The Intel® Xeon® W-3200 Processors are purpose built and optimized for advanced workstation professionals in a single-socket solution. These processors are designed for heavily and lightly threaded, I/O-intensive workloads across architecture, engineering, and construction (AEC), media and entertainment (M&E), artificial intelligence (AI), oil & gas, and data sciences.

OUTSTANDING PERFORMANCE

Spend less time waiting and more time creating. Fast visualization, simulations and rendering with up to 28 cores, 56 threads, and 2 TB DDR4 RDIMM in a single-socket solution. Intel® Turbo Boost Max Technology 3.0 for performance boost when you need it and accelerate AI performance with the new Intel® Deep Learning Boost.

EXPANDED PLATFORM CAPABILITIES

Total of 84 platform PCI Express* 3.0 lanes for more I/O throughput for graphics, storage, and network expandability. Enhanced media performance with Intel® VROC.

RELIABLE, MANAGEABLE, MORE SECURE

Increased accuracy in designs and simulations by eliminating workloads or system crashes with built-in Error Correction Code (ECC) hardware circuitry. Ensure platform and data integrity with built-in RAS. Utilize hardware-enhanced security features, identity protection technology and manageability with the Intel® vPro™ platform.
From its new Intel® Mesh Architecture and widely expanded resources to its hardware-accelerating technologies like Intel® AVX-512, Intel® Xeon® W-3200 processor-based workstation platforms enable a new level of outstanding performance. Whether your application scales based on processor frequency or on the number of cores and threads, Intel® Xeon® W-3200 processors provide a flexible range of options with processor increased frequencies of up to 4.6 GHz Intel® Turbo Boost Max Technology 3.0.

In the Intel® Xeon® W-3200 processor platform, the Intel® Mesh Architecture delivers up to 28 cores, the Last Level Cache (LLC), total of 6 DDR4 memory channels, and 64 processor PCIe* lanes are shared among all the cores, giving access to large resources across the entire die and creating dynamic scalability without sacrificing performance.
- **NEW** – Intel® Deep Learning Boost for Artificial Intelligence Development workloads

- **NEW** - High frequency performance of up to 4.6 GHz with Intel® Turbo Boost Max Technology 3.0

- **NEW** - DDR4 memory capacity of up to 2TB with speeds of up to 2933 MHz

- **NEW** - Increased total number of Processor PCIe* lanes of up to 64 lanes

- Built-in Error-Correcting Code (ECC) support

- Built-in Reliability, Availability and Serviceability (RAS) support

- Hardware enhanced security features with Intel® vPro™ platform support

- Intel® Virtual RAID On CPU (VROC) support

- Intel® Optane™ SSD 905P support
More Protected Data

Help protect workstations from potential crashes and changes in data due to single-bit errors. Error-Correcting Code (ECC) memory is a platform technology that automatically detects and repairs single-bit errors on-the-fly to help keep heavily or lightly workloads running reliably and free of data corruption delivering accuracy to simulations and designs.

Data Integrity

Reliability, availability, and serviceability (RAS) is a built-in platform feature that helps ensure platform and data integrity via fault avoidance, detection, correction/recovery, and failure identification and reconfiguration.

Security and Manageability

Intel® vPro™ technology is supported on the Intel® Xeon® W-3200 processor-based platform and delivers hardware-enhanced security features, identity protection technology and manageability.
# PERFORMANCE WHEN IT MATTERS

## Core & Thread Count

| Up To 28 Cores | Up To 56 Threads |

**IT MATTERS FOR WORKLOADS THAT UTILIZE HIGH CORE & THREAD COUNT**

### Rendering & Ray Tracing
- KeyShot®, Arnold Renderer®, Pixar RenderMan® and Maxwell Render®

### Deep Learning Frameworks
- Caffe, Kaldi®, MXNet®, ONNX®, TensorFlow, OpenVINO™, PyTorch®

## Turbo & Turbo Boost Max Frequency

| Up To 4.4 GHz Turbo** | Up To 4.6 GHz Turbo Boost Max** |

**IT MATTERS FOR WORKLOADS THAT UTILIZE HIGH CORE FREQUENCIES**

### Simulation
- ANSYS Solvers®, SolidWorks Simulation®, Creo Simulate®

### Design & Modeling
- Autodesk Inventor®, Revit®, SolidWorks, Creo, Siemens NX PLM®, Autodesk Civil 3D®

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**Workloads for High Core & Thread Counts or High Core Frequency**

### 3D, VR, Game Development & VR Content Creation
- Adobe Dimension®, 3dsMax®, Maya®, Autodesk VRED®, Autodesk Stingray®, Autodesk ReCap®, Unity®, Unreal Engine®, Maxon Cinema 4D®, Blender*

### Video Editing, Post Production & Motion Graphics

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*** Increased benefit for Artificial Intelligence development with Intel® Deep Learning Boost
Professional Workstation Storage Support

A balanced workstation platform goes beyond just raw compute, memory, and network performance. Storage innovations can drive significant improvements in efficiency and performance of data-hungry workloads. Intel® Xeon® W-3200 processors feature key storage enhancements delivering high throughput and low latency to break through data access bottlenecks.

**Intel® Software for Storage**

**Intel® Virtual RAID on CPU (Intel® VROC)**
Directly attach NVMe* SSDs to the CPU PCIe lanes to unleash NVMe* RAID performance at low power and low TCO.

**Intel® Rapid Storage Technology for SATA (Intel® RSTe)**
Dynamic storage accelerator accelerates the performance of your SSD by dynamically adjusting system power management policies to deliver faster performance during heavy multitasking compared to default power management.

**Intel® Cache Acceleration Software (Intel® CAS)**
A cost-effective way to accelerate applications, combined with Intel® Solid State Drives, Intel® CAS interoperates with system memory to create a multilevel cache that automatically determines the best cache level for active data.
Responsive and Rapid PRO Workstations SSD

Substantiation for industry leading combination of low latency, high endurance, and high throughput. The Intel® Optane™ SSD 905P is an innovative solution optimized to break through storage bottlenecks providing a new data tier. The Intel® Optane™ SSD 905P is for high-performance desktops and workstations targeted at professional users, creators, and enthusiasts.
Understanding the workload is the key for choosing the right Intel® Xeon® W-3200 processor for the job. When application multitasking demand increases, then processor core count increases to meet the demand. It is important to note overall workstation capability presents as combination of compute, storage and network subsystems working systemically. Ensure that the appropriate ancillary components are factored in at design stage.
**NEW INTEL® XEON® W-3200 PROCESSORS**

**BUILT FOR ADVANCED WORKSTATION PROFESSIONALS IN A SINGLE SOCKET SOLUTION**

**FEATURE** | **DESCRIPTION**
---|---
Processor Manufacturing Process | Intel®'s 14nm process technology featuring Intel® Mesh Architecture
Maximum Core Count Supported | Up to 28
Maximum Base Frequency Supported | Up to 3.7 GHz
Intel® Turbo Max Boost Technology 3.0 Frequency Supported | Up to 4.6 GHz
Intel® Smart Cache | Up to 38.5 MB of L3 Cache featuring rebalanced Intel® Cache hierarchy
Intel® Advanced Vector Extension 512 (Intel® AVX-512) Support | Intel® AVX-512 with up to 2 FMA support
Socket Type | LGA-3647
System Memory Support | 6 channels 1DPC/2DPC of DDR4 2933 MHz with ECC support
Maximum System Memory Supported | Up to 3 TB in a dual-socket configuration
Supported Chipset | Intel® C621 Chipset
PCH I/O | PCI Express® 3.0 – Up to 20 lanes
USB* 3.0 – Up to 10 ports
SATA* 3.0 – Up to 14 ports
DMI – Up to 4 lanes, Gen 3
## Workstation Processors Reference Table

The NEW Intel® Xeon® W-3200 Processor SKUs

<table>
<thead>
<tr>
<th>Processor Number</th>
<th>Base Clock Speed (GHz)</th>
<th>Intel® Smart Cache</th>
<th>Cores/Threads</th>
<th>Intel® Turbo Boost Max Technology 3.0 (GHz)</th>
<th>Intel® Turbo Boost Technology maximum single core turbo frequency (GHz)</th>
<th>Processor PCIe® Lanes</th>
<th>Memory Speed</th>
<th>Memory Channels</th>
<th>Maximum Memory Capacity</th>
<th>TDP (W)</th>
<th>RAS</th>
<th>ECC Support</th>
<th>Intel® vPro™</th>
<th>ISM²</th>
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For more information on the Intel® Xeon® processors for workstations, visit [www.intel.com/products/server/processors](http://www.intel.com/products/server/processors)

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® Optane™ memory requires specific hardware and software configuration. Visit [www.intel.com/Optanememory](http://www.intel.com/Optanememory) for configuration requirements.

Intel® Standard Manageability

1. With 1 DIMM per channel. Additional DIMM loading on any channel may impact maximum memory speed by one bin.

Performance results are based on testing as of the date set forth in the configurations and may not reflect all publicly available security updates. See configuration disclosure for details. No product or component can be absolutely secure.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit intel.com/benchmarks

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