intel experience what's inside™

PROFESSIONAL-GRADE PERFORMANCE

WITH THE NEW INTEL® XEON® E PROCESSOR

OPTIMIZED TO OVER-DELIVER

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

PROFESSIONAL INGREDIENTS FOR PROFESSIONAL-GRADE PERFORMANCE

GRAPHICS

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.

FILE TRANSFER

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).

STORAGE

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.

UP TO
16%
BETTER MULTI-THREADED INTEGER OPERATIONS PERFORMANCE[1]
VS. PREVIOUS GENERATION

UP TO
87%
BETTER MULTI-THREADED INTEGER OPERATIONS PERFORMANCE[2]
VS. 3 YEAR OLD WORKSTATION

PROFESSIONAL-GRADE PERFORMANCE WHEN IT MATTERS

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

NTEL® WI-FI 6 AX200 (GIG+)

THUNDERBOLT™3

CORE & THREAD COUNT

WHEN IT MATTERS

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

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*

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

FREQUENCY

WHEN IT MATTERS

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

MEMORY

WHEN IT MATTERS

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

I/O LATENCY & BANDWIDTH

WHEN IT MATTERS

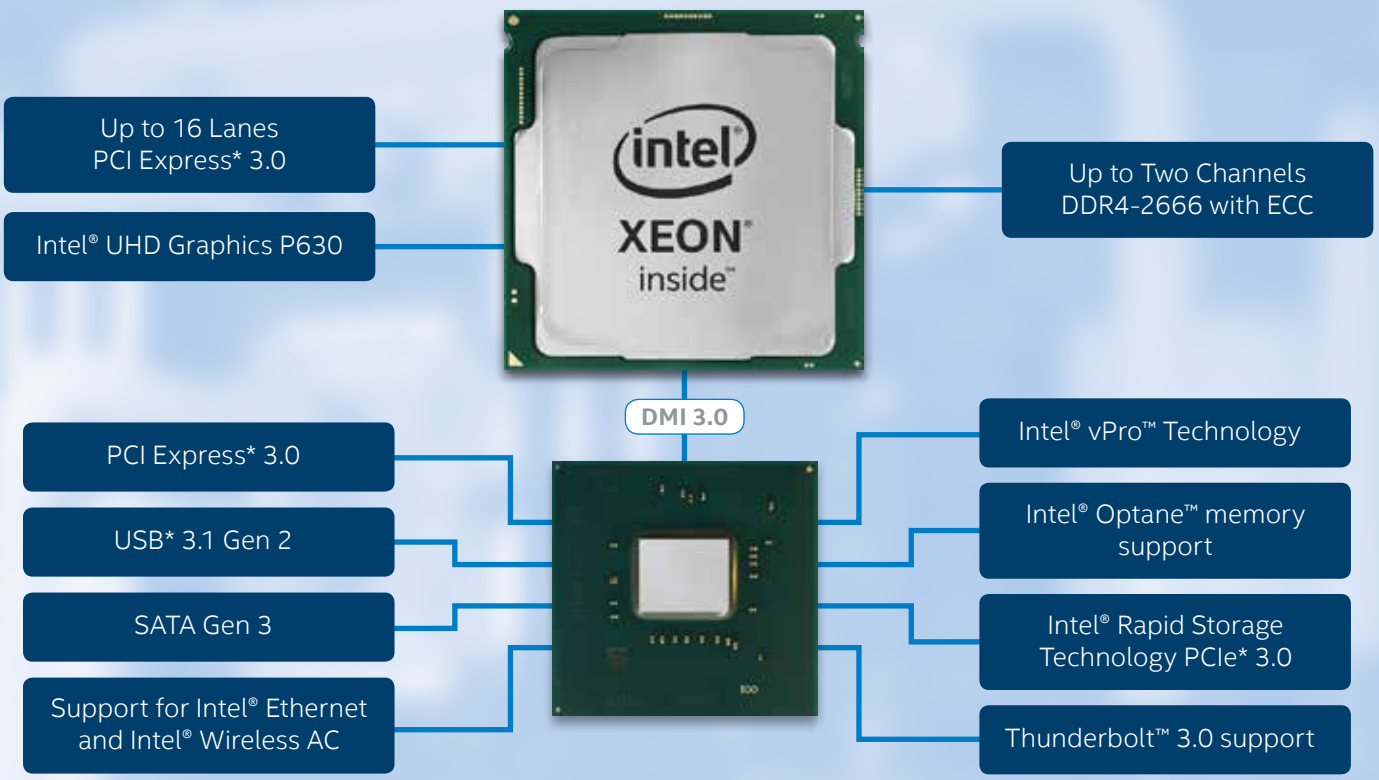
Large File Access
Minimize the wait time for accessing & moving large files

Seamless Cloud Access
Best in class, Gigabit Wi-Fi speeds[3]

Video Conferencing
Real-time collaboration

For more complete information about performance and benchmark results, visit www.intel.com/benchmarks.

INTEL® XEON® E BLOCK DIAGRAM



Processor, chipset and diagram provided for illustration purpose only. Not comprehensive of all features and capabilities.

INTEL® XEON® E PROCESSOR SELECTION GUIDE

	Intel® Xeon® **E-2224G** Processor	Intel® Xeon® **E-2224** Processor	Intel® Xeon® **E-2234** Processor	Intel® Xeon® **E-2244G** Processor	Intel® Xeon® **E-2274G** Processor	Intel® Xeon® **E-2226G** Processor	Intel® Xeon® **E-2236** Processor	Intel® Xeon® **E-2246G** Processor	Intel® Xeon® **E-2276G** Processor	Intel® Xeon® **E-2286G** Processor	Intel® Xeon® **E-2278G** Processor	Intel® Xeon® **E-2288G** Processor
Cores/ Threads	4/4	4/4	4/8	4/8	4/8	6/6	6/12	6/12	6/12	6/12	8/16	8/16
Max Turbo Frequency	4.6 GHz	4.7 GHz	4.8 GHz	4.8 GHz	4.9 GHz	4.7 GHz	4.8 GHz	4.8 GHz	4.9 GHz	4.9 GHz	5.0 GHz	5.0 GHz
Base Frequency	3.4 GHz	3.5 GHz	3.6 GHz	3.8 GHz	4.0 GHz	3.4 GHz	3.4 GHz	3.4 GHz	3.6 GHz	4.0 GHz	3.8 GHz	3.7 GHz
Intel® Smart Cache	8MB	8MB	8MB	8MB	8MB	12MB	12MB	12MB	12MB	12MB	12MB	12MB
Intel® UHD Graphics	P360			P360	P360	P360		P360	P360	P360	P360	P360
DDR4 ECC & Non-ECC UDIMM	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB	128 GB

INTEL® XEON® E PROCESSOR DETAILS

Processor Number	Base Clock Speed (GHz)	Intel® Turbo Boost Technology 2.0 Freq. (GHz)	Cores/ Threads	Intel® Smart Cache	Total Platform PCIE* 3.0 Lanes	TDP	Memory Support	Intel® Processor Graphics	Error Correcting Code (ECC)	Intel® vPro™ Technology Support	Intel® Optane™ Technology Support	RCP Pricing (USD 1K)
STATIONARY WORKSTATIONS												
Intel® Xeon® **E-2288G** Processor	3.7	5.0	8/16	16 MB	Up To 40	95 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2286G** Processor	4.0	4.9	6/12	12 MB	Up To 40	95 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2278G** Processor	3.4	5.0	8/16	16 MB	Up To 40	80 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2276G** Processor	3.8	4.9	6/12	12 MB	Up To 40	80 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2274G** Processor	4.0	4.9	4/8	8 MB	Up To 40	83 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2246G** Processor	3.6	4.8	6/12	12 MB	Up To 40	80 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2244G** Processor	3.8	4.8	4/8	8 MB	Up To 40	71 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2236** Processor	3.4	4.8	6/12	12 MB	Up To 40	80 W	Two Channels DDR4-2666	N/A	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2234** Processor	3.6	4.8	4/8	8 MB	Up To 40	71 W	Two Channels DDR4-2666	N/A	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2226G** Processor	3.4	4.7	6/6	12 MB	Up To 40	80 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2224G** Processor	3.5	4.7	4/4	8 MB	Up To 40	71 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2224** Processor	3.4	4.6	4/4	8 MB	Up To 40	71 W	Two Channels DDR4-2666	N/A	✓	✓	✓	See Pricing Guidance
MOBILE WORKSTATIONS												
Intel® Xeon® **E-2286M** Processor	2.4	5.0	8/16	16 MB	Up To 40	45 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance
Intel® Xeon® **E-2276M** Processor	2.8	4.7	6/12	12 MB	Up To 40	45 W	Two Channels DDR4-2666	Intel® UHD Graphics P630	✓	✓	✓	See Pricing Guidance

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 for configuration requirements.

1 As measured by SPECrate*2017_int_base (n copy) comparing Intel® Xeon® E-2288G vs. Intel® Xeon® E-2186G. Test done by Intel as of 5/5/2019.

2 As measured by SPECrate*2017_int_base (n copy) comparing Intel® Xeon® E-2288G vs. Intel® Xeon® E3-1275v5. Test done by Intel as of 5/5/2019.

3 Best in Class Wi-Fi 6: Intel® 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® 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* 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 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*2017 & SPEC_workstation™ 3 measured/estimated on platforms with:
- Intel® Xeon® E3-1275v5 , PL1=80W TDP, 4C8T, Turbo up to 4.0GHz, Intel® 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* 10 RS5 Build Version 1809 (437), BIOS: 4401
- Intel® Xeon® E-2288G , PL1= 95W TDP, 8C16T, Turbo up to 5.0GHz, Intel® 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* 10 RS5 Build Version 1809 (437), BIOS: 17

Video creation mega-tasking workload measured on platforms with:
- Intel® Xeon® E-2288G , PL1= 95W TDP, 8C16T, Turbo up to 5.0GHz, Intel® 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* 10 RS5 Build Version 1809 (437), BIOS: 17, ucode: 0x9A
- Intel® Xeon® E-2186G , PL1=95W TDP, 6C12T, Turbo up to 4.7GHz, Intel® 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* 10 RS5 Build Version 1809 (437), BIOS: 3602 , ucode: 0x24