Intel® Xeon® W-1200 processors (succeeding the Intel® Xeon® E-2200 processors) deliver great performance for entry workstation users with integrated processor graphics alongside the added reliability and confidence of Error Correcting Code (ECC) memory. Get outstanding performance plus best-in-class manageability features and support for groundbreaking technologies that enable you to visualize, simulate, research and work with greater accuracy than ever before.

PROFESSIONAL PERFORMANCE WHEN IT MATTERS
- Up to 10 Cores | Up to 20 Threads
- Up to 4.1 GHz Base
- Up to 5.3 GHz with Intel® Thermal Velocity Boost1
- NEW Intel® Turbo Boost Max Technology 3.0
- Support for up to 128 GB DDR4-2933 ECC Memory2
- Intel® Wi-Fi AX202 (Gig+) support using CNVi3

FEATURED TECHNOLOGIES
- Intel® Hyper-Threading Technology
- Up to 40 processor PCIe* lanes
- Error-correcting code (ECC) memory support
- Thunderbolt™ 3 support
- Intel® Optane™ technology support
- Intel vPro® platform support
A NEW LEVEL OF PERFORMANCE

Designed to deliver an entry-level platform for professionals requiring a true workstation, Intel® Xeon® W-1200 processors are specially optimized for a wide range of workflows and industries such as health and life sciences, financial services, architecture, engineering and construction (AEC).

INCREASED CAPABILITY

NEW—Intel® Thermal Velocity Boost Technology
Get up to a blazing 5.3 GHz clock speed, right out of the box for fast performance. Intel® Thermal Velocity Boost increases processor frequency when there is available thermal headroom.¹

NEW—UP TO 5.3 GHz
Even the most complex workflows won’t slow down—enhanced core frequencies enable you to work with breath-taking speed.

ENHANCED PERFORMANCE

NEW—2.5G Intel® Ethernet Controller i225 support⁴
Network speed is essential in today’s fast-paced work environment. The 2.5G Intel® Ethernet Controller i225 sets the standard for fast, flexible and easy connectivity to make the most of existing network infrastructure.

FAST CONNECTIVITY

NEW—Intel® Wi-Fi 6 AX201 & Thunderbolt™ 3 support
Get best-in-class connectivity with 2.5G Intel® Ethernet Connection i225⁴, integrated Intel® Wi-Fi 6 AX201⁵,⁶ & Thunderbolt™ 3 support.⁷

Support for Dual-Channel ECC DDR4-2933²
Fast ECC memory support for exceptional uptime, elite multi-tasking and uncompromised responsiveness—enabling you to easily analyze large files and keep things moving.

PROFESSIONAL PERFORMANCE THAT’S BUILT TO WORK

Experience the great performance of the latest Intel® Xeon® W-1200 processors and Intel® W480 chipset, a platform designed for the next-generation workstations and intended for use by professionals seeking performance and reliability.
ENTERPRISE-GRADE RELIABILITY

When it comes to business, data integrity and system up-time is a priority for workstation users. That’s why Intel® Xeon® W-1200 processors feature Intel® vPro™ manageability and support for fast ECC memory so your critical data is protected from random soft-memory bit-errors and IT can easily manage the system.

BUILT TO HANDLE TODAY’S DEMANDING APPLICATIONS

Today’s professional applications—from game development to health and life sciences modelling to complex engineering—demand high-performance computing. With Intel® Xeon® W-1200 processors, these applications can take advantage of frequencies of up to 5.3 GHz with Intel® Thermal Velocity Boost and new Intel® Turbo Boost Max Technology 3.0—which provides an automatic performance boost for single-threaded applications. Support for up to 128GB of DDR4-2933 ECC memory completes the package—enabling fast memory speeds while also helping ensure data integrity for critical uses.

BOOST PRODUCTIVITY

Intel® Xeon® W-1200 processors can help you get to the finish line fast and with accuracy.

REDUCED WAIT TIME

Up to 10 Cores | 20 Threads
Your time is too valuable to waste waiting for an answer. With up to 10 cores, 20 threads and support for 128 GB of ECC DDR4 memory, rendering and simulation modelling can be achieved quickly and accurately.

EXPANDED PLATFORM CAPABILITIES

With up to 40 available platform PCIe 3.0 lanes, Intel® Xeon® W-1200 processors enable unparalleled I/O throughput for networking, graphics and storage. You can run multiple graphics cards, storage devices, accelerators, capture cards and/or network controllers.
ENHANCED RELIABILITY

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 memory errors on-the-fly resulting in enhanced reliability.

ADVANCED CONNECTIVITY & VISUAL SUPPORT

Unleash the flexibility to do more with best-in-class connectivity and integrated graphics enabling advanced visual support.

- GET BEST-IN-CLASS CONNECTIVITY with 2.5G Intel® Ethernet Connection I225, Thunderbolt™ 3, & integrated Intel® Wi-Fi 6 AX201.
- ENABLE MODERN VISUAL EXPERIENCES with 4K, HDR, Wide Color Gamut, HDCP 2, and HEVC 10b.
- DELIVER FLEXIBLE SYSTEM DESIGNS with integrated Intel® UHD Graphics P630.
- OPTIMIZE VISUAL COMPUTE WORKFLOWS with Intel® Quick Sync Video’s support for hardware acceleration across the latest video codecs.

ENTERPRISE-GRADE SECURITY & RELIABILITY

Keep your systems up and running with built-in features that reduce errors, help enhance security and improve manageability.

- HELP PROTECT YOUR SYSTEM FROM POTENTIAL CRASHES AND CHANGES IN DATA with Error Correcting Code (ECC) memory.
- GET ADDITIONAL PEACE OF MIND with hardware-enhanced security features and identity protection technologies, via the Intel® vPro™ platform.
- MANAGEABILITY for organizations with managed IT. When Intel® vPro™ is enabled on Intel® Xeon® W-1200 processor-based systems, IT gains a full set of capabilities available for system management.

TAKE PERFORMANCE TO ANOTHER LEVEL

Designed for workstation professionals, Intel® Xeon® W-1200 processors are specially optimized for a wide range of workflows, including content creation, engineering and modelling with greater accuracy than ever before.
**Up to 15% FASTER**

in media and entertainment workloads vs. previous gen\(^\text{10}^\) 

**Up to 9% FASTER**

in product development vs. previous gen\(^\text{11}^\)

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**CHOOSE YOUR IDEAL INTEL® XEON® W-1200 PROCESSOR**

A lineup with options—all built to meet the needs of demanding professionals.

<table>
<thead>
<tr>
<th>Processor Number</th>
<th>Cores/Threads</th>
<th>Base Frequency (GHz)</th>
<th>Intel® Turbo Boost Max Technology 3.0 Turbo Frequency (GHz)</th>
<th>Intel® Thermal Velocity Boost Technology Single/All Core Turbo Frequency (GHz)</th>
<th>TDP (W)</th>
<th>Total Platform PCIe3.0 Lanes</th>
<th>Intel® Smart Cache</th>
<th>Memory Speed</th>
<th>Maximum Memory Capacity</th>
<th>Processor Graphics</th>
<th>Reliability, Availability &amp; Serviceability</th>
<th>Intel® Optane™ Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>W-1290P</td>
<td>10/20</td>
<td>3.7</td>
<td>5.2</td>
<td>5.3 / 4.9</td>
<td>125</td>
<td>Up to 40</td>
<td>12M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1270P</td>
<td>8/16</td>
<td>3.8</td>
<td>5.1</td>
<td>NA</td>
<td>125</td>
<td>Up to 40</td>
<td>16M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1250P</td>
<td>6/12</td>
<td>4.1</td>
<td>NA</td>
<td>NA</td>
<td>125</td>
<td>Up to 40</td>
<td>12M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1290</td>
<td>10/20</td>
<td>3.2</td>
<td>5.1</td>
<td>5.2 / 4.7</td>
<td>80</td>
<td>Up to 40</td>
<td>20M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1270</td>
<td>8/16</td>
<td>3.4</td>
<td>5.0</td>
<td>NA</td>
<td>80</td>
<td>Up to 40</td>
<td>16M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1250</td>
<td>6/12</td>
<td>3.3</td>
<td>NA</td>
<td>NA</td>
<td>80</td>
<td>Up to 40</td>
<td>12M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
<tr>
<td>W-1290T</td>
<td>10/20</td>
<td>1.9</td>
<td>4.7</td>
<td>NA</td>
<td>35</td>
<td>Up to 40</td>
<td>20M</td>
<td>Dual Channel DDR4-2933</td>
<td>128GB</td>
<td>Intel® UHD Graphics P630</td>
<td>ECC Memory Support</td>
<td></td>
</tr>
</tbody>
</table>
**INTEL® XEON® W-1200 PROCESSEORS SUPPORTED MOTHERBOARD**

Make the most of your Intel® Xeon® W-1200 processor with a supporting motherboard based on the Intel® W480 chipset.

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**Intel® Xeon® W-1200 Processors Features at a Glance**

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Turbo Boost Max Technology 3.0</td>
<td>Identifies the two fastest cores on the processor die to provide enhanced single threaded performance. The driver automatically provided along with this feature allows end users to direct workloads to the fastest core by setting priority to preferred applications.</td>
</tr>
<tr>
<td>Intel® Turbo Boost Technology 2.0</td>
<td>Dynamically increases the processor's frequency, as needed, by taking advantage of thermal and power headroom when operating below specified limits.</td>
</tr>
<tr>
<td>Intel® Hyper-Threading Technology</td>
<td>Delivers two processing threads per physical core. Highly threaded applications can get work done in parallel, completing tasks sooner.</td>
</tr>
<tr>
<td>Integrated Memory Controller</td>
<td>Supports up to 2 channels of Error Correct Code (ECC) DDR4-2933 memory with 2 DIMMs per channel.</td>
</tr>
<tr>
<td>Intel® Optane™ Memory</td>
<td>Enables performance boosts, plus enhanced app response times for your commonly used applications.</td>
</tr>
<tr>
<td>Intel® Smart Cache</td>
<td>Up to 20 MB of shared cached allows fast access to your data by enabling dynamic and efficient allocation of the cache to match the needs of each core designed to reduce latency to frequently used data and refresh performance.</td>
</tr>
<tr>
<td>Chipset/Motherboard Compatibility</td>
<td>Supported by the Intel® W480 chipset for workstation platforms.</td>
</tr>
</tbody>
</table>

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1. Intel® Thermal Velocity Boost (Intel® TVB) is a feature that opportunistically and automatically increases clock frequency above single-core and multi-core Intel® Turbo Boost Technology frequencies based on how much the processor is operating below its maximum temperature and whether turbo power budget is available. The frequency gain and duration is dependent on the workload, capabilities of the processor and the processor cooling solution.

2. DDR4 maximum speed support is 1 and 2 DPC for UDIMMs but only 1 DPC for SODIMMs. DDR4 2DPC UDIMM 2933 or 2666 is capable when same UDIMM part number are populated with in each channel.

3. Intel® Wi-Fi 6 AX202 requires specific hardware configurations. Discrete Intel® Wi-Fi 6 AX200 available for chipsets not supporting connectivity integration.
4. I225 v1 (B1 stepping) reaches 2.5GbE on select switches/routers. Visit www.intel.com/i225v1 for a list of validated switches/routers. I225 v2 (B2 stepping) is now in production and works at 2.5GbE on all compliant 2.5GbE Link partners.

5. Intel® Wi-Fi 6 AX201 requires specific hardware configurations. Discrete Intel® Wi-Fi 6 AX200 available for chipsets not supporting connectivity integration.

6. 802.11ax 2x2 160MHz enables 2402Mbps maximum theoretical data rates, ~3X (2.8X) faster than standard 802.11ac 2x2 80MHz (867Mbps) as documented in IEEE 802.11 wireless standard specifications and require the use of similarly configured 802.11ax wireless network routers.

7. Thunderbolt 3 delivered 40 Gbps bidirectional bandwidth which is 8x faster than USB 3.0 and 40X faster than FireWire as compared to other PC I/O connection technologies including eSATA, USB, and IEEE 1394 Firewire. Performance will vary depending on the specific hardware and software used. Must use a Thunderbolt-enabled device.

8. OEMs must enable Intel® vPro™ and be vPro™ certified. Not all Intel® Xeon® processor-based systems are vPro™ certified.

9. Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/go/turbo


SPECworkstation™ 3 is published by the Standard Performance Evaluation Corporation (SPEC), a benchmarking consortium. SPECworkstation 3 measures Workstation Application Performance using workloads addressing the following workstation markets: Media and Entertainment—3D Modeling, Video Transcoding, Ray Tracing and CAD using Blender, HandBrake, LuxRender, Autodesk Maya and 3ds Max; Product Development—heterogeneous computing and CAD/CFD using Rodinia Suite, OpenFOAM, CalculiX, Dassault Systèmes Catia, PTC Creo, Siemens NX, Dassault Systèmes SolidWorks and Autodesk Showcase; Life Sciences—Molecular Dynamics Simulation using LAMMPS, NAMD, Rodinia Suite and Medical Imaging; Financial Services—Financial Modeling using Black-Scholes and Monte Carlo simulations; Energy (Oil & Gas)—Seismic Data Processing and Imaging; General Operations - including 7-Zip, Python scripting and Octave programming; GPU Compute—OpenCL and GPU Compute—CUDA. A CPU, Graphics and Storage scores are also produced. The Rodinia Suite includes workloads for: Data Mining, Bioinformatics, Physics Simulation, Pattern Recognition, Image Processing, Medical Imaging, Graph Algorithms and Web Mining. For Windows*, SPEC Workstation 3 supports Win64.

SPECworkstation™ 3 v3.0.4 performance measured on platforms with: Intel® Xeon® W-1290P processor, PL1= 125W TDP, 10C/20T, Turbo up to 5.3GHz, Motherboard Name: W480ACE, Graphics: Nvidia Quadro P2000, Gfx version: 442.5, Memory: 2x32GB DDR4-2933MHz, Storage: 905P SSD, OS: Microsoft Windows* 10 PRO, Build Version 1909 (v720) 19H2 (RS6) vs. Intel® Xeon® E-2288G processor, PL1= 95W TDP, 8C16T, Turbo up to 5.0GHz, Motherboard Name: C246PRO, Graphics: Nvidia Quadro P2000, Gfx version: 442.5, Memory: 2x32GB DDR4-2666MHz, Storage: 905P SSD, OS: Microsoft Windows* 10 PRO, Build Version 1909 (v720) 19H2 (RS6)

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