Supermicro Servers with Intel® Xeon® 6 Processors

Featuring the Upcoming Intel® Xeon® 6900 Processors Series with P-Cores

✓ *Optimized for Maximum Performance*

✓ *Support for AI, HPC, Media, Data Analytic, and Virtualization Applications*

✓ *Supermicro Direct-to-Chip Liquid Cooling Resulting - Lower Data Center Cost*

✓ *Support for Next-Generation GPUs*

August 2024

Optimized for Performance
Supports the Upcoming Intel® Xeon® 6 Processors

Large-scale AI Training, HPC, Simulation, Virtualization, EDA, Financial Services, 3D/Media
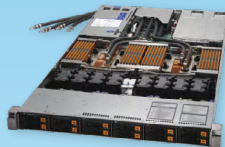
SXM/OAM GPU / GPU-Optimized

PCIe GPU

SuperBlade®

Hyper

FlexTwin

Optimized for Efficiency
Supports Intel® Xeon® 6700 Series Processors with E-Cores
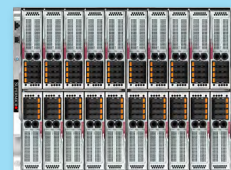
Cloud-native, Scale-out, CDN, Unstructured Database

Hyper

CloudDC with DC-MHS

WIO

SuperBlade®

BigTwin®
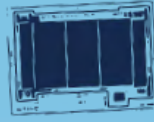
GrandTwin®

Petascale Storage

Hyper-E

Telco/Edge

What's New in Supermicro X14

New Intel® Xeon® 6 Processors
Workload-optimized & pin compatible between E-core and future P-core CPUs
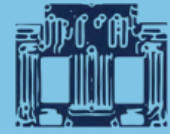
Up to 288 cores per node
Increased computing density

Up to 12ch DDR5-6400, MRDIMM, and CXL 2.0
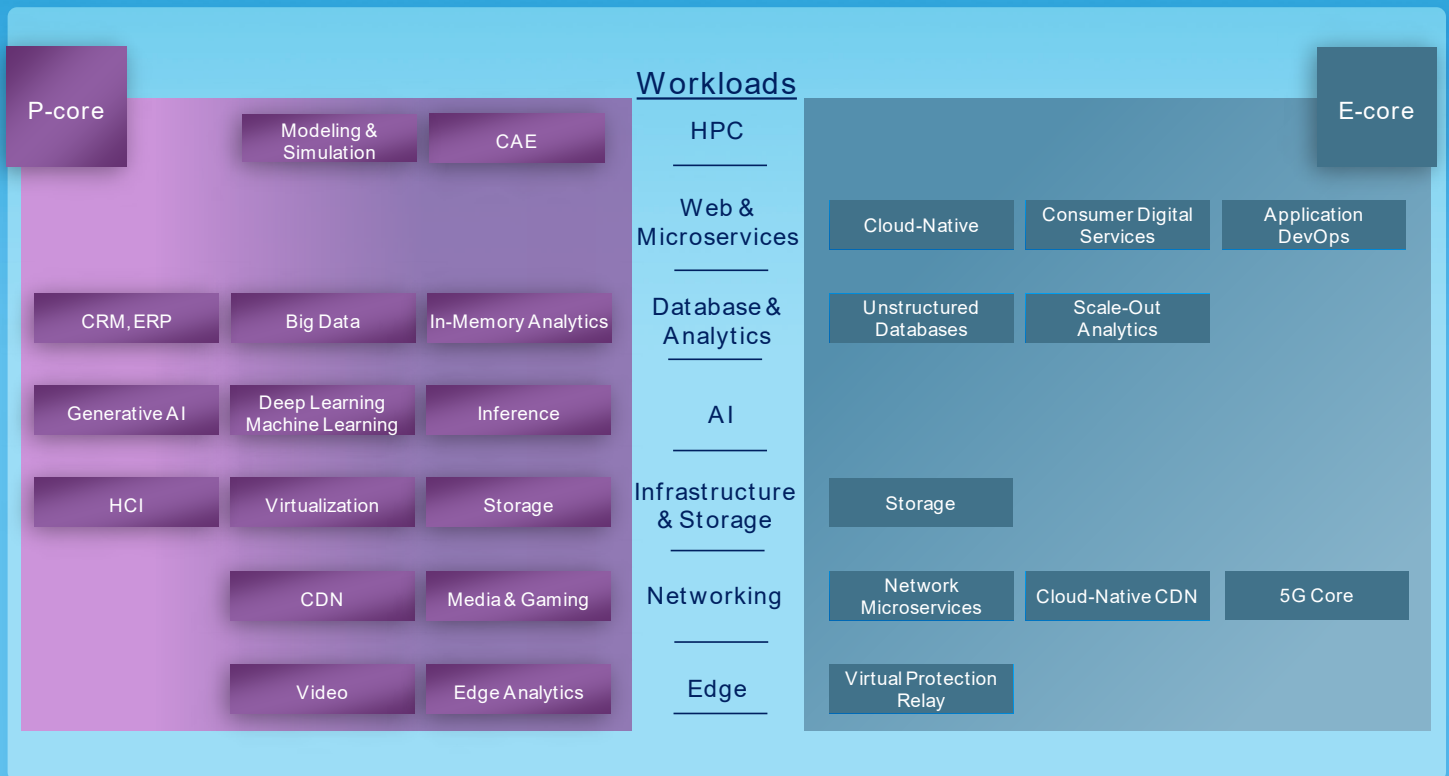**More memory, faster bandwidth. New capabilities to extend capacity**

EDSFF E1.S and E3.S NVMe drives
Supported on more families. High throughput, higher density

Data Center Modular Hardware System
DC-MHS Reduces complexity and simplifies maintenance

Addressing Unique Workload Requirements

P-core

E-core

Workloads

Workloads	P-core		
HPC	Modeling & Simulation	CAE	
Web & Microservices			
Database & Analytics	CRM, ERP	Big Data	In-Memory Analytics
AI	Generative AI	Deep Learning Machine Learning	Inference
Infrastructure & Storage	HCI	Virtualization	Storage
Networking		CDN	Media & Gaming
Edge		Video	Edge Analytics

E-core:
- Cloud-Native
- Consumer Digital Services
- Application DevOps
- Unstructured Databases
- Scale-Out Analytics
- Storage
- Network Microservices
- Cloud-Native CDN
- 5G Core
- Virtual Protection Relay

Rack Density
Intel® Xeon® 6 Processors with **E-cores**

Up to
3.2x
vs 2nd Gen Xeon[1]

Performance-Per-Watt
Intel® Xeon® 6 Processors with **E-cores**

Up to
2.6x
vs 2nd Gen Xeon[1]

General Compute
Intel® Xeon® 6 Processors with **P-cores**

Up to
6.4x
higher floating point and up to 5.9x higher integer throughput vs 2nd Gen Xeon[2]

HPC
Intel® Xeon® 6 Processors with **P-cores**

Up to
6.1x
higher HPC performance based on the industry-standard HPCG benchmark vs 2nd Gen Xeon[3]
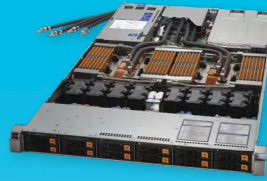
X14 for AI, HPC and Media

10U/8U GPU

Air cooling with
up to 8 SXM GPUs

4U GPU

Liquid-cooled platform to
provide maximum GPU density

Hyper

Up to 4 double-width GPUs

FlexTwin™

2U 4-node, 2 E1.S

5U PCIe GPU

Flexible and cost-effective
platform for AI, HPC, and media

Gaudi® 3

Purpose-built AI training platform

SuperBlade®

10/5 UP Nodes in 6U

Key Applications

- Large-scale AI Training
- LLMs
- AI Inferencing
- Industrial Automation
- Digital Twins
- VDI
- Simulation/Modelling
- Transcoding
- Cloud Gaming

1 Optimized dual-processor configurations with dedicated high-speed networking to scale from single system to multi-rack cluster

2 Support for GPUs including latest-generation SXM/OAM baseboards and double-width PCIe GPUs

3 Modular GPU and CPU trays simplify servicing and maintenance

Why Supermicro X14

Most Powerful, Flexible, and Efficient Platform Ever

- Efficiency and performance-optimized architectures
- Systems will support Intel® Xeon® 6 with E-cores and P-cores
- Higher performance-per-watt and performance per core
- Up to 12 channels of memory support

Rack-scale Solutions

- Complete integration services
- Validation up to L12
- In-house developed liquid cooling

Industry-Leading Time-to-Deployment

- Leading server production capacity
- Silicon Valley manufacturing facility

For more information, please visit: www.supermicro.com/x14

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