



# Intel® Xeon® Processor E5-2699 v4

55M Cache, 2.20 GHz

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## Specifications

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## Essentials

Export specifications

Product Collection	Intel® Xeon® Processor E5 v4 Family
Code Name	Products formerly Broadwell
Vertical Segment	Server
Processor Number	E5-2699V4
Status	Launched
Launch Date ?	Q1'16
Lithography ?	14 nm
Recommended Customer Price ?	

## Performance

# of Cores ?	22
# of Threads ?	44
Processor Base Frequency ?	2.20 GHz
Max Turbo Frequency ?	3.60 GHz
Cache ?	55 MB SmartCache
Bus Speed ?	9.6 GT/s QPI
# of QPI Links ?	2
TDP ?	145 W
VID Voltage Range ?	0




## Supplemental Information

Embedded Options Available ?	No
Datasheet	<a href="#">View now</a>



## 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

















## Expansion Options

Scalability	25
PCI Express Revision 	3.0
PCI Express Configurations <sup>‡</sup> 	x4, x8, x16
Max # of PCI Express Lanes 	40





## Package Specifications

Sockets Supported 	FCLGA2011-3
Max CPU Configuration	2
T <sub>CASE</sub> 	79°C
Package Size	45mm x 52.5mm

## Advanced Technologies

Intel® Turbo Boost Technology <sup>‡</sup> 	2.0
Intel® vPro™ Platform Eligibility <sup>‡</sup> 	Yes
Intel® Hyper-Threading Technology <sup>‡</sup> 	Yes
Intel® Virtualization Technology (VT-x) <sup>‡</sup> 	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) <sup>‡</sup> 	Yes
Intel® VT-x with Extended Page Tables (EPT) <sup>‡</sup> 	Yes
Intel® TSX-NI 	Yes
Intel® 64 <sup>‡</sup> 	Yes
Instruction Set 	64-bit
Instruction Set Extensions 	Intel® AVX2
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 <sup>‡</sup> 	No

## Security & Reliability

Intel® AES New Instructions 	Yes
Secure Key 	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology <sup>‡</sup> 	Yes
Execute Disable Bit <sup>‡</sup> 	Yes

More support options for Intel® Xeon® Processor E5-2699 v4 (55M Cache, 2.20 GHz)

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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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