Controller	-	-	-	-	-	-	-	-	SAS3008	SAS3008	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	350W Single	500W 1+1	500W 1+1	600W Single	500W 1+1	800W 1+1	1200W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%

UP mainstream basics:

1. Single processor
2. 8 DIMM, 6 channels
3. 4 HDD
4. < 20" (19.8")
5. M.2 PCI-E/SATA
6. 2X 10G



Spec/Feature Summary of X11 Purley UP Series

Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P-MTR	5019P-MT	5019P-MR	5019P-M	1019P-WTR	5019P-WTR	5019P-WT	5020P-WTR	5029P-E1CTR12L	5049P-E1CTR36L	1019GP-TT	5019GP-TT
CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	6	8	8	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	-	-	-	-	10	-	-	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)	-	-
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 Form Factor	2280/ 22110	2280/ 22110	2242/2280	2242/2280	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280	2280	2280	2280
PCI-E 3.0 x16 #	1	1	-	-	2	2	2	1	1	1/0	3	3
PCI-E 3.0 x8 #	-	-	-	-	1	1	1	5	2/3	2/3	-	-
GPU Support #	-	-	-	-	-	-	-	-	-	-	2	2
SAS Controller	-	-	-	-	-	-	-	-	SAS3008	SAS3008	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	350W Single	500W 1+1	500W 1+1	600W Single	500W 1+1	800W 1+1	1200W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%

Cost Effective !!
Rare chance to use top bin CPU

Spec/Feature Summary of X11 Purley UP Series

Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P-MTR	5019P-MT	5019P-M	5019P-M	1019P-WTR	5019P-WTR	5019P-WT	5020P-WTR	5029P-E1CTR12L	5049P-E1CTR36L	1019GP-TT	5019GP-TT
CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	6	8	8	6	6
3.5" Disk Bay #	-	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	-	-	-	-	1	-	-	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)	-	-
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 Form Factor	2280/ 22110	2280/ 22110	2242/2280	2242/2280	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280	2280	2280	2280
PCI-E 3.0 x16 #	1	1	1	1	2	2	2	-	1/0	1/0	3	3
PCI-E 3.0 x8 #	-	-	-	-	1	1	1	5	2/3	2/3	-	-
GPU Support #	-	-	-	-	-	-	-	-	-	-	2	2
SAS Controller	-	-	-	-	-	-	-	-	SAS3008	SAS3008	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	350W Single	500W 1+1	500W 1+1	600W Single	500W 1+1	800W 1+1	1200W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%

1G v.s. 10G
port number crossover in 2018
Sure!!

Spec/Feature Summary of X11 Purley UP Series

DDR4 2666

ECC RDIMM

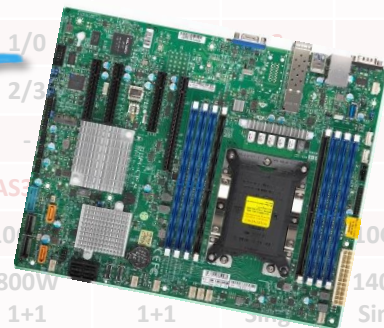
Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P- WTR	5019P- M	5119P- WTR	5119P- M	1019P- WTR	5019P- WTR	5019P- WT	5020P- WTR	5029P- E1CTR12L	5049P- E1CTR36L	1019GP- -TT	5019GP- -TT
CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	6	8	8	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	-	12	36	-	3
2.5" Disk Bay #	-	-	-	-	-	-	-	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)	-	-
M.2 SATA	1	1	1	1	1	1	1	1	1	1	2	2
M.2 SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 NVMe	2280/ 22110	2280/ 22110	2242/2280	2242/2280	2280/ 22110	2280/ 22110	2280/ 22110	2280/ 22110	2280	2280	2280	2280
PCIe 3.0 x16	1	1	1	1	2	2	2	2	1/0	1/0	2	3
PCIe 3.0 x8	-	-	-	-	-	-	-	-	2/3	2/3	-	2
GPU Support #	-	-	-	-	-	-	-	-	-	-	-	-
SAS Controller	-	-	-	-	-	-	-	-	-	-	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	400W 1+1	350W Single	500W 1+1	600W 1+1	500W 1+1	800W 1+1	800W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%



6 channel?
yes!
Micro ATX



WIO MB
leave space
for more
expansion



ATX MB
8 DIMM

Spec/Feature Summary of X11 Purley UP Series

Model Series	Mainstream				WIO				SSG		GPU	
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CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	6	8	8	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	-	-	-	-	10	-	-	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)		
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 Form Factor	80/110	2280/22110	2242/2280	80/110	80/110	80/110	80/110	80/110	80/110	2280	2280	2280
PCI-E 3.0 x16 #	1	1	1	1	2	2	2	2	1/0	1/0	3	3
PCI-E 3.0 x8 #	-	-	-	-	1	1	1	5	2/3	2/3	-	-
GPU Support #	-	-	-	-	-	-	-	-	-	-	2	2
SAS Controller	-	-	-	-	-	-	-	-	-	1008	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	400W 1+1	350W Single	400W 1+1	350W Single	500W 1+1	500W 1+1	500W 1+1	500W 1+1	500W 1+1	500W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%	94%

nvm 80/110™
EXPRESS

**NVMe Option
Total Solution
Only**



Spec/Feature Summary of X11 Purley UP Series

Model Series	Mainstream				WIO				SSG		GPU	
Features	5019P-MTR	5019P-MT	5019P-MR	5019P-M	1019P-WTR	5019P-WTR	5019P-WT	5020P-WTR	5029P-E1CTR12L	5049P-E1CTR36L	1019GP-TT	5019GP-TT
CPU TDP Max. watt	205W	205W	165W	165W	205W	205W	205W	205W	205W	205W	205W	205W
Memory DIMM #	8	8	6	6	6	6	6	6	8	8	6	6
3.5" Disk Bay #	4	4	4	4	-	4	4	8	12	36	-	3
2.5" Disk Bay #	-	-	-	-	10	-	-	-	2 (Op.)	2 (Op.)	6	-
NVMe Support #	-	-	-	-	2 (Op.)	-	-	-	2 (Op.)	2 (Op.)		
M.2 Support #	1	1	1	1	1	1	1	1	1	1	2	2
M.2 Interface	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA	x4/SATA
M.2 Form Factor	2280/22110	2280/22110	2242/2280	2242/2280	2280/22110	2280/22110	2280/22110	2280/22110	2280	2280	2280	2280
PCI-E 3.0 x16 #	1	1	1	1	2	2	2	-	1/0	1/0	3	3
PCI-E 3.0 x8 #	-	-					1	1	5	2/3	2/3	
GPU Support #	-	-					-	-	-	-	2	2
SAS Controller	-	-					-	-	SAS3008	SAS3008	-	-
Networking (BaseT)	10G x2	10G x2	1G x2	1G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2	10G x2
Power Supply	500W 1+1	500W Single	500W 1+1	500W Single	500W 1+1	500W 1+1	600W Single	500W 1+1	500W 1+1	1200W 1+1	1400W Single	1400W Single
Power Efficiency (80PLUS) Max. %	94%	94%	94%	94%	94%	94%	94%	94%	94%	96%	96%	94%

M.2-NVMe-SSD product webpage link:
<https://www.supermicro.com/products/nfo/M.2.cfm>



X11 UP Greenlow E3-1200 v6

Kabylake CPU



Intel® Xeon® Processor E3-1200 v6

Maximum Frequency** in GHz (+ x00 MHz over base frequency) by Active Cores

Processor SKU	TDP (W)	Base Frequency (GHz)	Cores	1	2	3	4
Standard Power SKUs							
E3-1280 v6	72	3.9	4	+3	+2	+2	+1
E3-1275 v6	73	3.8	4	+4	+3	+3	+2
E3-1270 v6	72	3.8	4	+4	+3	+3	+2
E3-1245 v6	73	3.7	4	+4	+3	+3	+2
E3-1240 v6	72	3.7	4	+4	+3	+3	+2
E3-1230 v6	72	3.5	4	+4	+3	+3	+2
E3-1225 v6	73	3.3	4	+4	+3	+3	+2
E3-1220 v6	72	3.0	4	+5	+4	+4	+3





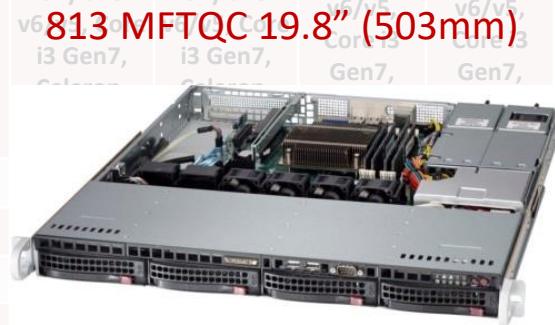
Spec/Feature of X11 Greenlow Platforms

Model Series	Mainstream			WIO		Network		Storage	Entry Appliance		
Features	5019S-MR	5019S-M	5019S-MT	1019S-WR	5019S-WR	5019S-MN4	5019S-W4TR	1019S-MCOT	5019S-M2	5019S-ML	5019S-L
CPU Supports	Single Socket H4 (LGA 1151) supports: Intel Xeon E3-1200 v6/v5 Intel Core i3 Gen7 Celeron/Pentium TDP80 watt								Single Socket H4 Xeon E3-1200 v6/v5 Intel Core i3/5/7 Gen7 Celeron/Pentium	Single Socket H4 (LGA 1151) supports: Intel Xeon E3-1200 v6/v5 Intel Core i3 Gen7 Celeron/Pentium	
Memory DIMM #	4	4	4	4	4	4	4	4	4	4	4
3.5" Disk Bay #	4	4	4	-	4	4	4	-	4	2 fixed	1fixed
2.5" Disk Bay #	-	-		2 internal	-	-	-	8 SAS	-	or 3 fixed	or 2 fixed
M.2 Support #	1	1	1	1	1	1	1	1	-	1	-
M.2 Form Factor	2280	2280	2260	22110	22110	2280	22110	2260	-	2280	-
SATA DOM #	2	2	2	2	2	2	2	2	1	2	2
PCI-E 3.0 x8 # (or x16)	1	1	1	2 (or 1 x 16)	2 (or 1 x 16)	1	1 x 16	1	1 x 16	1	1
PCI-E 3.0 x4 #	-	-	-	1	1	-	-	-	-	-	-
Graphics	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1, DVI x1, 2DP	VGA x1	VGA x1
Networking (BaseT)	1G x2	1G x2	10G x2	1G x2	1G x2	1G x4	10G x4	10G x2	1G x2	1G x2	1G x2
Power Supply	400W 1+1	350W Single	350W Single	400W 1+1	500W 1+1	350W Single	500W 1+1	340W Single	350W Single	350W Single	200W Single
Chassis Depth	19.8"	19.8"	19.8"	16.9"	25.6"	19.8"	25.6"	19.9"	19.8"	14.4"	11.3"



Spec/Feature of X11 Greenlow Platforms

Model Series	Mainstream			WIO		Network		Storage	Entry Appliance		
Features	5019S-MR	5019S-M	5019S-MT	1019S-WR	5019S-WR	5019S-MN4	5019S-W4TR	1019S-MCOT	5019S-M2	5019S-ML	5019S-L
CPU Supports	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron	Skylake v6/v5, Core i3 Gen7, Celeron	Skylake v6/v5, Core i3 Gen7, Celeron	Skylake v6/v5, Core i3 Gen7, Celeron	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3/5/7 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium
Memory DIMM #	4	4	4	4	4	4	4	4	4	4	4
3.5" Disk Bay #	4	4	4	4	4	4	4	-	4	2 fixed	1 fixed
2.5" Disk Bay #	-	-	-	-	-	-	-	8 SAS	-	or 3 fixed	or 2 fixed
M.2 Support #	1	1	1	1	1	1	1	1	-	1	-
M.2 Form Factor	2280	2280	2260	22110	22110	2280	22110	2260	-	2280	-
SATA DOM #	2	2	2	2	2	2	2	2	1	2	2
PCI-E 3.0 x8 # (or x16)	1	1	1	(or 1 x 16)	2 (or 1 x 16)	2	1 x 16	1	1 x 16	1	1
PCI-E 3.0 x4 #	-	-	-	1	1	-	-	-	-	-	-
Graphics	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1, DVI x1, 2DP	VGA x1	VGA x1
Networking (BaseT)	1G x2	1G x2	1G x2	1G x2	1G x2	1G x2	10G x4	10G x2	1G x2	1G x2	1G x2
Power Supply	400W 1+1	350W Single	350W Single	400W 1+1	500W 1+1	350W Single	500W 1+1	340W Single	350W Single	350W Single	200W Single
Chassis Depth	19.8"	19.8"	19.8"	16.9"	25.6"	19.8"	25.6"	19.9"	19.8"	14.4"	11.3"





Spec/Feature of X11 Greenlow Platforms

Model Series	Mainstream			WIO		Network		Storage	Entry Appliance		
Features	5019S-MR	5019S-M	5019S-MT	1019S-WR	5019S-WR	5019S-MN4	5019S-W4TR	1019S-MC0T	5019S-M2	5019S-ML	5019S-L
CPU Supports	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3/5/7 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium
Memory DIMM #	4	4	4	4	4	4	4	4	4	4	4
3.5" Disk Bay #	4	4	4	4	4	4	4	4	4	2 fixed	1 fixed
2.5" Disk Bay #	-	-	-	-	-	-	-	-	-	or 3 fixed	or 2 fixed
M.2 Support #	1	1	1	1	1	1	1	1	1	1	-
M.2 Form Factor	2280	2280	2260	22110	22110	2280	22110	2260	-	2280	-
SATA DOM #	2	2	2	2	2	2	2	2	1	2	2
PCI-E 3.0 x8 # (or x16)	1	1	1	2 (or 1 x 16)	2 (or 1 x 16)	1	1 x 16	1	1 x 16	1	1
PCI-E 3.0 x4 #	-	-	-	1	1	-	-	-	-	-	-
Graphics	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1, DVI x1, 2DP	VGA x1	VGA x1
Networking (BaseT)	1G x2	1G x2	10G x2	1G x2	1G x2	1G x2	10G x4	10G x2	1G x2	1G x2	1G x2
Power Supply	400W 1+1	350W Single	350W Single	400W 1+1	500W 1+1	350W Single	500W 1+1	340W Single	350W Single	350W Single	200W Single
Chassis Depth	19.8"	19.8"	19.8"	16.9"	25.6"	19.8"	25.6"	19.9"	19.8"	14.4"	11.3"





Spec/Feature of X11 Greenlow Platforms

Model Series	Mainstream			WIO		Network		Storage	Entry Appliance		
Features	5019S-MR	5019S-M	5019S-MT	1019S-WR	5019S-WR	5019S-MN4	5019S-W4TR	1019S-MC0T	5019S-M2	5019S-ML	5019S-L
CPU Supports	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3/5/7 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium	Skylake v6/v5, Core i3 Gen7, Celeron, Pentium
Memory DIMM #	4	815TQC 25.6" (650mm)			4	512F 14.4" (366mm)			4	4	4
3.5" Disk Bay #	4	4	4	-	4	4	4	-	4	2 fixed or 1 fixed	1 fixed or 2 fixed
2.5" Disk Bay #	-				-						
M.2 Support #	1				1						
M.2 Form Factor	2280	2	0	0	22110	----	----	----			
SATA DOM #	2	2	2	2	2	2	2	2			
PCI-E 3.0 x8 # (or x16)	1	1	1	2 (or 1 x 16)	2 (or 1 x 16)	1	1 x 16	1	1 x 16	1	1
PCI-E 3.0 x4 #	-	-	-	1	1	-	-	-	-	-	-
Graphics	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1, DVI x1, 2DP	VGA x1	VGA x1
Networking (BaseT)	1G x2	1G x2	10G x2	1G x2	1G x2	1G x2	10G x4	10G x2	1G x2	1G x2	1G x2
Power Supply	400W 1+1	350W Single	350W Single	400W 1+1	500W 1+1	350W Single	500W 1+1	340W Single	350W Single	350W Single	300W Single
Chassis Depth	19.8"	19.8"	19.8"	16.9"	25.6"	19.8"	25.6"	19.9"	19.8"	14.4"	11.3"



Short-depth for Small Rack



9.8" (249mm)



5018D-LN4T

11.3" (287mm)



5019S-L

14.4" (366mm)



5019S-ML

16.9" (429mm)



1018R-WR

19.8" (503mm)



5018R-M/MR

5019S-M/MR



Spec/Feature of X11 Greenlow Platforms

Model Series	Mainstream			WIO		Network		Storage	Entry Appliance		
Features	5019S-MR	5019S-M	5019S-MT	1019S-WR	5019S-WR	5019S-MN4	5019S-W4TR	1019S-MC0T	5019S-M2	5019S-ML	5019S-L
CPU Supports	Single Socket H4 (LGA 1151) supports: Intel Xeon E3-1200 v6/v5 Intel Core i3 Gen7 Celeron/Pentium TDP80 watt								Single Socket H4 Xeon E3-1200 v6/v5 Intel Core i3/5/7 Gen7 Celeron/Pentium	Single Socket H4 (LGA 1151) supports: Intel Xeon E3-1200 v6/v5 Intel Core i3 Gen7 Celeron/Pentium	
Memory DIMM #	4	4	4	4	4	4	4	4	4	4	4
3.5" Disk Bay #	4	4	4	-	4	4	4	-	4	2 fixed	1fixed
2.5" Disk Bay #	-	-		2 internal	-	-	-	8 SAS	-	or 3 fixed	or 2 fixed
M.2 Support #	1	1	1	1	1	1	1	1	-	1	-
M.2 Form Factor	2280	2280	2260	22110	22110	2280	22110	2260	-	2280	-
SATA DOM #	2	2	2	2	2	2	2	2	1	2	2
PCI-E 3.0 x8 # (or x16)	1	1	1	2 (or 1 x 16)	2 (or 1 x 16)	1	1 x 16	1	1 x 16	1	1
PCI-E 3.0 x4 #	-	-	-	1	1	-	-	-	-	-	-
Graphics	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1	VGA x1, DVI x1, 2DP	VGA x1	VGA x1
Networking (BaseT)	1G x2	1G x2	10G x2	1G x2	1G x2	1G x2	10G x4	10G x2	1G x2	1G x2	1G x2
Power Supply	400W 1+1	350W Single	350W Single	400W 1+1	500W 1+1	350W Single	500W 1+1	340W Single	350W Single	350W Single	200W Single
Chassis Depth	19.8"	19.8"	19.8"	16.9"	25.6"	19.8"	25.6"	19.9"	19.8"	14.4"	11.3"

Micro Cloud





Supermicro MicroCloud Lineup

8 Modular UP Nodes



- 8 hot pluggable trays
- Support CPU architecture Skylake-D / E5-2600 v4 / E3-1200 v6 / Xeon-D 1541
- Standard LP PCI-E x8 Slots per node
- 3.5" / 2.5" Hot Swappable HDD support
- 2x LAN and 1x dedicated IPMI per node

12 Modular UP Nodes



- 12 hot pluggable trays
- Support CPU architecture Intel Xeon E / E3-1200 v6 / Denverton
- Supermicro Proprietary Micro-LP Card
- 2 x 3.5" SATA3 or 4 x 2.5" SATA3 per node
- 2x LAN and 1x dedicated IPMI per node

24 Modular UP Nodes

(complete system only)



- 24 nodes
- Hot pluggable tray
- Support CPU architecture Xeon-D 1531 / E3-1200 v3/v4 / Avoton C2750
- Fixed 2x 1G LAN and 1x dedicated IPMI per node
- 2000W Redundant Platinum Power efficiency

Flexibility

Density

SYS-5039MD8/18-H8TNR

3u 8 nodes Skylake D MicroCloud

- Motherboard: **X11SSD8C-F/X11SSD18C-F**
- Chassis: **CSE-938NH-R1K68B**

System Specs:

Processor	• Intel® Skylake-D SOC Xeon D-2191, 18 cores, 86W; Xeon D-2141I, 8 cores, 65W
Memory (per node)	• 4 x 288-pin DDR4 DIMM Slot • Up to 512GB DDR4 ECC LRDIMM 2400Mhz
Expansion Slot (per node)	• 1x PCI-E 3.0 x16 low profile slot
I/O Ports (per node)	• 1x VGA+ 2x USB 2.0 + 1x COM (via KVM dongle)
Drive Bays (per node)	• 2x U.2 NVMe or 2.5/3.5" Hot-Swap SATA (6Gb/s) • 2x M.2 NVMe/SATA connector onboard via PCH flex I/O
Network (per node)	• 2x Gigabit LAN ports (Intel® i350) (Upgrade option: Supermicro Micro-LP Network cards) • 1+1 Centralize Dedicated Management port
Power Supply	• 1+1 1600W 80+ Platinum Redundant PSU w/ PMBus

Skylake-D

Sample ready : 07/2018

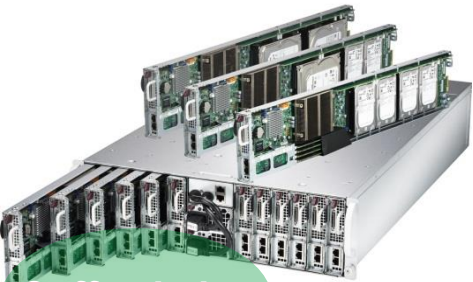
Key features

- High-density node count server
- I/O flexibility, U.2/M.2 NVMe, x16 LP slot
- Ease of serviceability
- Storage and I/O Flexibility
- Cost effective, lower OPEX

Applications

- Dedicated Hosting
- Dynamic Web Front End
- No SQL database
- Dynamic Web Serving
- Memory Caching

SYS-5039MC-H12TRF



3u 12 nodes Intel Xeon E 2100 MicroCloud

- Motherboard: **MBD-X11SCE-F**
- Chassis: **CSE-939HC-R2K04B**

System Specs:

Processor	• Intel Coffee Lake LGA 1151, Xeon E 2100, 8th gen Core i3, Pentium, Celeron processors
PCH	• C246 PCH
Memory (per node)	• 4 x 288-pin DDR4 DIMM Slot • Up to 64GB DDR4 Very Low Profile 2666Mhz ECC UDIMM
I/O Ports (per node)	• 6 x SATA 3.0 • 1 x VGA + 2 x USB 2.0 + 1 x COM (via KVM dongle) • 1 x USB 3.0 Type A • 1 x SATA DOM
Drive Bays (per node)	• 2 x 3.5" SATA3 or 4 x 2.5" SATA3 or 2 x U.2 NVMe • 1 x Hybrid SATA/NVMe M.2 (2280/22110)
Network (per node)	• 2 x Gigabit LAN ports (Intel ® i350) (Upgrade option: Supermicro Micro-LP Network cards) • 1+1 Dedicated IPMI Management port for 12 nodes
Power Supply	• 1+1 2000W 80+ Titanium Redundant PSU w/ PMBus

Key features

- **High-density**, Enterprise Performance, Cost-effective, Multi-node UP server
- **Centralized dedicated IPMI** management port
- Support **M.2** and **U.2 NVMe**
- **Titanium** Level Power Supplies
- Up to 12x hot-pluggable node in 3U chassis

Applications

- Dedicated Hosting
- Cloud Computing
- Web Cache, CDN, Video Streaming
- Disaggregate flash storage
- Corporate – WINS, DNS, Print, Login

SYS-5039MA8/16-H12RFT



Denverton

Key features

- High-density, Enterprise Performance, Cost-effective, Multi-node UP server
- **1+1 1Gb Centralized IPMI dedicated** management port through BPN
- Support **U.2 NVMe** and **M.2 NVMe and SATA**
- Flexible drives selection
- Up to 12x hot-pluggable node in 3U chassis

Applications

- Entry Level Hosting
- Web Cache, CDN, Video Streaming
- Social Networking, Downloads
- Corporate – WINS, DNS, Print, Login

3u 12 nodes Denverton MicroCloud

- Motherboard: **MBD-A2SD1-3750-F**
- Chassis: **CSE-939HE-R1K63B**

System Specs:

Processor	● Intel Denverton SoC C3750 8 cores, 21W, FCBGA1310 ; 5039MA16 (C3955, 16 cores)
Memory (per node)	● 4 x 288-pin DDR4 DIMM Slot ● Up to 128GB DDR4 ECC RDIMM or 64GB DDR4 ECC UDIMM Very Low Profile 2400Mhz
I/O Ports (per node)	● 4 x SATA 3.0 ● 1 x VGA+ 2 x USB 2.0 + 1 x COM (w/ KVM dongle) ● 1 x USB 3.0 Type A ● 1 x SATA DOM
Drive Bays (per node)	● 2 x 3.5" SATA3 or 4 x 2.5" SATA3 ● 2 x Hybrid SATA/NVMe M.2 (2280/22110)
Network (per node)	● 2 x 10Gigabit LAN ports ● 1+1 IPMI Management port for 12 nodes
Power Supply	● 1+1 2000W 80+ Titanium Redundant PSU w/ PMBus