

Unleashed Heavy-Duty Computing

Jonathan Patton

Client Product Marketing

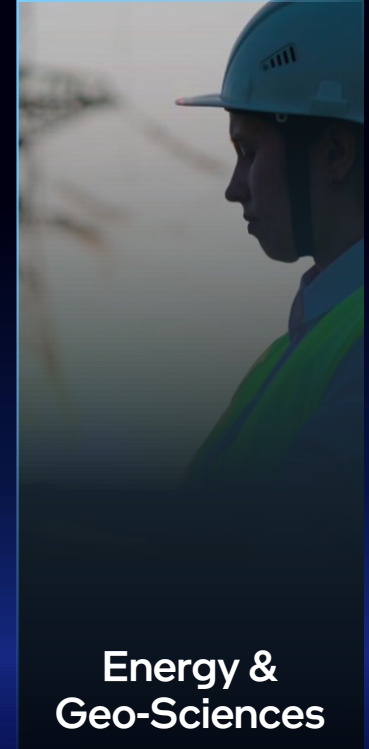
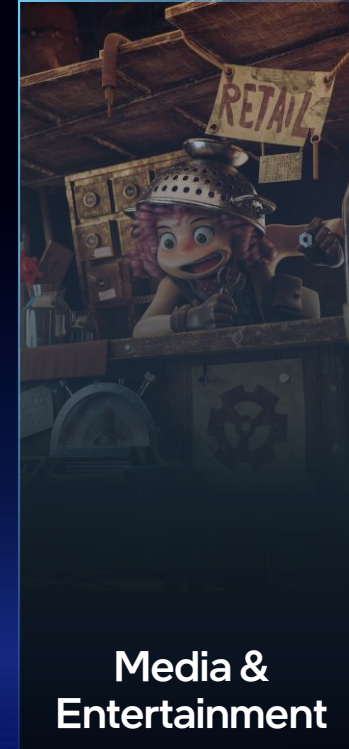
Zachary Kranich

Product Marketing Engineer



Intel® Xeon® 600
Processors for Workstations

Professionals Expect Performance & Reliability



Trusted Platforms for Workstation Computing



*Source: IDC Workstation Tracker – 2008-2025 – Processor Vendor – Intel with greater than 90%+ Market Share and JPR Workstation Report as of Q3'2025

Intel's Workstation Platforms

Stationary



Desktop Workstation

Intel® Core™ Ultra 200 Desktop Processors



Mainstream Workstation

Intel® Xeon® W-2500 Processors



Expert Workstation

Intel® Xeon® W-3500 Processors

Mobile



Essential Mobile Workstation

Intel® Core™ Ultra 200H Processors



Slim/Ultra-Slim Mobile Workstation

Intel® Core™ Ultra 200H Processors



Performance Mobile Workstation

Intel® Core™ Ultra 200HX Processors

Intel's Workstation Platforms

Stationary



Desktop Workstation

Intel® Core™ Ultra 200 Desktop Processors + Intel® W880 Chipset

Introducing



High End Workstation

Intel® Xeon® 600 Processors for Workstation

Mobile



Essential Mobile Workstation

Intel® Core™ Ultra 200H Processors



Slim/Ultra-Slim Mobile Workstation

Intel® Core™ Ultra 200H Processors



Performance Mobile Workstation

Intel® Core™ Ultra 200HX Processors

INTRODUCING

Intel® Xeon® 600 Processors for Client Workstations

Unleashed Heavy-Duty Compute

Performance Efficiency

Packing Intel's latest technologies with up to 86 performance cores to tackle heavy-duty compute workloads

Designed for AI Dev

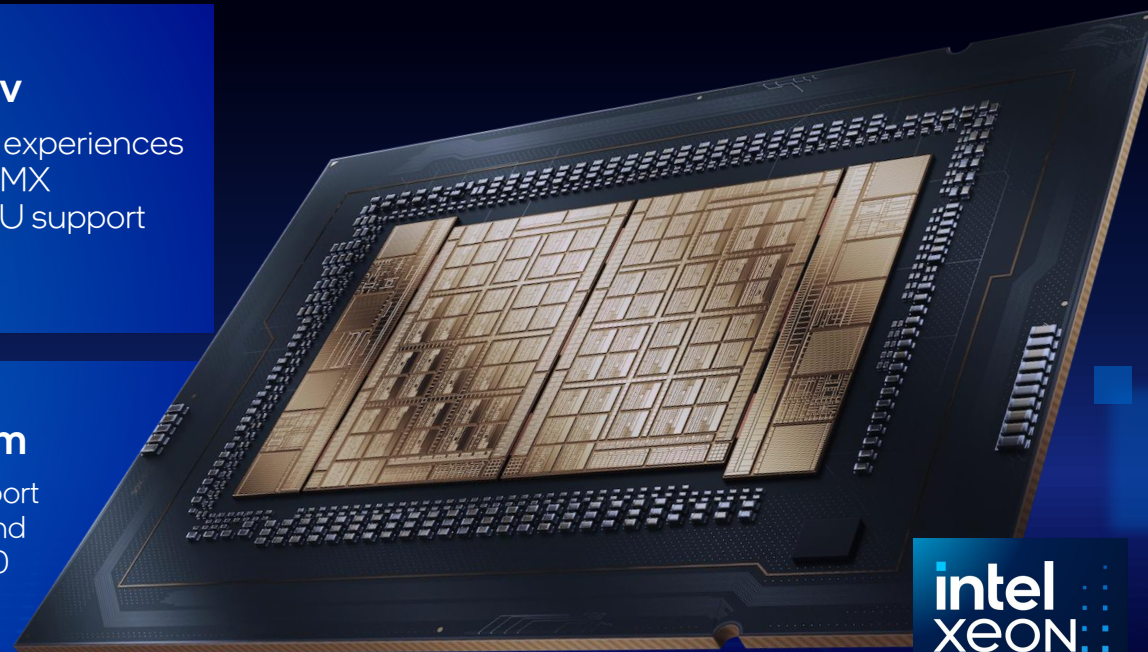
Ready to build the AI PC experiences of tomorrow with Intel® AMX extensions and multi-GPU support

Intel vPro® Technology

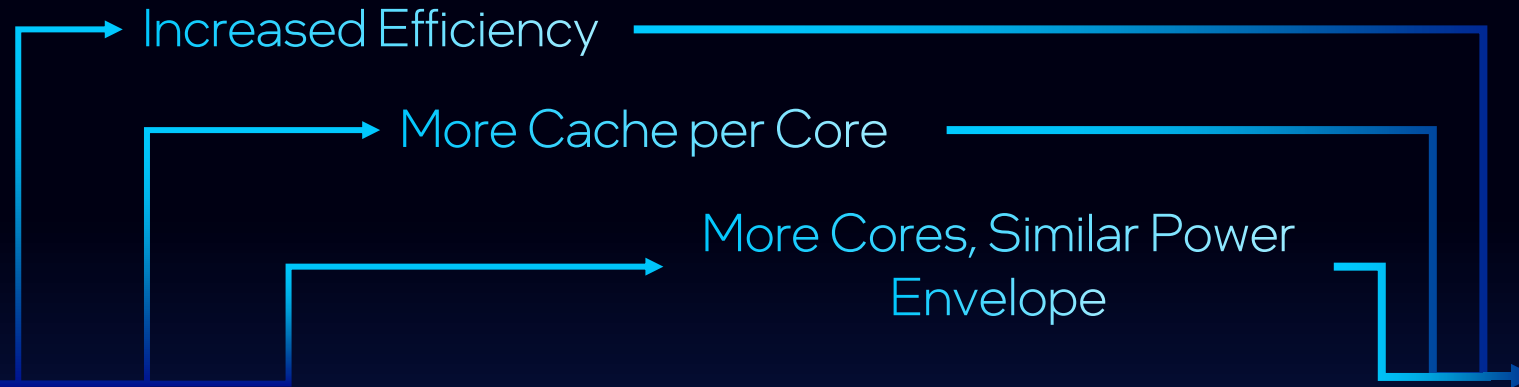
Address critical business requirements with increased security, reliability, and easy-to-manage high-performance compute

Expandible Platform

Platform features that support high-speed connectivity and I/O with up to x128 PCIe 5.0 lanes and up to 8 memory channels



Performance Efficiency



Intel® Xeon® W-3500
Intel® Xeon® W-2500
Processors

Up to
9%
Higher ST
Performance

Up to
61%
Higher MT
Performance



Intel® Xeon® 600
Processors for
Workstations

Designed for AI Dev

A workstation for AI developers; feat CPU-based inference, multi-GPU connectivity, and more

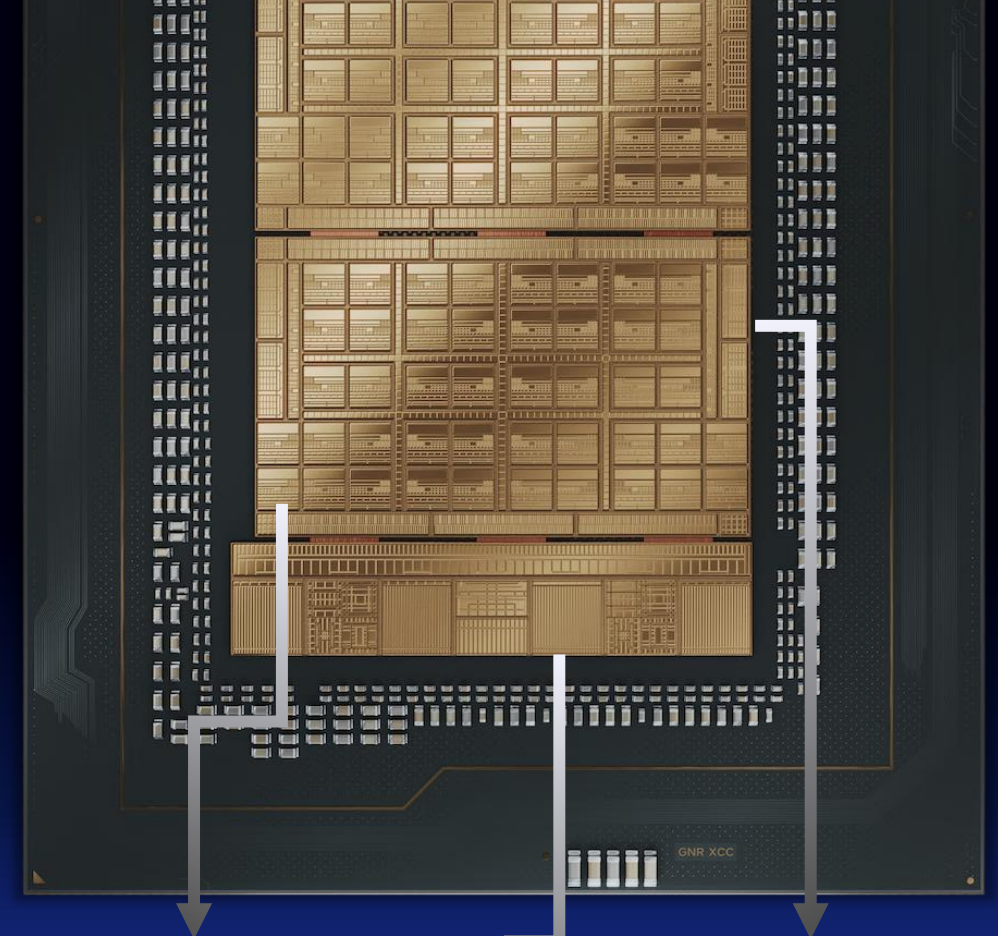
Up to 86 Cores feat:
Intel® AVX-512
Intel® AMX (Integer8,
Bfloat16, **NEW** FP16)

Up to 4TB memory
Up to 128x PCIe 5.0
Support for CXL 2.0

Software Tools to
optimize
acceleration across
CPU, GPU or
FPGAs



1
oneAPI



Intel® AMX built-in
every CPU core

Up to 4TB of
Mem Capacity

Multi-GPU or Accelerator
Support via PCIe & CXL

Intel vPro® Technology

Empowering IT to keep professionals up-and-running

Security

- Intel® Total Memory Encryption (Multi-Key)
- Intel® Trusted Execution Technology
- Intel® Virtualization Technology

System Recovery

- Intel® Remote Platform Erase
- Intel® One-Click Recovery*

Manageability

- Intel® Active Management Technology
- Intel® Unique Platform ID
- Intel® Platform Service Record
- DASH Compliant



Embargoed till 02 Feb 2026 @ 1:30 PM (PST)

*Requires Intel® vPro Platform activation.

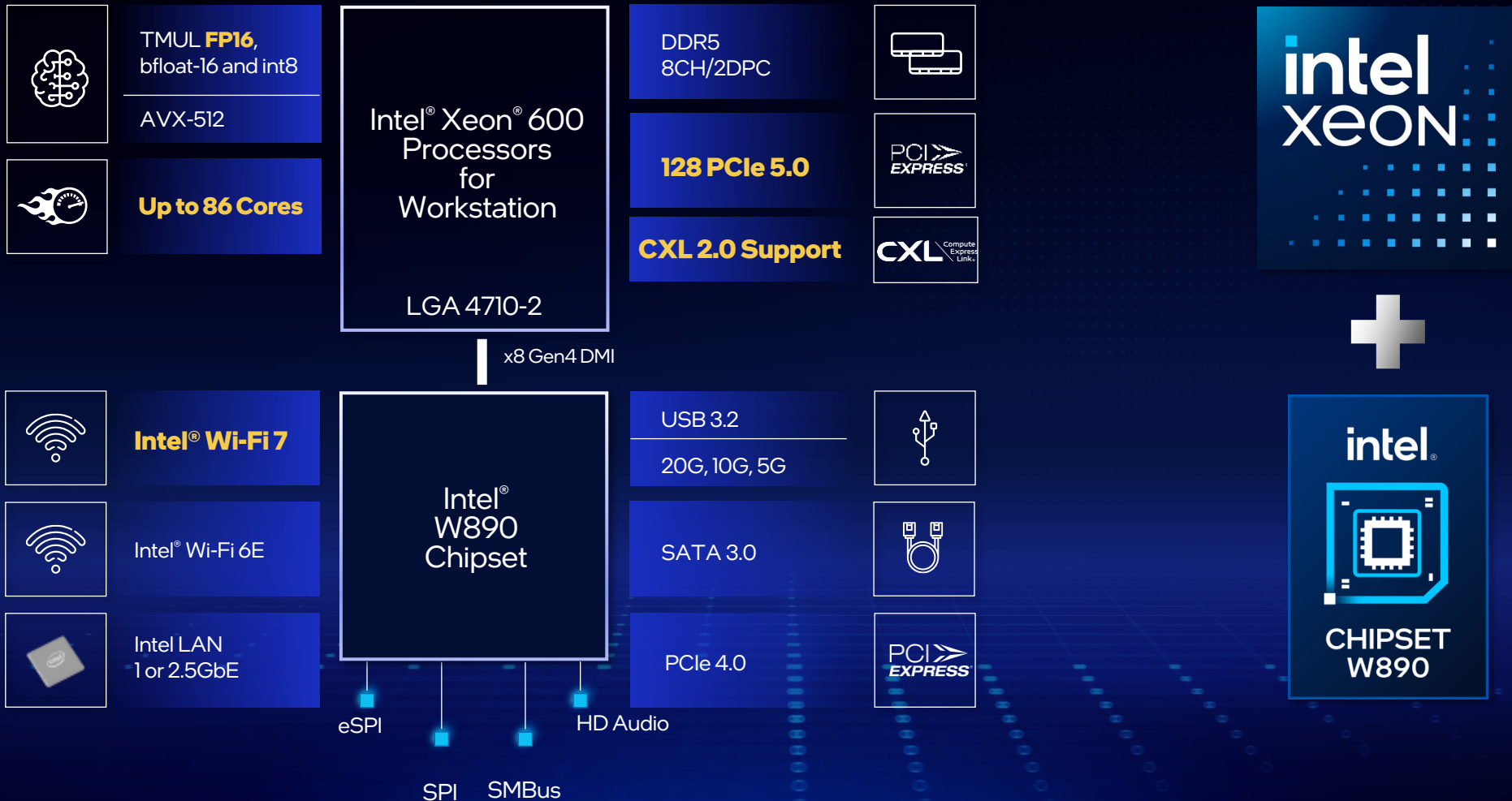


intel_{VPRO}



Expandible Platform

New Features



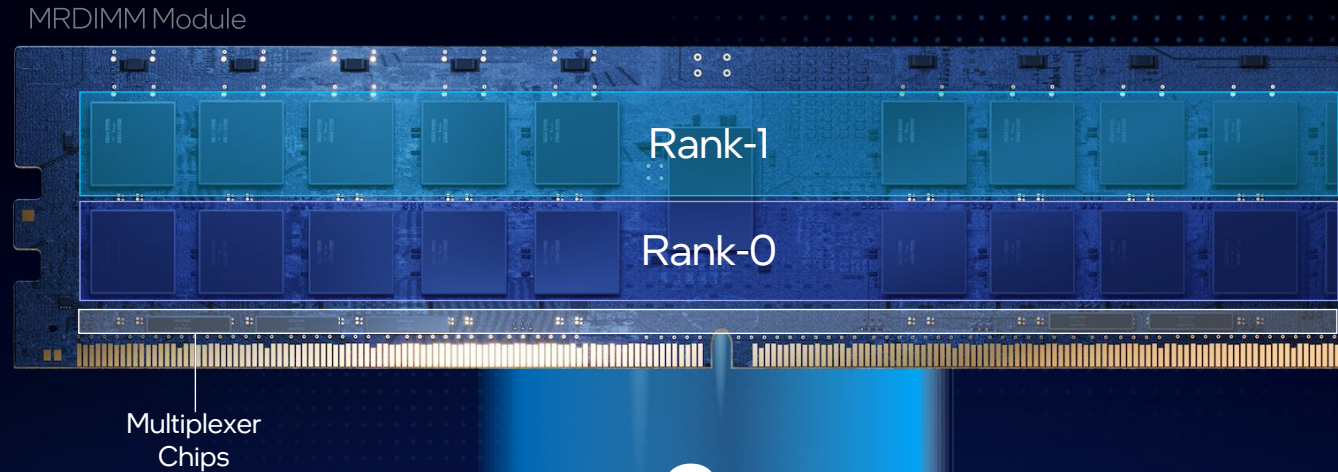
Significant bandwidth advantage with Multiplexed Rank DIMM (MRDIMM)

and Intel Xeon 600 Processors for Workstation

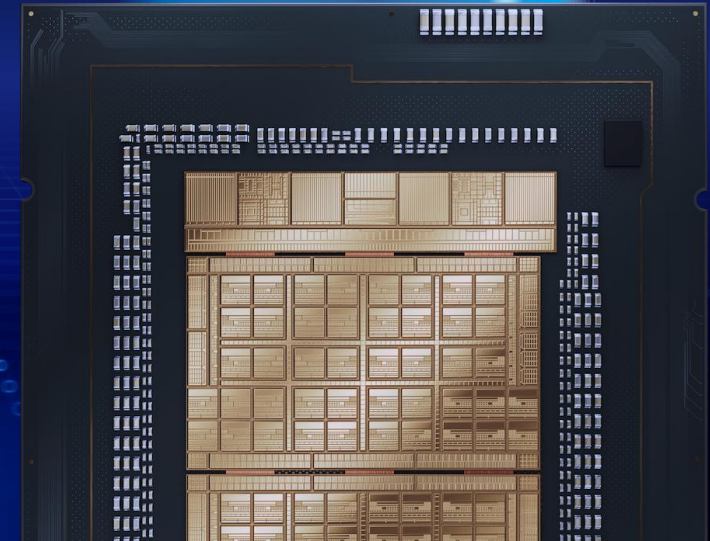
Up to
8000 MT/s
data rate

Improving
memory B/W
scaling

Great for
memory bound
workloads



2x
DDR5 Transfers



Intel® Xeon® 600 Processors for Workstation

SKU	CPU Cores				Cache	Power & Scalability		Memory			Intel vPro® Technology	PCIe 5.0 Lanes	Boxed	RCP Price
	P Cores	Turbo Boost Max 3.0 Freq (GHz)	All Core Turbo Freq (GHz)	Base Freq (GHz)	L3 cache (MB)	Base TDP (Watts)	Unlocked	Memory Channels	DDR5 Memory Speed	MRDIMM Speed				
698X	86	4.8	3.0	2.0	336	350	Yes	8	6400	8000	Yes	128	–	\$7699
696X	64	4.8	3.5	2.4	336	350	Yes	8	6400	8000	Yes	128	Yes	\$5599
678X	48	4.9	3.8	2.4	192	300	Yes	8	6400	8000	Yes	128	Yes	\$3749
676X	32	4.9	4.3	2.8	144	275	Yes	8	6400	8000	Yes	128	Yes	\$2499
674X	28	4.9	4.3	3.0	144	270	Yes	8	6400	8000	Yes	128	–	\$2199
658X	24	4.9	4.3	3.0	144	250	Yes	8	6400	–	Yes	128	Yes	\$1699
656	20	4.8	4.5	2.9	72	210	–	8	6400	–	Yes	128	–	\$1399
654	18	4.8	4.5	3.1	72	200	–	8	6400	–	Yes	128	Yes	\$1199
638	16	4.8	4.5	3.2	72	180	–	4	6400	–	Yes	80	–	\$899
636	12	4.7	4.5	3.5	48	170	–	4	6400	–	Yes	80	–	\$639
634	12	4.6	3.9	2.7	48	150	–	4	6400	–	Yes	80	–	\$499

Intel may make changes to specifications and product descriptions at any time, without notice. Intel® AMX featured in each core

Please visit ark.intel.com or contact your Intel representative to obtain the latest product specifications. Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. All processors support Intel Virtualization Technology (Intel VT-x).

Embargoed till 02 Feb 2026 @ 1:30 PM (PST)

Boxed Processor Information



The following SKUs will be boxed for individual retail:

- Intel® Xeon® 696X Processor (64 Cores)
- Intel® Xeon® 678X Processor (48 Cores)
- Intel® Xeon® 676X Processor (32 Cores)
- Intel® Xeon® 658X Processor (24 Cores)
- Intel® Xeon® 654 Processor (18 Cores)

Boxed product will include package carriers to attach to LGA4710 thermal solutions

Unleashing Heavy-Duty Computing with Overclocking

Providing system integrators the tools to customize their performance solutions

Unlocked "X" SKUs

Intel® Xeon® 600 Processors for Workstation

SKU	CPU Cores	Base TDP (Watts)
Xeon® 698X Processor	86	350
Xeon® 696X Processor	64	350
Xeon® 678X Processor	48	300
Xeon® 676X Processor	32	275
Xeon® 674X Processor	28	270
Xeon® 658X Processor	24	250

- Processor Core Tuning
- AVX2, AVX512, and TMUL Negative Ratio Offset Tuning
- Per-Compute Die Mesh Tuning
- Intel Turbo Boost 2.0 Frequency Tuning
- Intel Turbo Boost Max Technology 3.0 Tuning
- **NEW** Undervolt Protection Voltage Baseline and Max Voltage Limit Reporting
- **NEW** Per-Compute Die and Per-Core Performance Limit Reasons Reporting

Tune Your System with OCCT



Intel and OCBASE partnered to bring processor tuning support to the popular OCCT App!

- ✓ Dynamic Overclocking Controls
- ✓ Linux and Windows support
- ✓ Enhanced Platform Telemetry
- ✓ Trusted Stability Testing
- ✓ Configurable Benchmarking

OCCT
DEFINING STABILITY

Compatible with



Intel® Xeon® 600 Processors for Workstation

Industry Leading Extreme Overclocking Intel® Xeon® 698X Processor

10 World Records
10 Global First Places

In partnership with **ASUS**®

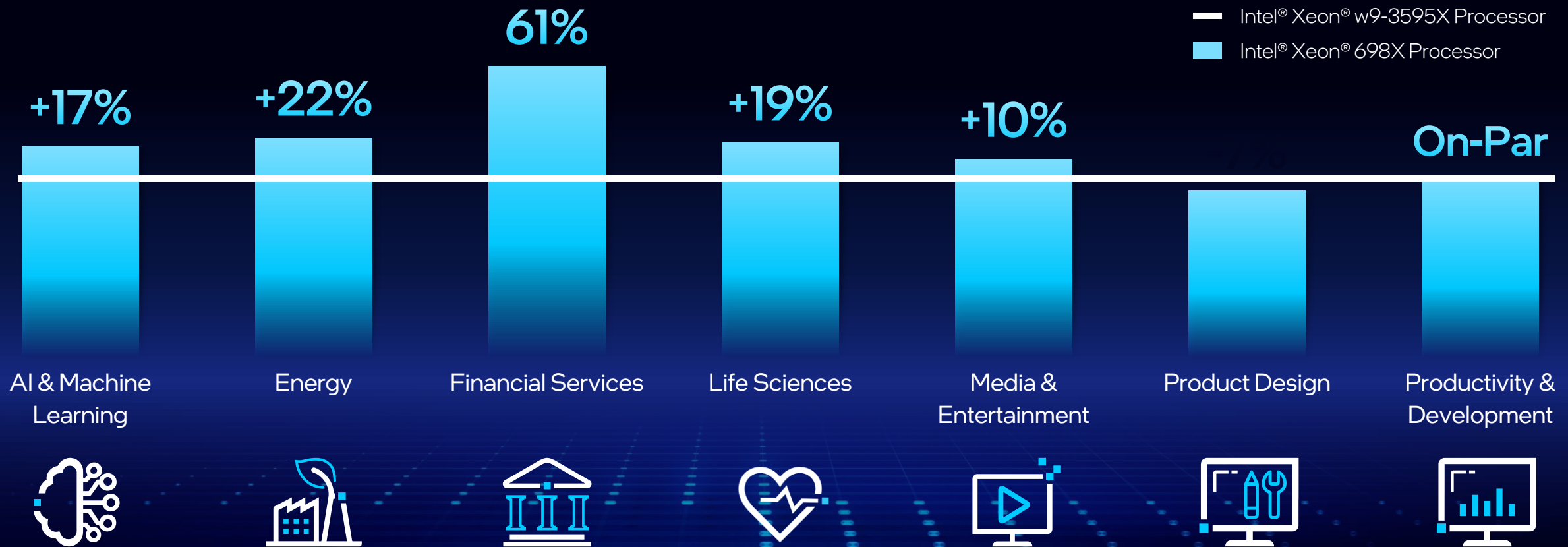
“These results demonstrate what’s possible when processor architecture and motherboard engineering are co-optimized from day one.

Our R&D team worked closely with Intel to fully unleash the overclocking headroom of Xeon® 698X, setting new global benchmarks in extreme performance.”

Jonson Lee
Head of Research & Dev
ASUS

Huge Leaps in Workstation Performance

SPEC Workstation 4.0



Design, Refine, and Simulate the Future

Intel® Xeon® 600 Processors for Workstation deliver the performance you need to design the future



Up to
29%
Faster
visualization

**DASSAULT
SYSTEMES**
Stellar Physically Correct

Up to
27%
faster FEA solve
times

MFEM
Scalable Finite Element
Analysis Solver

Up to
30%
faster CFD
solving

OpenFOAM
Open-source Fluid
Dynamic Solver

Intel® Xeon® 698X Processor vs Intel® Xeon® w9-3595X Processor

See notices & disclaimers for details or visit www.intel.com/PerformanceIndex for workloads and configurations. Results may vary.



Imagine the Impossible

Up to

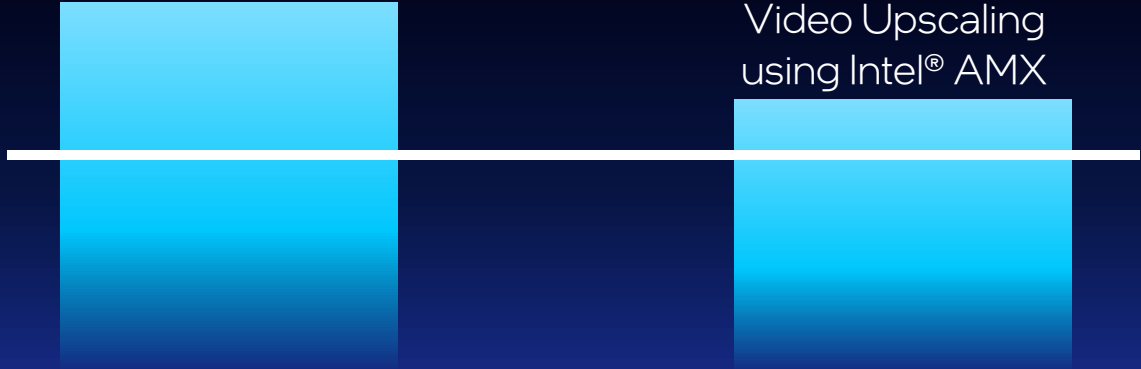
74%
faster rendering

Up to

+29%

Faster AI-Powered
Video Upscaling
using Intel® AMX

Performance



Blender CPU Benchmark
Junkshop

Topaz Labs Video
Video Upscaling

Intel® Xeon® w9-3595X Processor

Intel® Xeon® 698X Processor



The Junk Shop by Alex Treviño. - Rendered in Blender 4.5 using the Cycles Engine

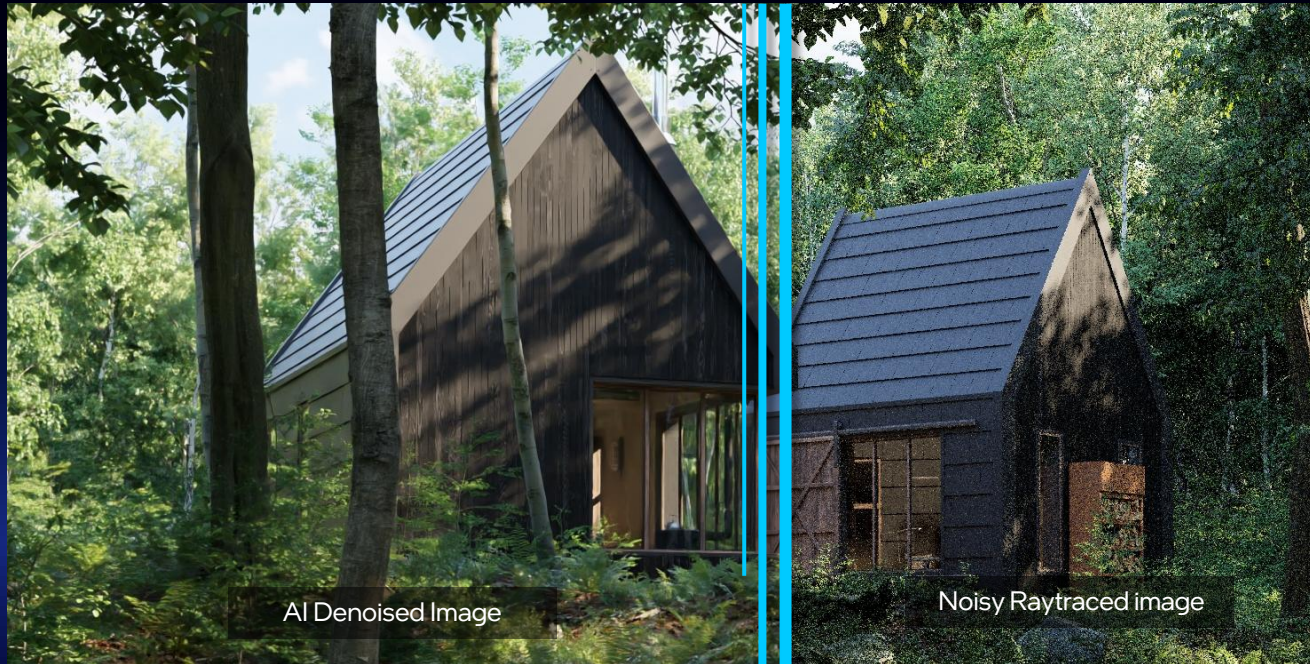
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Embargoed till 02 Feb 2026 @ 1:30 PM (PST)

Intel® Rendering Toolkit – Intel® Open Image Denoise 2.4

Image denoising now accelerated with Intel® AMX (FP16)
exclusively on Intel® Xeon® Processors



AI Denoised Image

Noisy Raytraced image

Accelerated with Intel® AMX (FP16)



Intel® Xeon® 6 Processors with P-Cores
Intel® Xeon® 600 Processors for Workstation

Image credit: Evermotion [15th Anniversary Collection](https://www.evermotion.com/15th-Anniversary-Collection) scene, shown after vs before denoising. To learn more about Intel® Open Image Denoise, visit <https://www.openimagedenoise.org/>

Develop the AI Models of the Future



Up to

24%

faster linear algebra
performance

Up to

18%

faster large data-set
analysis

Up to

16%

faster CPU-based AI
inferencing testing

Total AI Workstation Solution

Intel® AVX-512
Intel® AMX (Int8, Bfloat16,
FP16 datatypes)

Intel®
OpenVINO™
toolkit

Intel®
OneAPI
toolkit

Multi-GPU Support for
ML Training (Up to 8x
PCIe 5.0 GPUs
Supported)

Intel® Xeon® 698X Processor vs Intel® Xeon® w9-3595X Processor

See notices & disclaimers for details or visit www.intel.com/PerformanceIndex for workloads and configurations. Results may vary.

Use the Right Tool for the Right Job

Workstations solutions should match your daily workflow



Desktop Workstations

Intel® Core™ Ultra 200 Desktop Processors + Intel® W880 Chipset



High End Workstations

Intel® Xeon® 600 Processors for Workstation

Latency-Sensitive Interactive & Moderately-Threaded workloads like:

- Content Creation (Photo/Video Editing)
- CAD Modeling (Models that fit within 256GB of system memory)
- Game Development & Testing
- Data Science (Model Exploration of Small Data Sets*)

Highly-Threaded, High-Memory Bandwidth, Large Memory-Capacity & High-PCIe Expandability workloads like:

- FEA, CFD Simulation & Photo Realistic Visualization
- Reality Capture
- CAD/CAM Modeling (Large/Complex models that need >192GB of system memory)
- Complex 3D Character/Scene Creation
- Virtual Production
- Data Prep, AI Development & Machine Learning

Use the Right Tool for the Right Job

Intel® Core Ultra 5 Processor 245K (6P +8E cores)



Up to

23%

higher single-threaded
performance

Up to

27%

higher perf in
CAD workloads



Cinebench 2025 - Single Thread

Autodesk Inventor
SPECWorkstation 4.0

— Intel® Xeon® 636 Processor (12 P-Cores)

■ Intel® Core Ultra 5 Processor 245K (6 P-Cores + 8 E-Cores)

Intel® Xeon® 636 Processor (12 P Cores)



Up to

Up to
22%

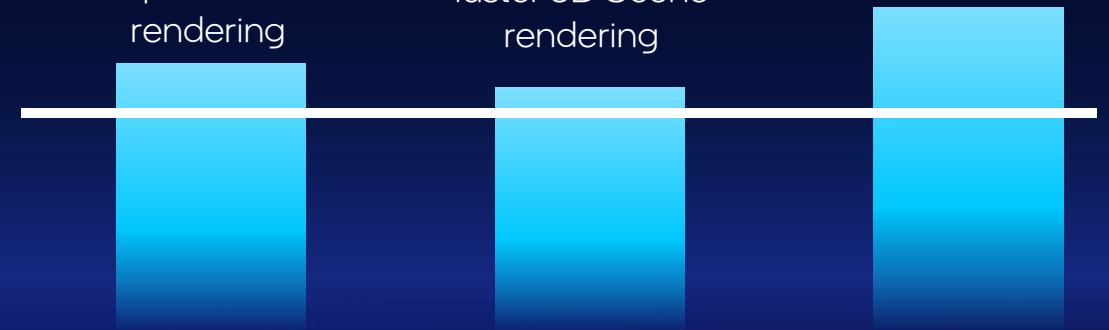
faster photo-realistic
rendering

Up to
11%

faster 3D Scene
rendering

Up to
47%

faster linear algebra
performance



Dassault Steller

Blender - Monster

NumPy & SciPy
Python 3.9.23

— Intel® Core Ultra 5 Processor 245K (6 P-Cores + 8 E-Cores)

■ Intel® Xeon® 636 Processor (12 P-Cores)

See notices & disclaimers for details or visit www.intel.com/PerformanceIndex for workloads and configurations. Results may vary.

Intel® Xeon® 600 Processors for Client Workstations

Unleashed Heavy-Duty Compute

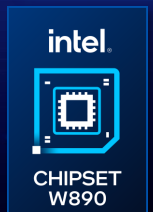
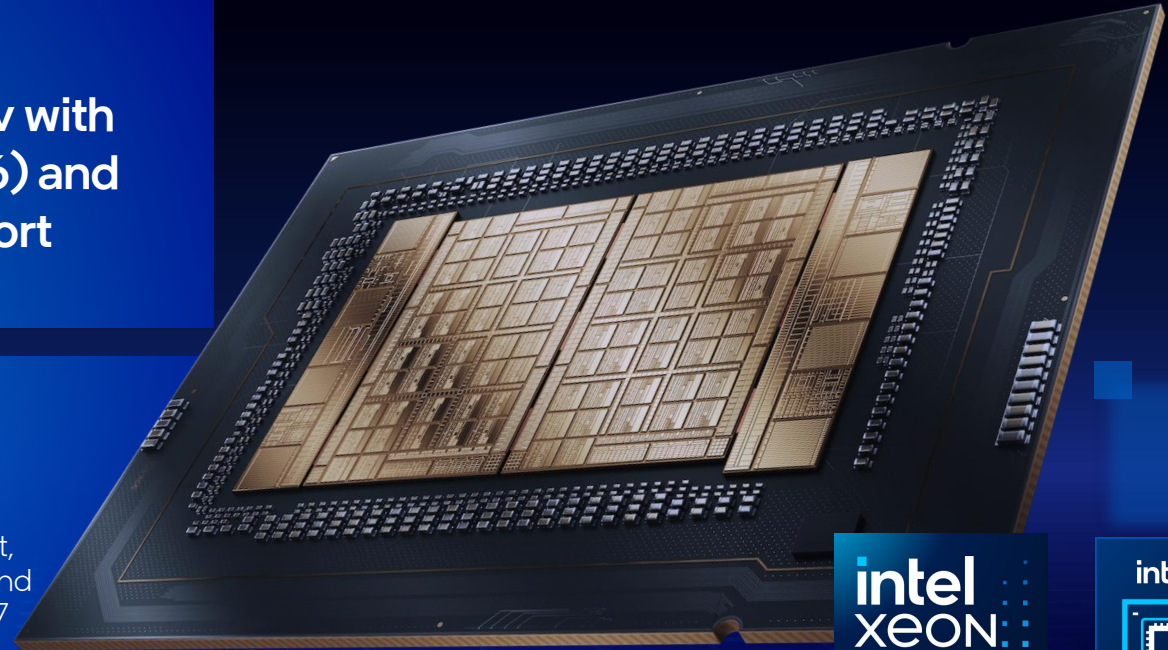
Up to 86 Performance
Cores, Increased L3
Cache

Design for AI Dev with
Intel® AMX (FP16) and
Multi-GPU Support

intel
VPRO for more
Security, Reliability, and
Manageability

Expandible
Platform

Featuring CXL 2.0 Support,
Up to 128 PCIe 5.0 lanes, and
integrated Wi-Fi 6E, Wi-Fi 7
support



Hardware Partners

System Designs



and More

Intel® W890 Motherboards



Availability starting Late-March 2026

2026 Workstation Platforms

Stationary



Desktop Workstations

Intel® Core™ Ultra 200 Desktop Processors + Intel® W880 Chipset

New



High-End Workstations

Intel® Xeon® 600 Processors for Workstation

Mobile

Coming Soon



Essential Mobile Workstations

Series 3 Intel® Core™ Ultra processors

Coming Soon



Slim/Ultra-Slim Mobile Workstations

Series 3 Intel® Core™ Ultra processors
featuring built-in Intel® Arc™ Pro Graphics

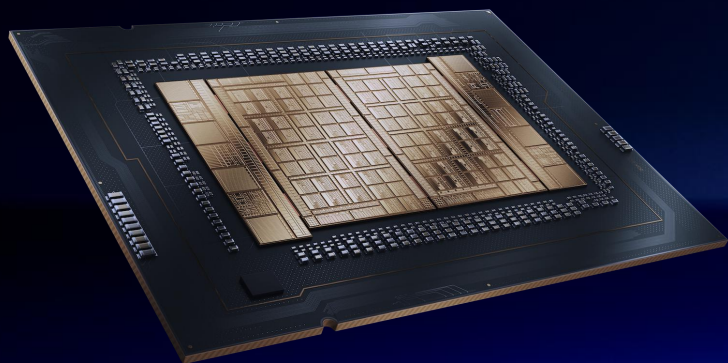


Performance Mobile Workstations

Series 2 Intel® Core™ Ultra 200HX Processors

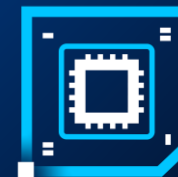
Intel® Xeon® 600 Processors for Workstations

Unleashed Heavy-Duty Compute



intel
xeon

intel®



CHIPSET
W890

Notices and Disclaimers

Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](https://www.intel.com/PerformanceIndex)

Performance results are based on testing as of 20 Jan 2026 and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Results have been estimated or simulated.

Altering clock frequency or voltage may void any product warranties and reduce stability, security, performance, and life of the processor and other components. Check with system and component manufacturers for details.

Intel technologies may require enabled hardware, software or service activation.

No product or component can be absolutely secure.

Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

All product plans and roadmaps are subject to change without notice.

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- "Intel has 15 Plus years of Workstation Industry Leadership" - Source: IDC Workstation Tracker – 2008-2025 – Processor Vendor – Intel with greater than 90%+ Market Share and JPR Workstation Report as of Q3'2025

Performance Disclaimers – Pt.1

See www.intel.com/PerformanceIndex for workloads and configurations. Results may vary.

- “Up to 9% higher ST Performance” and “Up to 61% higher MT Performance” - As measured by Cinebench 2026 - CPU Single Thread & Multiple Threads scores on an Intel® Xeon® 698X processor vs an Intel® Xeon® w9-3595X.
- “10 Extreme Overclocking World Records” - World Records as recorded by HWBot.org on 01/20/2026 on the following benchmarks: Geekbench4 Multicore, Geekbench5 Multicore, Y-Cruncher Pi 25M, Y-Cruncher 1B, Y-Cruncher 2.5B, Y-Cruncher 5B, Y-Cruncher 10B, Y-Cruncher 28B, Timespy Extreme CPU, 3D Mark CPU Profile Max Cores
- “10 Extreme Overclocking Global First Places” – Global First Places as recorded by HWBot.org on 01/20/2026 on the following benchmarks using 86 cores: 7-Zip (Benchmate), Geekbench3 Multi Core, Geekbench6 Multi-core, Cinebench R20, Cinebench R23, Cinebench R15, GPUPI for CPU 1B, Y- Cruncher Pi BBP 1B, Y- Cruncher Pi BBP 10B, Y- Cruncher Pi BBP 100B
- “Up to 17% faster in AI & Machine Learning workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 - AI & Machine Learning.
- “Up to 22% faster in Energy workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – Energy
- “Up to 61% faster in Finance Services workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – Financial Services
- “Up to 19% faster in Life Sciences workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – Life Sciences
- “Up to 10% faster in Media & Entertainment workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 - Media & Entertainment.
- “On par in Productivity & Development workloads” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 - Productivity & Development, on par = +/-3%.
- “Up to 29% faster photo-realistic rendering” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by Dassault Steller Physically Correct Renderer- “GreenCar” benchmark.
- “Up to 27% faster FEA solve times” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – MFEM workload.
- “Up to 30% faster CFD solve times” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – OpenFOAM workload

Performance Disclaimers – Pt.2

- “Up to 70% faster rendering” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by Blender Benchmark (Blender 4.5.0) - CPU junkshop.
- “Up to 29% faster Video Upscaling” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by Topaz Video, 1920 X 1080 Gaia 4X, utilizing Intel® Advanced Matrix Extensions.
- “Up to 24% faster linear algebra performance” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by geomean of performance across linear algebra algorithms in Intel Python distribution of NumPy/SciPy – iBench. See Github for details: <https://github.com/IntelPython/ibench>
- “Up to 18% faster large data-set analysis” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – Data Science workload
- “Up to 16% faster CPU-based AI inferencing testing” with an Intel® Xeon® 698X vs. Intel® Xeon® w9-3595X. As measured by SPECworkstation™ 4.0 – ONNX Inference
- “Up to 23% better Singlethread performance” with an Intel Core® Ultra™ 5 Processor 245K vs. Intel® Xeon® 636. As measured by Cinebench 2026 CPU Single Thread.
- “Up to 27% higher performance in CAD workloads” with an Intel Core® Ultra™ 5 Processor 245K vs. Intel® Xeon® 636. As measured by SPECworkstation™ 4.0 – Autodesk Inventor.
- “Up to 22% faster photo-realistic rendering” with an Intel® Xeon® 636 vs. Intel Core® Ultra™ 5 Processor 245K. As measured by Dassault Steller Renderer- “GreenCar” benchmark.
- “Up to 11% faster rendering” with an Intel® Xeon® 636 vs. Intel Core® Ultra™ 5 Processor 245K. As measured by Blender Benchmark (Blender 4.5.0) - CPU Monster.
- “Up to 47% faster linear algebra performance” with an Intel® Xeon® 636 vs. Intel Core® Ultra™ 5 Processor 245K. As measured by geomean of performance across linear algebra algorithms in Intel Python distribution of NumPy/SciPy – iBench. See Github for details: <https://github.com/IntelPython/ibench>

Hardware Configurations

- **Intel® Xeon® 698X Processor** (86C/172T) Base Frequency: 2.0GHz, Max Boost 4.8 GHz, TDP: 350W, Memory: 8x32GB of Samsung DDR5 ECC RDIMM - 6400 MT/s; SSD: Samsung 9100 Pro 1TB On CPU PCIe Slot with M.2 Riser Card; OS :Windows 11 Enterprise (25H2 v26200.7462) Graphics: RTX PRO 6000 Blackwell Workstation Edition; Graphics Driver Version:v32.0.15.8208; Motherboard Name: Granite Rapids Expert WS; Motherboard Type (Production, CRB, RVP):RVP; Resolution (Native):1920x1080;PC BIOS:v3663.P82.2511151328; OS Power Plan: High Performance; VBS: Running; Windows Defender: On; Tamper Protection: On
- **Intel® Xeon® w9-3595X Processor** (60C/120T) Base Frequency: 2.0 GHz; Max Boost 4.8 GHz; TDP: 385W, Memory:8x32GB Samsung DDR5 ECC 4800 MHz; SSD: Samsung 9100 Pro 1TB on CPU PCIe Slot with M.2 Riser Card; OS :Windows 11 Enterprise; OS Version:25H2 v26200.7462;Graphics:RTX PRO 6000 Blackwell Workstation Edition; Graphics Driver Version:v32.0.15.8208;Motherboard Name: Intel FISHHAWKFALLS; Motherboard Type (Production, CRB, RVP):RVP; Resolution (Native):1920x1080;PC BIOS:FHFDCRB1.868.0060.D82.2509231057;Power Plan: High Performance; VBS:Running; Defender: On; Tamper Protection: On
- **Intel® Xeon® 636 Processor** (12C/24T) Base Frequency: 3.5 GHz, Max Boost 4.7 GHz;TDP:170W, Memory:4x32GB Samsung DDR5 ECC RDIMM - 6400 MHz; SSD: Samsung 9100 Pro 1TB On CPU PCIe Slot with M.2 Riser Card; OS :Windows 11 Enterprise; OS Version:25H2 v26200.7462;Graphics:RTX PRO 6000 Blackwell Workstation Edition; Graphics Driver Version:v32.0.15.8208;Motherboard Name: Granite Rapids Expert WS; Motherboard Type (Production, CRB, RVP):RVP; Resolution (Native):1920x1080;PC BIOS:v3663.P82.2511151328;Power Plan: High Performance; VBS: Running; Defender: On; Tamper Protection: On
- **Intel® Core™ Ultra 5 245K Processor** (6P +8E-Cores) Base Frequency: P-Core 4.2GHz, E-Core 3.6 GHz; Max Boost 5.2 GHz; TDP: Performance-core :4.2GHz, Efficient-core: 3.6 GHz;PL1 Power Limit (Static) :125W;PL2 Power Limit (Static):159W;Power Supply Model:159W;Memory:2x 32GB Micron DDR5 ECC CUDIMM - 6400 MHz; SSD: Samsung 9100 Pro 1TB Onboard M.2 CPU slot; OS :Windows 11 Pro; OS Version:25H2 v26200.7462;Graphics:RTX PRO 6000 Blackwell Workstation Edition; Graphics Driver Version:v32.0.15.8208;Motherboard Name: Asus Pro WS W880-ACE SE; Motherboard Type (Production, CRB, RVP): Production; Resolution (Native):1920x1080;PC BIOS:1802;Power Plan: High Performance; VBS: Running; Defender: On; Tamper Protection: On"

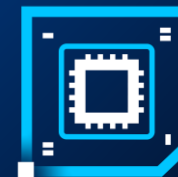
Intel® Xeon® 600 Processors for Workstations

Unleashed Heavy-Duty Compute



intel
xeon

intel®



CHIPSET
W890