



SMC IA DP/UP MBD Update

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06/04/2008



We Keep IT Green™



Agenda

● SUPERMICRO DP MB

- SUPERMICRO X11 Purley Platform
- Cascade Lake Update
- SUPERMICRO X11 DP MB Focusing

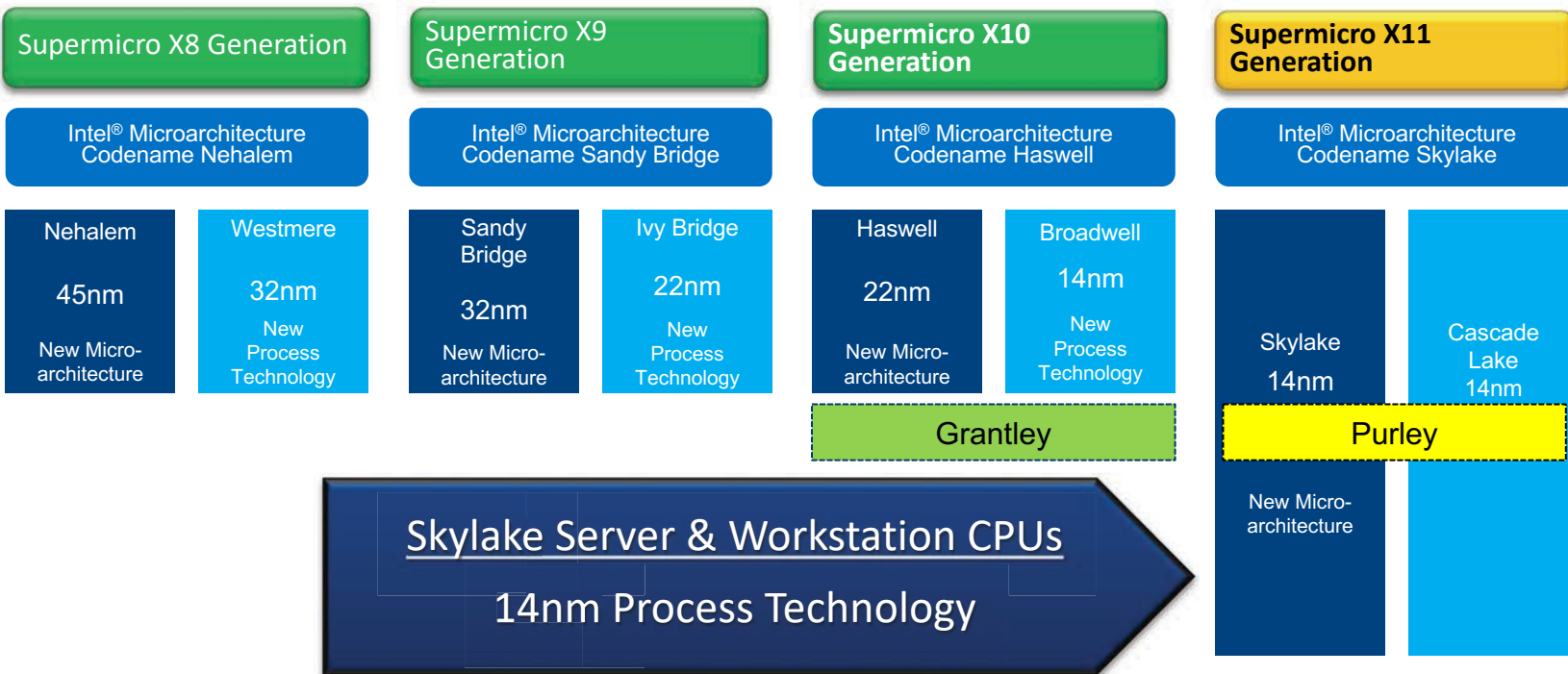
● SUPERMICRO UP MB

- Why SUPERMICRO UP Server Board
- What's New
- Roadmap
- Major Selling Points / Applications



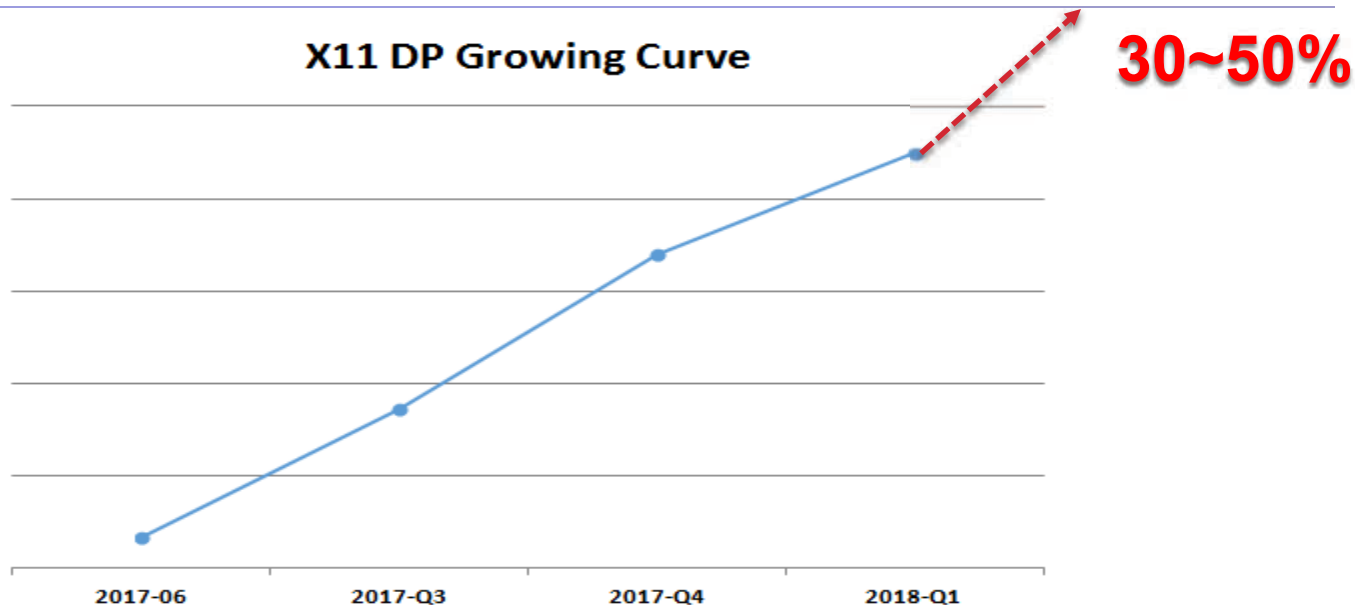


SMC IA DP Platform Roadmap





X11 DP Motherboard Growing Curve



- X11 DP motherboards sales are increasing at a rapid pace.
- Supermicro is fully ready to support Intel's next generation CPU -- Cascade Lake with Apache Pass.



Advanced Features in X11 Platform

And More!

nvm
EXPRESS®



Intel® Virtual RAID on
CPU (Intel® VROC)



Intel QuickAssist
Technology for encryption
and compression offload



Flexible 10G/25G/50G/100G
Networking solution

PERFORMANCE
FOR RANGE OF
WORKLOADS



3-UPI design



TPM 2.0 + TXT for cloud security



Cascade Lake

Cascade Lake is the next generation of Intel® CPU on the Purley platform and will deliver new capabilities such as Apache Pass support, HW security mitigations, and more performance/frequency.

Platform Requirements:



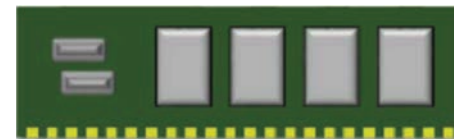
X11 DP Motherboard (no HW change needed)

What's New?

Same
Lewisburg
Chipset

Cascade
Lake CPU
AEP- enabled stepping

BIOS with new
reference code



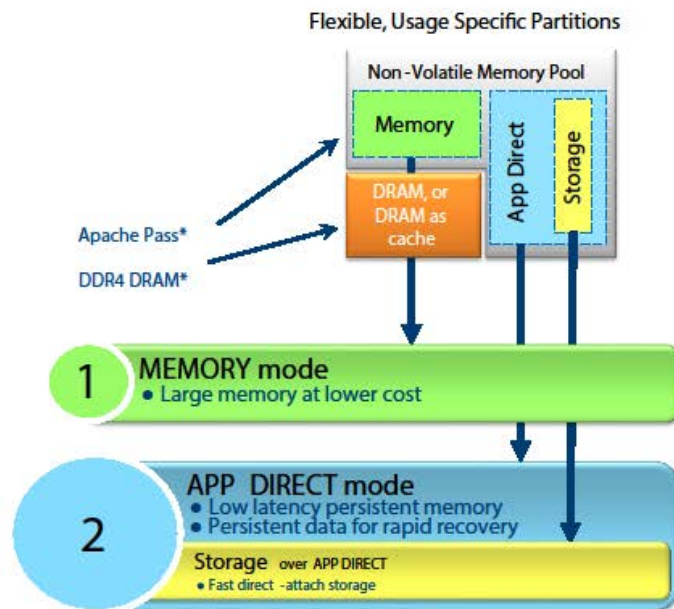
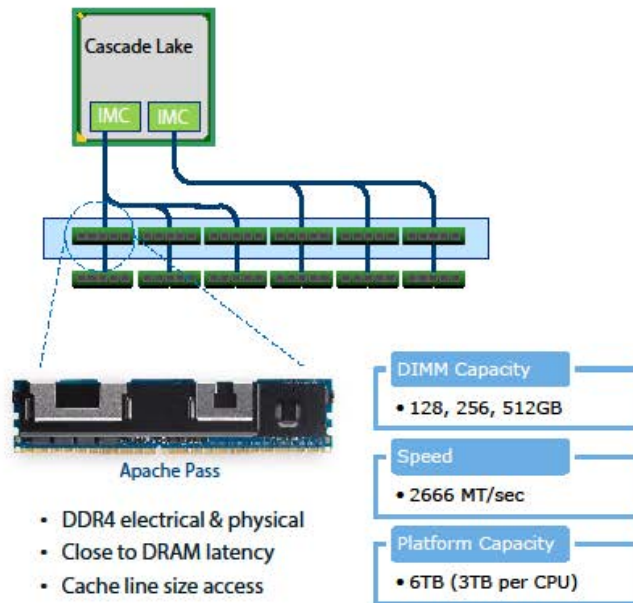
Apache Pass



Apache Pass

Apache Pass Product Overview

(3D XPoint™ based Memory Module for the Data Center)

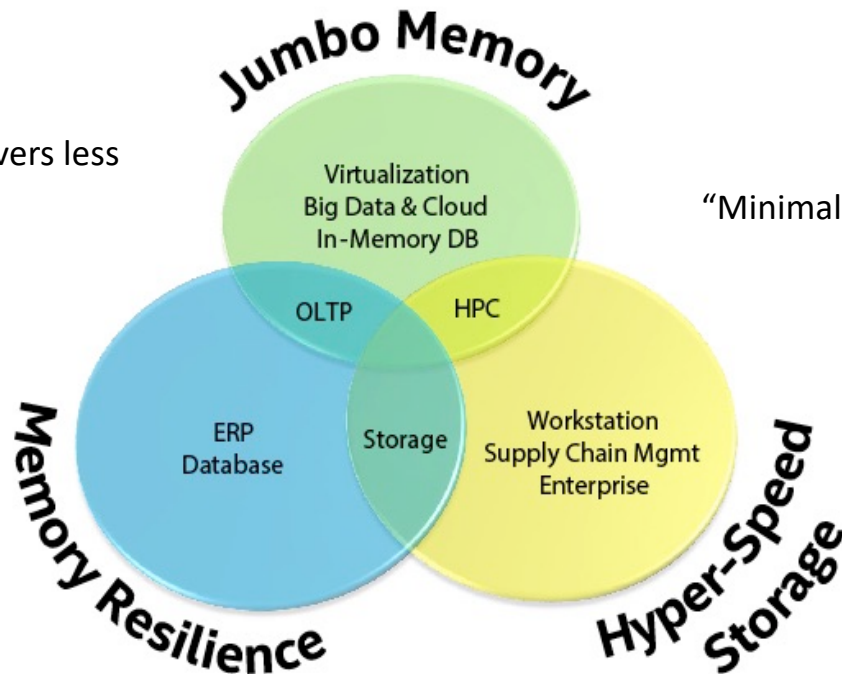


* DIMM population shown as an example only.



Growing need for new class of memory

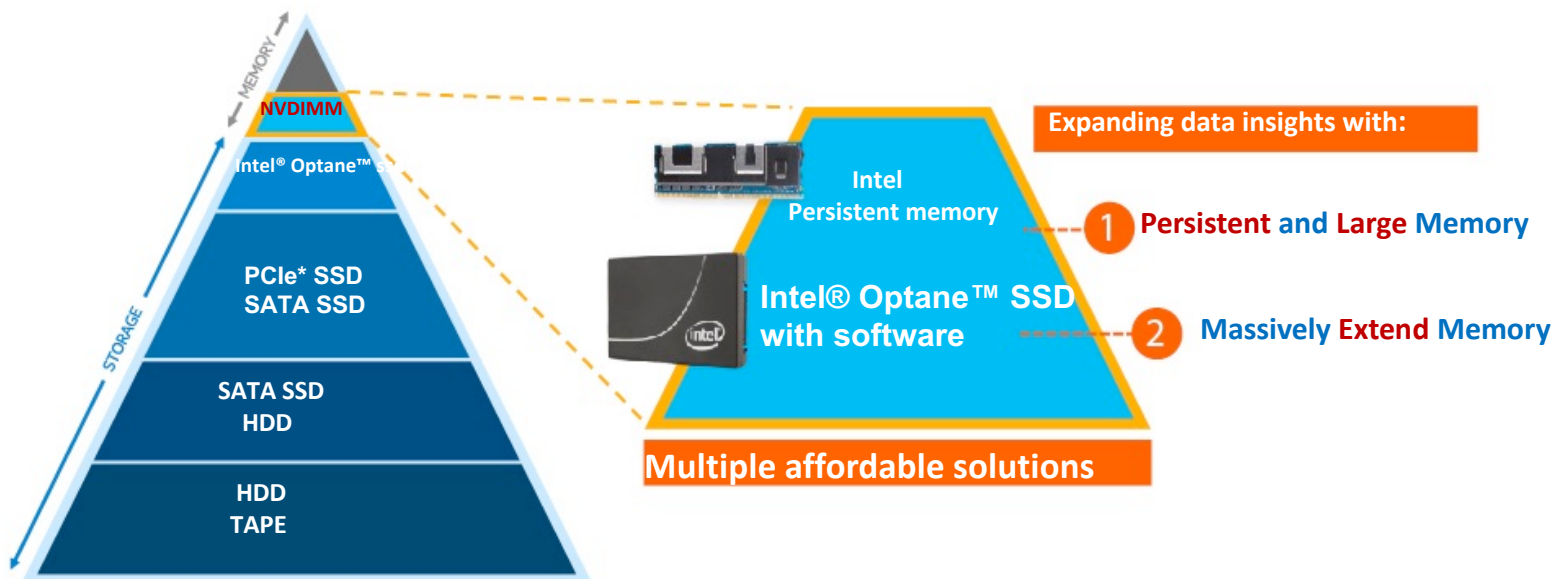
“Make large memory servers less expensive”



“Minimal latency for huge memory”



Apache Pass

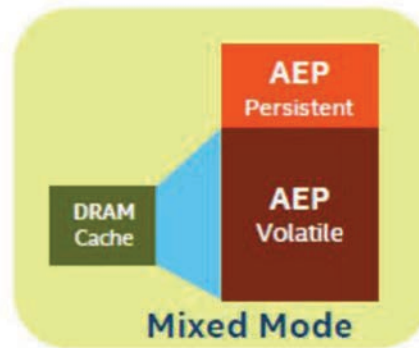




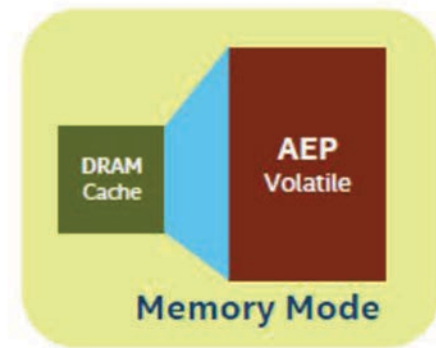
Apache Pass



Faster access to data and more predictable performance



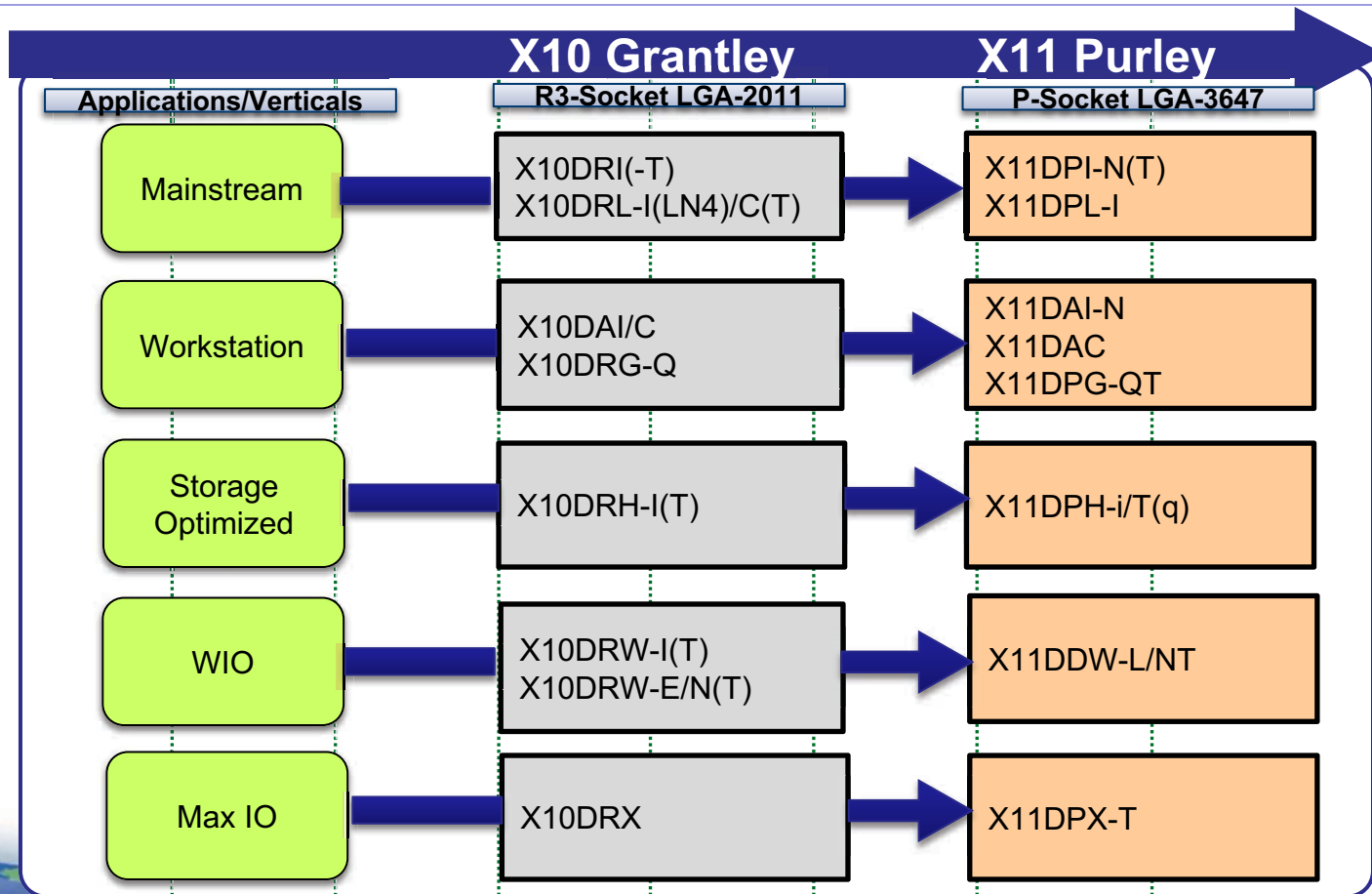
Replace high-cost, high-maintenance NVDIMMs



Providing lower and consistent latency with more capacity per dollar



DP MB (X10-X11) Transition Chart





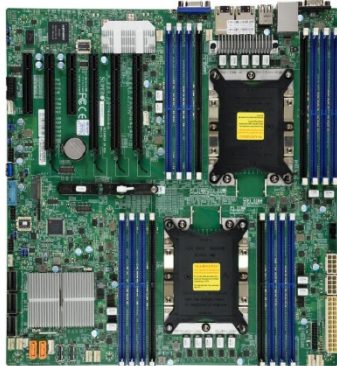
Mainstream

Mainstream

Standard form factors that serve as great entry-level building block solutions

X11DPI-N(T)

E-ATX



Top Seller

- 16 DIMM slots
- Dual 1GbE or 10GbE LAN
- 6 PCIe slots
- 1 M.2 & 2 NVMe ports

ATX



X11DPL-i

Cost Optimized

- ATX 12"x 10"
- 6 PCIe slots
- 1 M.2
- 1U Short Depth chassis



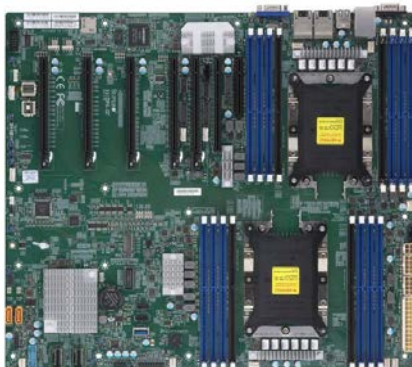
Workstation

The Most Complete Workstation Portfolio

Best-in-class technology designed for ultimate performance in tower form factor

X11DPG-QT

SMC
Proprietary



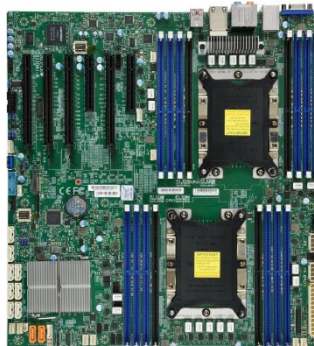
Flagship Workstation

- 16 DIMMs
- **3 UPI**
- **4 double width GPU support**
- M.2
- Dual 10 GbE LAN

E-ATX



X11DAi-N



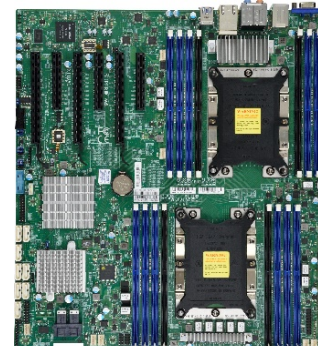
Workstation

- 16 DIMM slots
- 3 double width GPU support
- M.2 & 2x NVMe ports
- **7.1 Audio**
- **Thunderbolt support**

E-ATX



X11DAC



Storage Workstation

- 16 DIMM slots
- 3 double width GPU support
- **Broadcom 3008 SW RAID**
- **7.1 Audio**
- PS/2 Combo KB/MS



Storage Optimized

Storage Optimized

Provides great expandability for storage applications and delivers powerful encryption/compression offload

X11DPH-i/T(q)

E-ATX



Storage Optimized

- 16 DIMM slots
- 7 PCIe slots
- 2 M.2
- 3 UPI
- QuickAssist Technology



WIO

I/O Flexibility and Density

The most flexible I/O solutions on the market allowing multiple full-height AOC in dense 1U/2U chassis

X11DDW-L/NT

SMC
Proprietary



Expandability

- 12 DIMM slots
- 3 AOCs + 1 AOM in 1U
- 6 AOCs + 1 AOM in 2U
- Dual 1GbE or 10 GbE LAN
- 4x NVMe ports (NT)
- SAS3 Mezzanine Card support



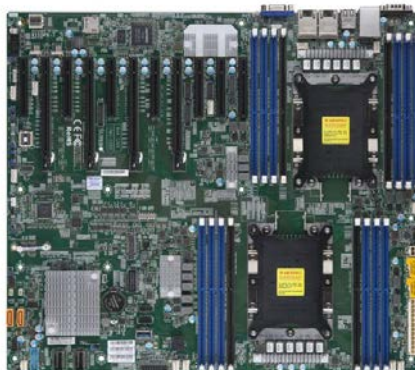
Max I/O Expansion

Max I/O Expansion

Provides maximum AOC expandability and delivers the highest CPU-to-CPU interconnectivity

X11DPX-T

SMC
Proprietary



Max I/O

- 16 DIMMs
- Dual Skylake support
- 3 UPI
- 11x PCIe Gen3 slots
- 1x PCIe M.2
- Dual 10 GbE Lan



Optimized Chassis

MB	1U	2U	3U/Mid-Tower	4U/Tower
X11DPI-N/NT		SC825TQC-1K03LPB SC213AC-R1K23LPB		SC745BAC-R1K28B2
X11DPL-i	SC813MF2TQC-R608CB SC813MF2TQC-505CB SC113MFAC2-R608CB SC113MFAC2-605CB SC514-R407C	SC825TQC-R740LPB SC825MBTQC-R802LPB	SC825MBTQC-R802LPB SC732i-865B	SC842XTQ-R606B SC842TQC-865B
X11DAi-N			SC732D4-1200B SC732D4-903B	SC743AC-1200B-SQ
X11DAC			SC732D3-1200B SC732D4-903B	SC743AC-1200B-SQ
X11DPG-QT				747BTS-R2K20BP
X11DPH-i/T(q)		SC826BE1C4-R1K23LPB SC216BE1C4-R1K23LPB SC829HE1C4-R1K62LPB	SC836BE1C-R1K23B	SC846BE1C-R1K23B SC847BE1C4-R1K23LPB
X11DDW-L/NT	SC815TQC-R706WB2 SC116AC2-R706WB2 SC113AC2-R706WB2	SC825TQC-R1K03WB SC826BAC4-R1K23WB		
X11DPX-T		SC213XAC-R1K05LP	SC835XTQ-R982B	SC846XA-R1K23B SC846XE1C-R1K23B SC846XE2C-R1K23B



Summary

- X11 DP motherboards are fully ready.
- Support Cascade Lake CPU with no hardware change.
- 12 SKUs of X11 DP motherboard that can be sold individually.
- Early engagement is key.
- Let's work together and achieve an increased sales of 30-50% within the next quarter.





UP Server Motherboard Deep Dive

~Maximize the Efficiency & Effectiveness



Morris Jhang

2018.06.04



Why UP Server Product

Cost-optimized

- application-driven, specific feature sets built-in

Space Saving

- smaller size, compact form factor

Simplified Architecture

- zero-overhead cross processors

Unique Features

- SGX, VHD/QSV & Intel Optane Memory (CAS)

Max. Frequency

- single core/thread performance orientated

Wide-range CPU

- cost, TDP & computing power



Why Supermicro UP Server Product

#1 Quality

- Engineering-centric, robustness of in-house validation

#2 Broad Offerings

- Optimized constraint-driven solutions provider

#3 Building Blocks

- Chassis, AOC, Cable, I/O Shield, BPN, FAN, Air shroud...

#4 Flexibility

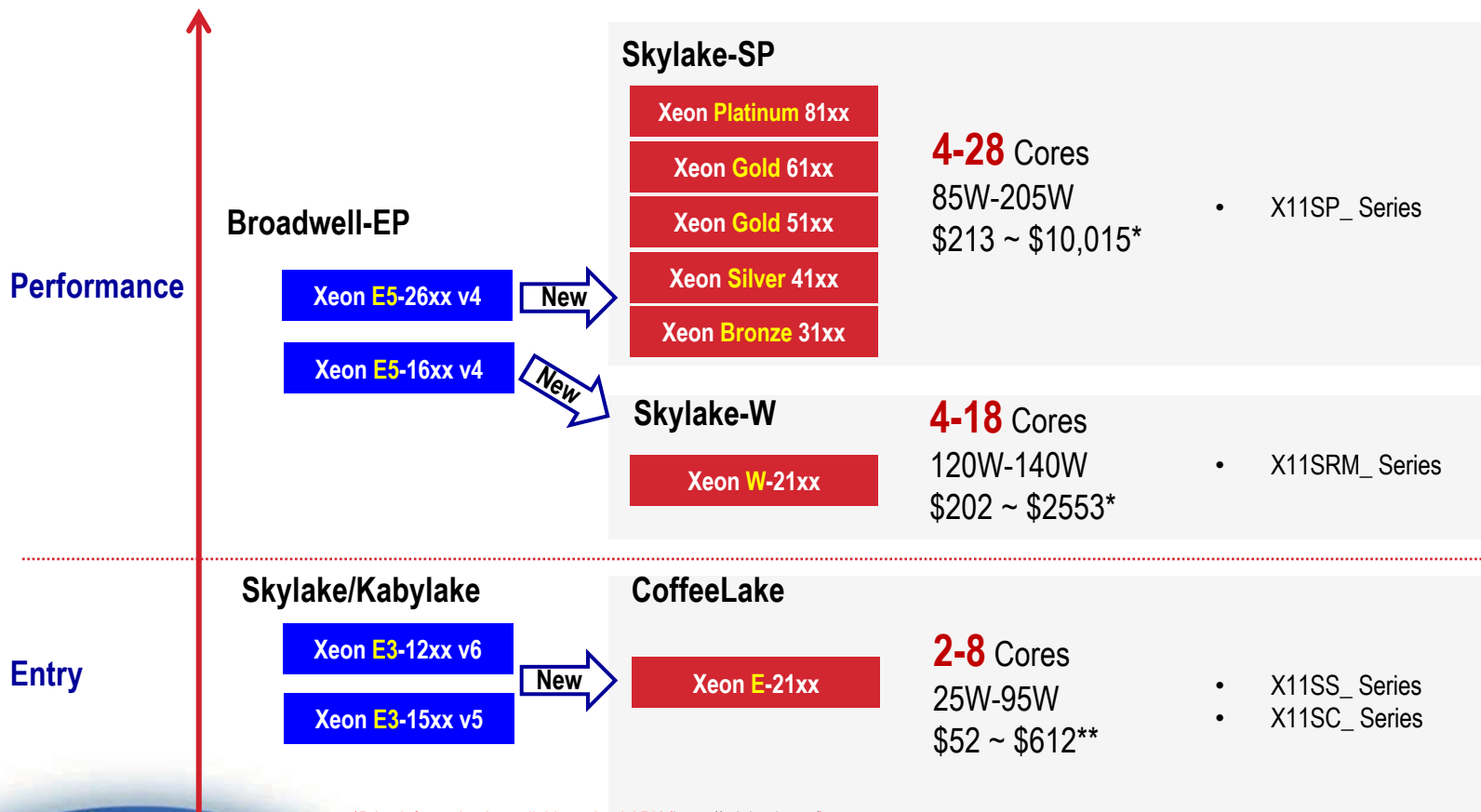
- Custom BIOS, IPMI and OEM design support

#5 Mgt. SW

- BIOS, IPMI, SPM, SUM, SuperDoctor5



Product Segmentations



*Price information is available on Intel ARK (<https://ark.intel.com/>)

** 6C/8C CPU is not available now



Hot-selling UP Boards

Performance:

Skylake-SP/-W, **12** SKUs in ATX, mATX, WIO, GPU



X11SPL-F



X11SPi-TF



X11SPH-nCTF/
X11SPH-nCTPF



X11SPM-F/
X11SPM-TF/
X11SPM-TPF



X11SPW-TF
X11SPW-CTF



X11SPG-TF



X11SRM-VF/
X11SRM-F

Entry:

Skylake/Kabylake, **17** SKUs in ATX, mATX, WIO



X11SSA-F/
X11SSI-LN4F



X11SSH-F/
X11SSH-LN4F



X11SSL-CF/
X11SSL-nF



X11SSL-F/
X11SSM-F



X11SSH-TF/
X11SSH-CTF



X11SSH-G(T)F
-1585(L)



X11SSW-F



X11SSW-4TF/
X11SSW-TF



What's new in 2018

Latest Entry:

Coffee Lake, **8** SKUs in mATX, mini-ITX, WIO

Launch Target

Oct~Nov'18

Sample Availability

June'18



X11SCH-LN4F/
X11SCH-F



X11SCM-LN8F/
X11SCM-F/
X11SCL-LN4F



X11SCL-F



X11SCL-IF



X11SCW-F



X11SC Building Blocks

Complete solutions to fulfill various scenarios



9.8" (249mm)



L Series

11.3" (287mm)



ML Series

14.4" (366mm)



ML Series

16.9" (429mm)



WM/WMR Series

19.8" (503mm)

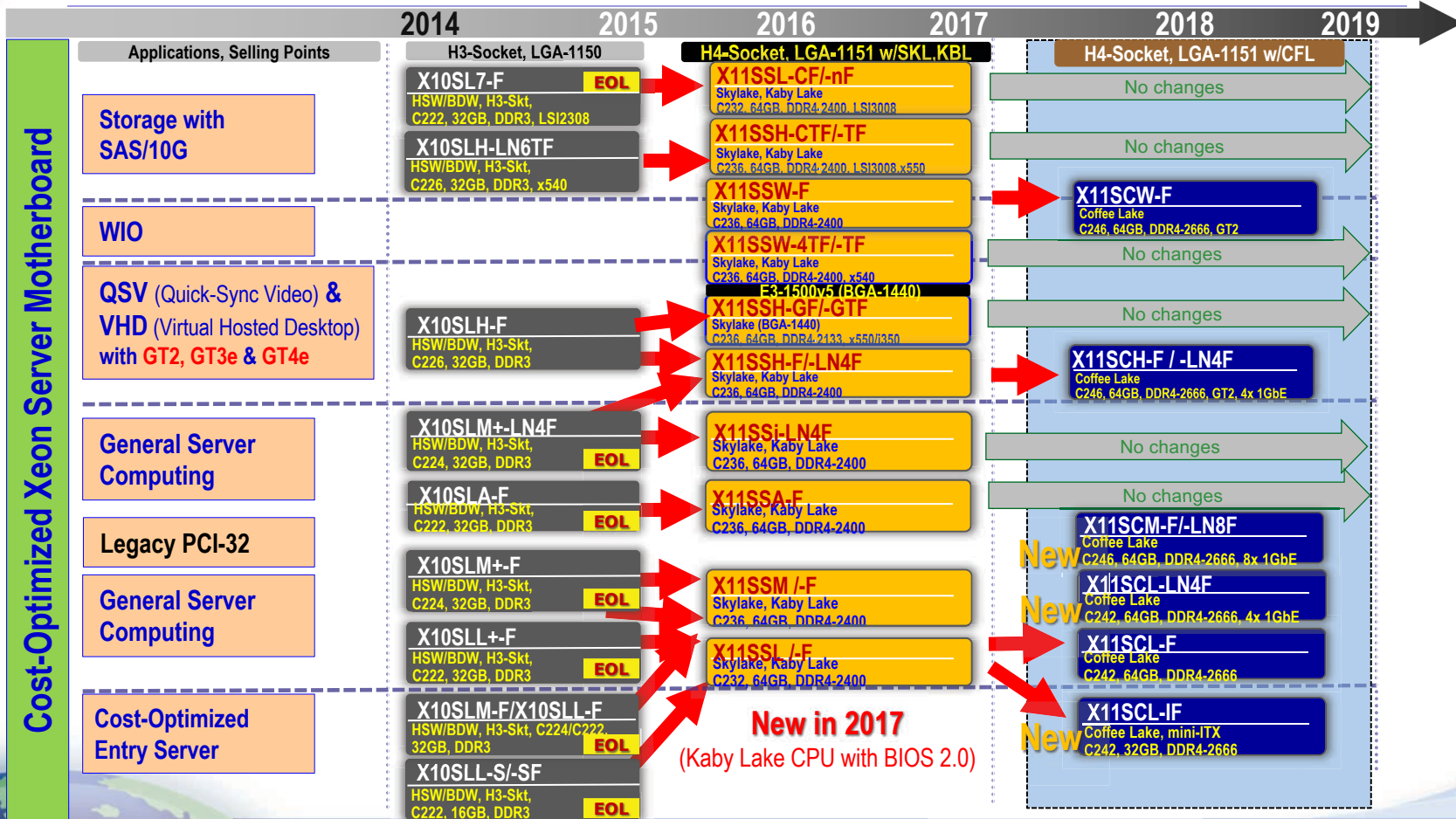


M/MR Series

Roadmap



Cost-Optimized Xeon Server Motherboard



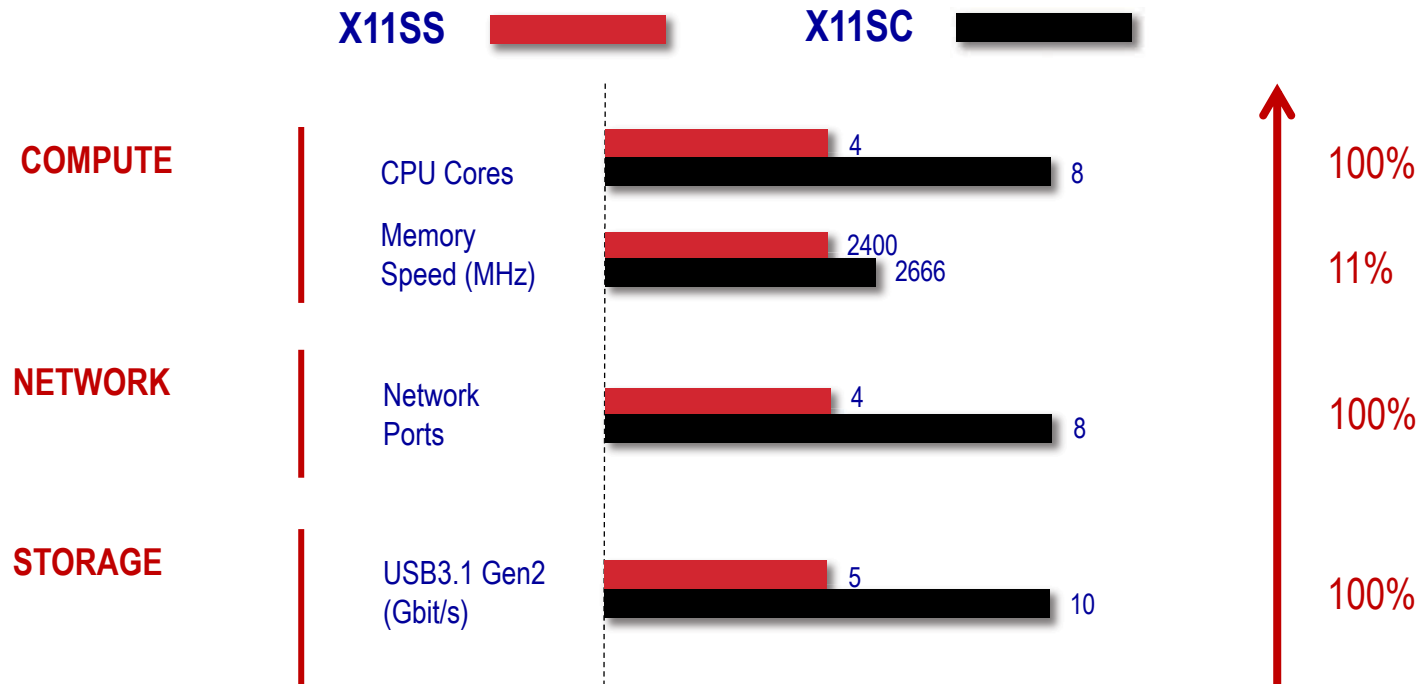


Platform Overview

Platform Spec	Greenlow with Skylake/Kabylake CPU	Mehlow with Coffeelake CPU
CPU TDP (with IVR)	25W~80W	25W ~ 95W
Graphics	GT2 & GT0	GT2 & GT0
Socket	Socket H4 (LGA 1151)	Socket H4 (LGA 1151)
Scalability	N/A –1 Socket Only	N/A –1 Socket Only
Cores	2C, 4C with Intel® HT Technology	2C, 4C, 6C, 8C with Intel® HT Technology
Memory	2 channels DDR4 UDIMM ECC@1.2V	2 channels DDR4 UDIMM ECC@1.2V
	up to 2400MHz	Up to 2666 MHz
PCIe*	PCIe* 3.0 (2.5, 5.0, 8.0 GT/s)	PCIe* 3.0 (2.5, 5.0, 8.0 GT/s)
	16 lanes per CPU	16 lanes per CPU
PCH	C232/C236 - Up to 10 x USB3.1 Gen1 - Up to 8 x SATA3 ports - Up to 20 Gen3	C242/C246 - Up to 6 x USB3.1 Gen2 - Up to 8 x SATA3 ports - Up to 24 Gen3
Intel Optane Memory	N/A	Support (CAS)



Performance Improvement



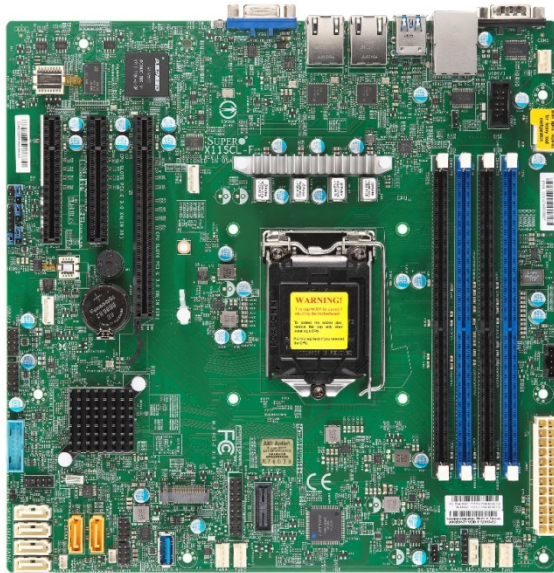
Major Selling Points and Applications

Mainstream





X11SCL-F



mATX: 9.6" x 9.6"



CSE-512



CSE-813M



CSE-113M



CSE-731D

Key Features

- ❖ 3 PCIe3.0 slots: x8 (in x16), 2 x4 (in x8)
- ❖ M.2: PCIe3.0 x4, 2280/22110 FF
- ❖ Low-Cost 6C, 95W

Value Proposition

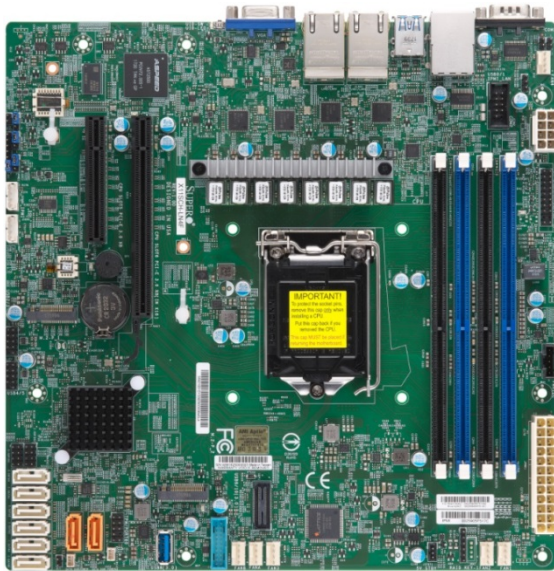
- ❖ Maximum I/O expansion flexibility
- ❖ Cost-optimized standard server board

Target Customers/Verticals

- ❖ Surveillance storage
- ❖ General purpose computing
- ❖ Pedestal server for SMB, SOHO



X11SCH-LN4F/-F



mATX: 9.6" x 9.6"



CSE-512



CSE-813M



CSE-113M



CSE-731D

Key Features

- ❖ 2 PCIe3.0 slots: 1 x8(1 in x16), 1 x8
- ❖ Dual M.2: PCIe3.0 x4, 2280/22110 FF
- ❖ GT2 Power for VHD/QSV
- ❖ 8C, 95W

Value Proposition

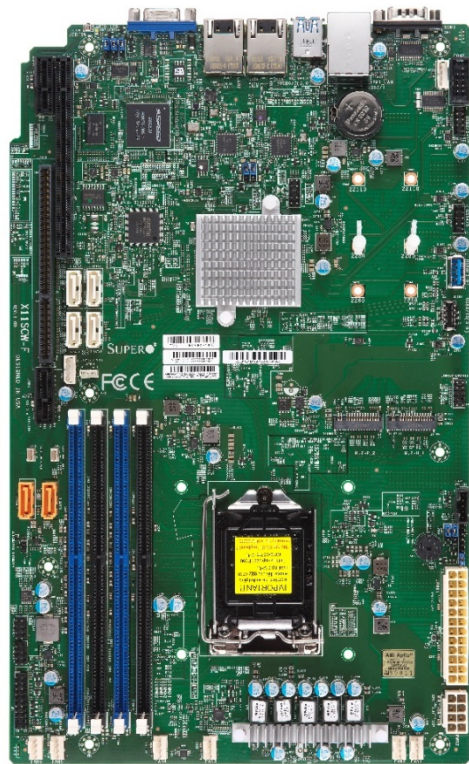
- ❖ 4x GbE LANs
- ❖ Full-set storage interfaces
- ❖ Unparalleled computing power in entry-level

Target Customers/Verticals

- ❖ Storage
- ❖ Networking applications
- ❖ Media-transcoding



X11SCW-F



WIO: 8" x 13"



CSE-514



CSE-515



CSE-113TQ



CSE-815TQ

Key Features

- ❖ 3 AOC in 1U
- ❖ Dual M.2: PCIe3.0 x4/SATA*, 2260/2280/22110 FF
- ❖ USB3.1 Gen2: 10Gbps
- ❖ 8C, 95W

Value Proposition

- ❖ Maximized I/O expansions in 1U
- ❖ Unparalleled computing power in entry-level

Target Customers/Verticals

- ❖ Networking security
- ❖ Telecommunications
- ❖ Video/Audio Conference System

* 1 at PCIe 3.0 x4 & SATA; 1 at PCIe3.0 x4

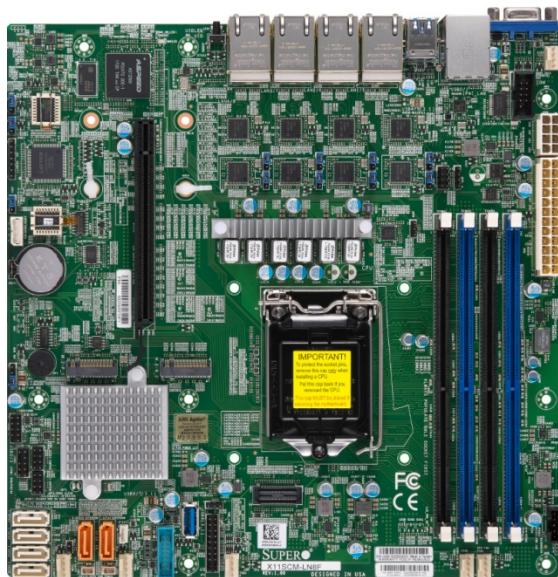
Major Selling Points and Applications

New Product-lines





X11SCM-LN8F



mATX: 9.6" x 9.6"



CSE-512

CSE-813M

CSE-113M

Key Features

- ❖ 1U Optimized: 1 x16 slot
- ❖ Dual M.2: PCIe3.0 x4/SATA*, 2280/22110 FF
- ❖ 8x 1GbE RJ45 LANs
- ❖ 8C, 95W

Value Proposition

- ❖ Integrated 8x GbE LANs
- ❖ Full PCIe3.0 bandwidth for 1U
- ❖ Unparalleled computing power in entry-level

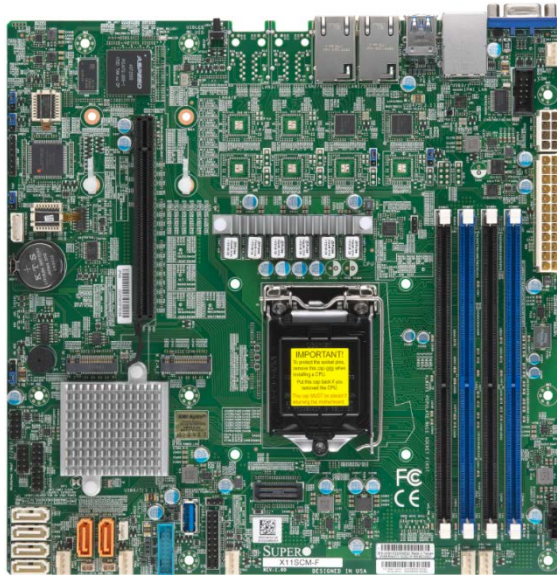
Target Customers/Verticals

- ❖ Networking Appliance

* 1 at PCIe 3.0 x4 & SATA; 1 at PCIe3.0 x4



X11SCM-F



mATX: 9.6" x 9.6"



CSE-512



CSE-813M



CSE-113M

Key Features

- ❖ 1U Optimized: 1 x16 slot
- ❖ Dual M.2: PCIe3.0 x4/SATA*, 2280/22110 FF
- ❖ 8C, 95W

Value Proposition

- ❖ Full PCIe3.0 bandwidth for 1U
- ❖ Unparalleled computing power in entry-level

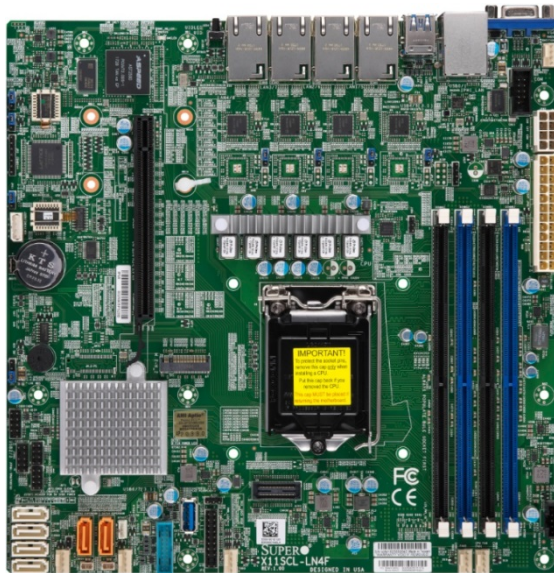
Target Customers/Verticals

- ❖ General purpose server

* 1 at PCIe 3.0 x4 & SATA; 1 at PCIe3.0 x4



X11SCL-LN4F



mATX: 9.6" x 9.6"



CSE-512



CSE-813M



CSE-113M

Key Features

- ❖ 1U Optimized: 1 x16 slot
- ❖ M.2: PCIe3.0 x4, 2280/22110 FF
- ❖ 4x 1GbE RJ45 LANs
- ❖ Lowest Cost 8C, 95W

Value Proposition

- ❖ Cost-optimized 4x GbE LANs
- ❖ Full PCIe3.0 bandwidth for 1U
- ❖ Unparalleled computing power in entry-level

Target Customers/Verticals

- ❖ Networking applications
- ❖ Web-hosting



X11SCL-IF



Mini-ITX: 6.7" x 6.7"

Key Features

- ❖ Compact in Size
- ❖ Hybrid M.2: PCIe3.0 x4/SATA, 2280 FF
- ❖ Lowest-Cost 6C, 95W

Value Proposition

- ❖ Space-saving
- ❖ Most cost-optimized standard server board

Target Customers/Verticals

- ❖ Micro server for SMB, SOHO
- ❖ General purpose computing



CSE-504



CSE-505



CSE-721TQ



Feature Summary

Model	FF	Compute				Storage		Network	Expansion	Power Solution
		TDP	PCH	Memory	SATA 6Gb/s	M.2	USB 3.1	LAN (GbE)	PCI-E 3.0	CPU core
X11SCW-F	WIO	95W	C246	64GB, 4 slots	6	2	3x gen2; 2x gen1	2	1 x16 (left), 1 x4 (in x8)	8C
X11SCH-LN4F	mATX	95W	C246	64GB, 4 slots	8	2	2x gen2; 3x gen1	4	1 x8 (in x16), 1 x8	8C + iGFX
X11SCH-F	mATX	95W	C246	64GB, 4 slots	8	2	2x gen2; 3x gen1	2	1 x8 (in x16), 1 x8	8C + iGFX
X11SCM-LN8F	mATX	95W	C246	64GB, 4 slots	6	2	5x gen1	8	1 x16	8C
X11SCL-LN4F	mATX	95W	C242	64GB, 4 slots	6	1	5x gen1	4	1 x16	8C
X11SCM-F	mATX	95W	C246	64GB, 4 slots	6	2	5x gen1	2	1 x16	8C
X11SCL-F	mATX	95W	C242	64GB, 4 slots	6	1	5x gen1	2	1 x8 (1 in x16), 2x4 (in x8)	6C
X11SCL-IF	mini-ITX	95W	C242	32GB, 2 slots	4	1	5x gen1	2	1 x16	6C



Thank You

For more information, visit www.supermicro.com or contact marketing@supermicro.com



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