



Intel® Xeon® Gold 6148 Processor

27.5M Cache, 2.40 GHz

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Product Collection	Intel® Xeon® Scalable Processors
Code Name	Products formerly Skylake
Vertical Segment	Server
Processor Number	6148
Status	Launched
Launch Date ?	Q3'17
Lithography ?	14 nm
Recommended Customer Price ?	-

Performance

# of Cores ?	20
# of Threads ?	40
Processor Base Frequency ?	2.40 GHz
Max Turbo Frequency ?	3.70 GHz
Cache ?	27.5 MB L3
# of UPI Links ?	3
TDP ?	150 W

Supplemental Information

Embedded Options Available ?	No
Datasheet	View now
Product Brief	View now
Additional Information URL	View now

Memory Specifications

Max Memory Size (dependent on memory type) ?	768 GB
Memory Types ?	DDR4-2666
Maximum Memory Speed	2666 MHz
Max # of Memory Channels ?	6

ECC Memory Supported ‡ ?	Yes
Expansion Options	
Scalability	S4S
PCI Express Revision ?	3.0
Max # of PCI Express Lanes ?	48

Package Specifications	
Sockets Supported ?	FCLGA3647
T _{CASE} ?	86°C
Package Size	76.0mm x 56.5mm
Low Halogen Options Available	No

Advanced Technologies	
Intel® Optane™ Memory Supported ‡ ?	No
Intel® Speed Shift Technology ?	Yes
Intel® Turbo Boost Max Technology 3.0 ‡ ?	No
Intel® Turbo Boost Technology ‡ ?	2.0
Intel® vPro™ Platform Eligibility ‡ ?	Yes
Intel® Hyper-Threading Technology ‡ ?	Yes
Intel® Virtualization Technology (VT-x) ‡ ?	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡ ?	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡ ?	Yes
Intel® TSX-NI ?	Yes
Intel® 64 ‡ ?	Yes
Instruction Set Extensions ?	Intel® SSE4.2, Intel® AVX, Intel® AVX2, Intel® AVX-512
# of AVX-512 FMA Units ?	2
Enhanced Intel SpeedStep® Technology ?	Yes
Intel® Volume Management Device (VMD) ?	Yes

Security & Reliability	
Intel® AES New Instructions ?	Yes
Intel® Trusted Execution Technology ‡ ?	Yes
Execute Disable Bit ‡ ?	Yes
Intel® Run Sure Technology ?	Yes
Mode-based Execute Control (MBE) ?	Yes



Product Support



Downloads and Software



Support Community



Warranty and
Replacement



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Give Feedback

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Refer to Datasheet for formal definitions of product properties and features.

‡ This feature may not be available on all computing systems. Please check with the system vendor to determine if your system delivers this feature, or reference the system specifications (motherboard, processor, chipset, power supply, HDD, graphics controller, memory, BIOS, drivers, virtual machine monitor-VMM, platform software, and/or operating system) for feature compatibility. Functionality, performance, and other benefits of this feature may vary depending on system configuration.

Max Turbo Frequency refers to the maximum single-core processor frequency that can be achieved with Intel® Turbo Boost Technology. See www.intel.com/technology/turboboost/ for more information.

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See <http://www.intel.com/content/www/us/en/processors/processor-numbers.html> for details.

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

See <http://www.intel.com/content/www/us/en/architecture-and-technology/hyper-threading/hyper-threading-technology.html?wapkw=hyper+threading> for more information including details on which processors support Intel® HT Technology.

Some products can support AES New Instructions with a Processor Configuration update, in particular, i7-2630QM/i7-2635QM, i7-2670QM/i7-2675QM, i5-2430M/i5-2435M, i5-2410M/i5-2415M. Please contact OEM for the BIOS that includes the latest Processor configuration update.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.



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