

Intel® Xeon® Processor E5-1650 v4

15M Cache, 3.60 GHz

Specifications

Ordering and Compliance

Ordering and spec information

Trade compliance information

Benchmarks

Ordering and spec information

Boxed Intel® Xeon® Processor E5-1650 v4 (15M Cache, 3.60 GHz) FC-LGA14A

Spec Code	SR2P7
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Ordering Code	BX80660E51650V4
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Step	R0
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RCP	\$621.00
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Intel® Xeon® Processor E5-1650 v4 (15M Cache, 3.60 GHz) FC-LGA14A, Tray

Spec Code	SR2P7
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Ordering Code	CM8066002044306
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Step	R0
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RCP	\$617.00
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Trade compliance information

ECCN	5A992C
CCATS	G077159
US HTS	8542310001

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

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

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.

‡ 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.

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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.

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.

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

Low Halogen: Applies only to brominated and chlorinated flame retardants (BFRs/CFRs) and PVC in the final product. Intel components as well as purchased components on the finished assembly meet JS-709 requirements, and the PCB / substrate meet IEC 61249-2-21 requirements. The replacement of halogenated flame retardants and/or PVC may not be better for the environment.

For benchmarking data see <http://www.intel.com/performance>.

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.

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

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15M Cache, 3.60 GHz

Specifications

Essentials

Performance

Supplemental Information

Memory Specifications

Graphics Specifications

Expansion Options

Package Specifications

Advanced Technologies

Intel® Data Protection
Technology

Intel® Platform Protection
Technology

Ordering and Compliance

Essentials

[Export specifications](#)

Product Collection	Intel® Xeon® Processor E5 v4 Family
Code Name	Products formerly Broadwell
Vertical Segment	Server
Processor Number	E5-1650V4
Status	Launched
Launch Date	Q2'16
Lithography	14 nm
Recommended Customer Price	\$617.00 - \$621.00
Performance	
# of Cores	6
# of Threads	12

Benchmarks

Processor Base Frequency	3.60 GHz
Max Turbo Frequency	4.00 GHz
Cache	15 MB
Bus Speed	0 GT/s QPI
# of QPI Links	0
TDP	140 W

Supplemental Information

Embedded Options Available	No
Conflict Free	Yes
Datasheet	View now

Memory Specifications

Max Memory Size (dependent on memory type)	1.54 TB
Memory Types	DDR4 1600/1866/2133/2400
Max # of Memory Channels	4
Max Memory Bandwidth	76.8 GB/s
Physical Address Extensions	46-bit
ECC Memory Supported ‡	Yes

Graphics Specifications

Processor Graphics ‡	None
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Expansion Options

Scalability	1S Only
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PCI Express Revision	3.0
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PCI Express Configurations ‡	x4, x8, x16
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Max # of PCI Express Lanes	40
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Package Specifications

Sockets Supported	FCLGA2011-3
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Max CPU Configuration	1
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T _{CASE}	69°C
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Package Size	45mm x 52.5mm
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Low Halogen Options Available	See MDDS
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Advanced Technologies

Intel® Turbo Boost Max Technology 3.0 ‡	Yes
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Intel® Turbo Boost Technology ‡	2.0
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Intel® vPro™ Technology ‡	Yes
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Intel® Hyper-Threading Technology ‡	Yes
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Intel® Virtualization Technology (VT-x) ‡	Yes
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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	64-bit
Instruction Set Extensions	AVX 2.0
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Intel® Demand Based Switching	Yes
Thermal Monitoring Technologies	Yes
Intel® Flex Memory Access	No
Intel® Identity Protection Technology ‡	Yes
Intel® Data Protection Technology	
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® Platform Protection Technology	
OS Guard	Yes
Trusted Execution Technology ‡	Yes

Execute Disable Bit ‡

Yes

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