Designed for entry workstation professionals, Intel® Xeon® E processor-based workstations deliver professional-grade performance with the built-in platform security features and reliability that professional creators demand. With up to 8 cores, 16 threads, 5 GHz frequency, and 128 GB DDR4-2666 ECC memory support, the new Intel® Xeon® E processor-based workstations are purpose-built for 2D/3D CAD, BIM, and VR content development in tower, AIO, small form factor and mobile designs.
PROFESSIONAL-GRADE PERFORMANCE

Spend less time waiting and more time creating: The new Intel® Xeon® E processor based workstations deliver fast rendering, ray tracing and designs with up 8 cores, 16 threads, 5.0 GHz operating frequency with Intel® Turbo Boost Technology, and 16MB Intel® Smart Cache. Real-time data analytics with large DDR4 memory capacity of up to 128GB and fast memory speed of 2666 Mhz with built-in Error-Correcting Code support. Enhanced IO capabilities with up to 40 platform PCIe* lanes for fast storage access with Intel® Optane™ memory H10 with Solid State Storage and Thunderbolt™ 3. Seamlessly access the cloud with Intel® Wi-Fi 6 AX200 (Gig+).

CERTIFIED, RELIABLE AND MORE SECURE

Step up to the performance and visuals demanded by professional-grade CAD or media and entertainment workflows. With the new Intel® Xeon® E processor-based workstations, you will experience the capabilities that get designers, engineers and animators to the finish line fast and with accuracy. Explore complex data with the graphics performance of Intel® HD Graphics P630. Improve the integrity and update of design data with ECC memory technology. And with the Intel® vPro™ platform, you can utilize the amazing benefits of hardware-enhanced security features, identity protection technologies, and remote manageability.

SPEND LESS TIME WAITING AND MORE TIME CREATING
An exclusive benefit for Intel® Xeon® E processors with Intel® UHD Graphics P630 is application certification on over a dozen popular applications including Adobe*, Autodesk*, Dassault*, PTC*, Siemens* and more.* These certifications help ensure reliability and compatibility for software product features.

Thunderbolt™ 3 is available on the new Intel® Xeon® E processor platform. 4K video editing, 3D rendering, and content creation strongly benefit from ultra-fast I/O bandwidth with Thunderbolt™ 3 (up to 40 Gbps).

Intel® Xeon® E processor platforms support Intel® Optane™ memory and Intel® Optane™ SSDs. The new Intel® Optane™ memory H10 with Solid State Storage combines the smart and adaptive responsiveness of Intel® Optane™ memory with Intel’s latest SSD storage technology where it automatically accelerates your most frequently used apps. Seamlessly launch, load & multitask.

*There are a wide range of Workstation/CAD apps that will be certified. Certification results will be available shortly after production drivers are available. Certifications are targeted within two quarters of the new Intel® Xeon® E platform launch. For a list of certified apps on production products, please visit: intel.com/content/www/us/en/workstations/certified-applications.html

**FOR INCREASED SECURITY**

- **ERROR-CORRECTING CODE (ECC) MEMORY:** Help protect your workstation from potential crashes and changes in data due to single-bit errors. Errors in data are automatically corrected as data passes in real time, delivering more accurate designs and simulations.

- **INTEL® VPRO™ TECHNOLOGY:** Intel® vPro™ technology is supported on the new Intel® Xeon® E processor platform and delivers hardware-enhanced security features, identity protection technologies, and remote manageability. Intel® Hardware Shield is part of the Intel® vPro™ platform and helps reduce the BIOS as an attack surface. This built-in security feature now includes Intel® System Security Report, a new reporting capability that uniquely provides visibility across the OS and BIOS for improved identification of malicious activity.
PROFESSIONAL-GRADE PERFORMANCE WHEN IT MATTERS

**UP TO 16% BETTER MULTI-THREADED INTEGER OPERATIONS PERFORMANCE**

**UP TO 87% BETTER MULTI-THREADED INTEGER OPERATIONS PERFORMANCE**

**vs. Previous Generation**

**vs. 3 Year Old Workstation**

**UP TO 8 CORES**

**UP TO 16 THREADS**

**UP TO 5.0 GHZ TURBO**

**UP TO 128 GB DDR4-2666**

**UP TO 16 MB INTEL® SMART CACHE**

**INTEL® WIFI 6 AX200 (GIG+) THUNDERBOLT™ 3**

**CORE & THREAD COUNT**

*Rendering & Ray Tracing*
- KeyShot®, Autodesk AutoCAD®, Maya® & 3dsMax®, Blender®, Maxon Cinema 4D®

*Design & Modeling*
- Autodesk AutoCAD®, Inventor® Revit®, SolidWorks®, Creo, Siemens NX PLM®

*Real-Time Data Analytics*
- Rendering large CAD, 3D models & video files

**FREQUENCY**

*Visual Effects & Motion Graphics*
- Adobe After Effects®, Black Magic Fusion®

*3D, VR, Game Development*
- Autodesk®, Epic Unreal Engine®, Unity 3D®

*Video Editing & Post-Production*
- Adobe Premier Pro®, Blackmagic DaVinci Resolve®, Avid Media Composer®, Magix Vegas Pro®

**MEMORY**

*Photography, Graphic Design & Illustration*
- Adobe Photoshop Lightroom® & Corel®

**I/O LATENCY & BANDWIDTH**

*Large File Access*
- Minimize the wait time for accessing & moving large files

*Seamless Cloud Access*
- Best in class, Gigabit Wi-Fi speeds

*Video Conferencing*
- Real-time collaboration

For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.
**INTEL® XEON® E BLOCK DIAGRAM**

**Intel® Xeon® E-2224 Processor**
- 4/4 Cores/Threads
- 4.6 GHz Max Turbo Frequency
- 3.4 GHz Base Frequency
- 8MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2224G Processor**
- 4/8 Cores/Threads
- 4.8 GHz Max Turbo Frequency
- 3.6 GHz Base Frequency
- 8MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2234 Processor**
- 4/8 Cores/Threads
- 4.9 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 8MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2244G Processor**
- 6/12 Cores/Threads
- 4.8 GHz Max Turbo Frequency
- 3.4 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2274G Processor**
- 6/12 Cores/Threads
- 4.9 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2226G Processor**
- 6/12 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 3.4 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2236 Processor**
- 6/12 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 3.7 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2246G Processor**
- 8/16 Cores/Threads
- 4.9 GHz Max Turbo Frequency
- 3.6 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2276G Processor**
- 8/16 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2286G Processor**
- 8/16 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2278G Processor**
- 8/16 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

**Intel® Xeon® E-2288G Processor**
- 8/16 Cores/Threads
- 5.0 GHz Max Turbo Frequency
- 4.0 GHz Base Frequency
- 12MB Intel® Smart Cache
- P360 Intel® UHD Graphics
- DDR4 ECC & Non-ECC UDIMM: 128 GB

Processor, chipset and diagram provided for illustration purpose only. Not comprehensive of all features and capabilities.
## The New Intel® Xeon E Processor

### Processor Details

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<td>8/16</td>
<td>16 MB</td>
<td>Up To 40</td>
<td>Two Channels DDR4-2666</td>
<td>Intel® UHD Graphics P630</td>
<td>Yes</td>
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<td>Two Channels DDR4-2666</td>
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### MOBILE WORKSTATIONS

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<td>Intel® Xeon® E-2286M Processor</td>
<td>2.4</td>
<td>5.0</td>
<td>8/16</td>
<td>16 MB</td>
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<td>Yes</td>
<td>45 W</td>
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</tbody>
</table>

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).

Intel® Optane™ memory requires specific hardware and software configuration. Visit www.intel.com/Optane/technology for configuration requirements.

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).

Intel® processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families.
1. As measured by SPECrate\textsuperscript{+}2017\_int\_base (n copy) comparing Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2288G vs. Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2186G. Test done by Intel as of 5/5/2019.

2. As measured by SPECrate\textsuperscript{+}2017\_int\_base (n copy) comparing Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2288G vs. Intel\textsuperscript{®} Xeon\textsuperscript{®} E3-1275v5. Test done by Intel as of 5/5/2019.

3. Best in Class Wi-Fi 6: Intel\textsuperscript{®} Wi-Fi 6 (Gig+) products support optional 160 MHz channels, enabling the fastest possible theoretical maximum speeds (2402 Mbps) for typical 2x2 802.11 AX PC Wi-Fi products. Premium Intel\textsuperscript{®} Wi-Fi 6 (Gig+) products enable 2-4X faster maximum theoretical speeds compared standard 2x2 (1201 Mbps) or 1x1 (600 Mbps) 802.11 AX PC Wi-Fi products, which only support the mandatory requirement of 80 MHz channels.

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\textsuperscript{®} and MobileMark\textsuperscript{®}, 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 about performance and benchmark results, visit intel.com/benchmarks

Intel technologies’ features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No product or component can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

Optimization Notice: Intel’s compilers may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include SSE2, SSE3, and SSSE3 instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel. Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors. Certain optimizations not specific to Intel microarchitecture are reserved for Intel microprocessors. Please refer to the applicable product User and Reference Guides for more information regarding the specific instruction sets covered by this notice. Notice Revision #20110804.

Test Configuration Details:
Testing done by Intel as of 5/5/2019:

**SPEC CPU\textsuperscript{+}2017 & SPEC\_workstation\textsuperscript{TM}** 3 measured/estimated on platforms with:
- Intel\textsuperscript{®} Xeon\textsuperscript{®} E3-1275v5, PL1=80W TDP, 4C8T, Turbo up to 4.0GHz, Intel\textsuperscript{®} HD Graphics P530, Platform: CFL, Motherboard: P10S-M WS, Motherboard Type: Production, Graphics: N/A, Memory: 2x16GB DDR4 – 2400MHz, Storage: Intel M2 SSD 760p 512GB, OS: Microsoft Windows\textsuperscript{®} 10 RS5 Build Version 1809 (437), BIOS: 4401
- Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2288G, PL1= 95W TDP, 8C16T, Turbo up to 5.0GHz, Intel\textsuperscript{®} UHD Graphics P630, Platform: CFL, Motherboard: ASUS WS C246 PRO, Motherboard Type: Production, Graphics: N/A, Memory: 2x16GB DDR4-2666MHz, Storage: Intel M2 SSD 760p 512GB, OS: Microsoft Windows\textsuperscript{®} 10 RS5 Build Version 1809 (437), BIOS: 17

Video creation mega-tasking workload measured on platforms with:
- Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2288G, PL1= 95W TDP, BC16T, Turbo up to 5.0GHz, Intel\textsuperscript{®} UHD Graphics P630, Platform: CFL, Motherboard: ASUS WS C246 PRO, Motherboard Type: Production, Graphics: Nvidia P2000 Quadro, Memory: 2x16GB DDR4-2666MHz, Storage: Intel M2 SSD 760p 512GB, OS: Microsoft Windows\textsuperscript{®} 10 RS5 Build Version 1809 (437), BIOS: 17, ucode: 0x9A
- Intel\textsuperscript{®} Xeon\textsuperscript{®} E-2186G, PL1=95W TDP, 6C12T, Turbo up to 4.7GHz, Intel\textsuperscript{®} UHD Graphics P630, Platform: CFL, Motherboard: ASUS WS C246 PRO, Motherboard Type: Production, Graphics: Nvidia P2000 Quadro, Memory: 2x16GB DDR4 – 2666MHz, Storage: Intel M2 SSD 760p 512GB, OS: Microsoft Windows\textsuperscript{®} 10 RS5 Build Version 1809 (437), BIOS: 3602, ucode: 0x24

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