

Intel® Xeon® W-3300 Processors

Quick Reference Guide



Built for advanced workstation professionals, Intel® Xeon® W-3300 processors offer uncompromised performance, expanded platform capabilities, and enterprise-grade security and reliability in a single-socket solution.



NEW Core Architecture

IMPROVED Performance Across Key Workloads

Up to
**27%
Faster**
Product Development
Workloads²
Intel® Xeon® W-3365 Processor
VS AMD Threadripper Pro
3975WX Processor

Up to
**26%
Faster**
Energy, Oil, and
Gas Workloads³
Intel® Xeon® W-3335 Processor
VS AMD Threadripper Pro
3955WX Processor

Up to
**36%
Faster**
Performance in Data
Science Operations
in SciKit Learn⁴
Intel® Xeon® W-3365 Processor
VS AMD Threadripper Pro
3975WX Processor



**Intel® Deep
Learning Boost**

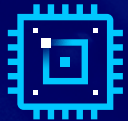
Vastly improving performance
for deep learning workloads¹

NEW Intel® Optane™ SSD
P5800X support*



**Intel® AVX-512
Instruction Support**

NEW Intel® C621A Chipset



**Error-Correcting Code
Memory Support**

NEW Enhanced Expandability

Up to 4TB DDR4-3200
Up to 64 CPU PCIe 4.0 lanes
Up to 10 USB3 (5G) ports



^{1,2,3,4} See source and performance disclaimers in Notices & Disclaimers for details. See backup for workloads and configurations or visit www.Intel.com/PerformanceIndex. Results may vary.
* Intel® Optane™ memory requires specific hardware and software configuration. Visit intel.com/OptaneMemory for configuration requirements.

SKU Chart

Processor Number	Cores/Threads Per Socket	Base Clock Speed	Intel® Turbo Boost Single Core Turbo Frequency	Intel® Turbo Boost All Core Turbo Frequency	Intel® Smart Cache	Total Processor PCIe* 4.0 Lanes	TDP	Memory Capacity	Memory Support	Error Correcting Code (ECC) Memory Support	Reliability, Availability, and Serviceability (RAS)
Intel® Xeon® W-3375 Processor	38/76	2.5 GHz	Up to 4.0 GHz	Up to 3.3 GHz	57 MB	64	270 W	4 TB	8 Channel DDR4-3200	✓	✓
Intel® Xeon® W-3365 Processor	32/64	2.7 GHz	Up to 4.0 GHz	Up to 3.5 GHz	48 MB	64	270 W	4 TB	8 Channel DDR4-3200	✓	✓
Intel® Xeon® W-3345 Processor	24/48	3.0 GHz	Up to 4.0 GHz	Up to 3.7 GHz	36 MB	64	250 W	4 TB	8 Channel DDR4-3200	✓	✓
Intel® Xeon® W-3335 Processor	16/32	3.4 GHz	Up to 4.0 GHz	Up to 3.7 GHz	24 MB	64	250 W	4 TB	8 Channel DDR4-3200	✓	✓
Intel® Xeon® W-3323 Processor	12/24	3.5 GHz	Up to 3.9 GHz	Up to 3.7 GHz	21 MB	64	220 W	4 TB	8 Channel DDR4-3200	✓	✓

Intel® processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. All processors are lead-free (per EU RoHS directive July 2006) and halogen free (residual amounts of halogens are below November 2007 proposed IPC/JEDEC J-STD-709 standards) All processors support Intel® Virtualization Technology (Intel® VT-x)



- Intel® Deep Learning Boost 'Up To 3x Average Inference Performance Gains': As measured by the geomean across multiple deep learning framework workloads (Apache MXNet, TensorFlow, PyTorch, and Caffe). Results for Intel® Xeon® W-3300 processors have been estimated based on measured data comparing dual-socket Intel® Xeon® Platinum 8280 processor using 8-bit integer operations with Intel® Deep Learning Boost on ResNet-50 versus dual-socket Intel® Xeon® Platinum 8180 processor using 32-bit floating point operations. Test done by Intel as of 3/1/2019.
- Based on SPECworkstation 3 v3.1 Product Development score results on Intel® Xeon® W-3365 processor vs. AMD Threadripper Pro 3975WX processor. Performance results are based on results as of 05/20/2021 and may not reflect all publicly available updates. See configuration disclosure for details. No product can be absolutely secure. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.
- Based on SPECworkstation 3 v3.1 Energy score results on Intel® Xeon® W-3335 processor vs. AMD Threadripper Pro 3955WX processor. Performance results are based on results as of 05/20/2021 and may not reflect all publicly available updates. See configuration disclosure for details. No product can be absolutely secure. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.
- Based on SciKitLearn performance across multiple data science algorithms results on Intel® Xeon® W-3365 processor vs. the AMD Threadripper Pro 3975WX processor. Performance results are based on results as of 07/27/2021 and may not reflect all publicly available updates. See configuration disclosure for details. No product can be absolutely secure. For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.

Configurations

SPECworkstation 3 v3.1 performance measured on platforms with: Intel® Xeon® W-3365 processor, PL1= 270W TDP, 32C/64T, Turbo up to 4.0GHz, Motherboard Name: Gigabyte MU72-SUO (C621A), Motherboard type: Pre-Production, BIOS: D07 Graphics: Nvidia Quadro RTX4000, Gfx version: 461.40, Memory: 128GB (8x16GB) DDR4-3200MHz ECC RDIMMs, Storage: 1TB Samsung 980 Pro, OS: Microsoft Windows® 10 Pro, Build Version 20H2 (19042.630), CPU Cooler: Liquid Cooling, EKWB-PRO LGA4189 1S Validation Kit. **VERSUS:** AMD Threadripper Pro 3975WX, 32C/64T, TDP: 280W, Turbo up to 4.2GHz, System: Lenovo P620, Graphics: Nvidia Quadro RTX4000, Gfx version: 452.57, Memory: 8x8GB (DDR4-3200MHz) ECC RDIMM, Storage: 1TB Samsung 970 EVO Plus SSD, OS: Microsoft Windows® 10 Pro (Build 19042.630) 20H2, CPU Cooler: Air Cooler: Lenovo P620.

SPECworkstation 3 v3.1 performance measured on platforms with: Intel® Xeon® W-3335 processor, PL1= 270W TDP, 16C/32T, Turbo up to 4.0GHz, Motherboard Name: Gigabyte MU72-SUO (C621A), Motherboard type: Pre-Production, BIOS: D07 Graphics: Nvidia Quadro RTX4000, Gfx version: 461.40, Memory: 128GB (8x16GB) DDR4-3200MHz ECC RDIMMs, Storage: 1TB Samsung 980 Pro, OS: Microsoft Windows® 10 Pro, Build Version 20H2 (19042.630), CPU Cooler: Liquid Cooling, EKWB-PRO LGA4189 1S Validation Kit. **VERSUS:** AMD Threadripper Pro 3955WX, 16C/32T, TDP: 280W, Turbo up to 4.4GHz, System: Lenovo P620, Graphics: Nvidia Quadro RTX4000, Gfx version: 452.57, Memory: 8x8GB (DDR4-3200MHz) ECC RDIMM, Storage: 1TB Samsung 970 EVO Plus SSD, OS: Microsoft Windows® 10 Pro (Build 19042.630) 20H2, CPU Cooler: Air Cooler: Lenovo P620.

SciKit Learn performance measured on platforms with: Intel® Xeon® W-3365, PL1=250W, 32/64, Turbo up to 4.0GHz, Motherboard: ASRock C621A WS, Motherboard Type: Pre-Production, BIOS: 2.21.1280, Graphics: NVIDIA Quadro P2000, GFX Driver Version: 462.96, Memory: 192GB (6x32GB, 3200 MHz) DDR4 ECC RDIMM, Storage: 960GB Intel(R) Optane(TM) 905P, OS: Linux, OS Version: Ubuntu, OS Build: 20.04.2 LTS **VERSUS:** AMD Threadripper Pro 3975WX, PL1=280W, 32/64, Turbo up to 4.2GHz, Motherboard: Lenovo 1046, Motherboard Type: Production, BIOS: 1102, Graphics: NVIDIA Quadro P2000, GFX Driver Version: 462.96, Memory: 256GB (8x32GB, 3200 MHz) DDR4 ECC RDIMM, Storage: 1.5 TB Intel(R) Optane(TM) 905P, OS: Linux, OS Version: Ubuntu, OS Build: 20.04.2 LTS

Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure. 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. Your costs and results may vary.

Results have been estimated or simulated.

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