



# Intel® Xeon® Processor E5-2658 v3

30M Cache, 2.20 GHz

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Specifications

**Essentials**

Performance

Supplemental Information

Memory Specifications

Expansion Options

Package Specifications

Advanced Technologies

Security & Reliability

Ordering and Compliance

Product Images

Compatible Products

Downloads and Software

## Essentials

Export specifications

Product Collection	Intel® Xeon® Processor E5 v3 Family
Code Name	Products formerly Haswell
Vertical Segment	Embedded
Processor Number	E5-2658V3
Status	Launched
Launch Date	Q3'14
Lithography	22 nm
Recommended Customer Price	
Use Conditions	Communications Commercial Temp

## Performance

# of Cores	12
# of Threads	24
Processor Base Frequency	2.20 GHz
Max Turbo Frequency	2.90 GHz
Cache	30 MB SmartCache
Bus Speed	9.6 GT/s QPI
# of QPI Links	2
TDP	105 W
VID Voltage Range	0.65V–1.30V

## Supplemental Information

Embedded Options Available	Yes
Datasheet	<a href="#">View now</a>
Product Brief	<a href="#">View now</a>
Additional Information URL	<a href="#">View now</a>

## Memory Specifications

Max Memory Size (dependent on memory type)	768 GB
Memory Types	DDR4 1600/1866/2133
Max # of Memory Channels	4
Max Memory Bandwidth	68 GB/s

Physical Address Extensions <a href="#">?</a>	46-bit
ECC Memory Supported ‡ <a href="#">?</a>	Yes

## Expansion Options

Scalability	2S
PCI Express Revision <a href="#">?</a>	3.0
PCI Express Configurations ‡ <a href="#">?</a>	x4, x8, x16
Max # of PCI Express Lanes <a href="#">?</a>	40

## Package Specifications

Sockets Supported <a href="#">?</a>	FCLGA2011-3
Max CPU Configuration	2
T <sub>CASE</sub> <a href="#">?</a>	86.95
Package Size	52.5mm x 45mm

## Advanced Technologies

Intel® Turbo Boost Technology ‡ <a href="#">?</a>	2.0
Intel® vPro™ Platform Eligibility ‡ <a href="#">?</a>	Yes
Intel® Hyper-Threading Technology ‡ <a href="#">?</a>	Yes
Intel® Virtualization Technology (VT-x) ‡ <a href="#">?</a>	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡ <a href="#">?</a>	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡ <a href="#">?</a>	Yes
Intel® TSX-NI <a href="#">?</a>	No
Intel® 64 ‡ <a href="#">?</a>	Yes
Instruction Set <a href="#">?</a>	64-bit
Instruction Set Extensions <a href="#">?</a>	Intel® AVX2
Idle States <a href="#">?</a>	Yes
Enhanced Intel SpeedStep® Technology <a href="#">?</a>	Yes
Intel® Demand Based Switching <a href="#">?</a>	Yes
Thermal Monitoring Technologies <a href="#">?</a>	Yes
Intel® Flex Memory Access <a href="#">?</a>	No
Intel® Identity Protection Technology ‡ <a href="#">?</a>	No

## Security & Reliability

Intel® AES New Instructions <a href="#">?</a>	Yes
Secure Key <a href="#">?</a>	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡ <a href="#">?</a>	Yes
Execute Disable Bit ‡ <a href="#">?</a>	Yes



Product Support



Downloads and Software



Support Community



Warranty and Replacement



## Need more help?

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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.

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/](http://www.intel.com/technology/turboboost/) for more information.

The Recommended Customer Price ("RCP") is pricing guidance for Intel products. Prices are for direct Intel customers, typically represent 1,000-unit purchase quantities, and are subject to change without notice. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply. If sold in bulk, price represents individual unit. Listing of these RCP does not constitute a formal pricing offer from Intel. Please work with your appropriate Intel representative to obtain a formal price quotation.

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

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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