Intel® Xeon® Processor E7-4850 v4 (40M Cache, 2.10 GHz)

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Specifications

Essentials

Processor Number	E7-4850V4
Status	Launched
Launch Date	Q2'16
Lithography	14 nm
Recommended Customer Price	

Performance

# of Cores	16
# of Threads	32
Processor Base Frequency	2.10 GHz
Max Turbo Frequency	2.80 GHz
Cache	40 MB
Bus Speed	8 GT/s QPI
# of QPI Links	3
TDP	115 W

Supplemental Information

Embedded Options Available	No
Datasheet	Link

Memory Specifications

Max Memory Size (dependent on memory type)	3.07 TB
Memory Types	DDR4-1333/1600/1866 DDR3-1066/1333/1600
Max # of Memory Channels	4
Max Memory Bandwidth	85 GB/s
Physical Address Extensions	46-bit
ECC Memory Supported ‡	Yes

Graphics Specifications

Processor Graphics ‡	None

Expansion Options

Scalability	S4S
PCI Express Revision	3.0
PCI Express Configurations ‡	x4, x8, x16
Max # of PCI Express Lanes	32

Package Specifications

Sockets Supported	FCLGA2011
Max CPU Configuration	4
T_{CASE}	69°C

Related Products

Intel® Xeon® Processor E7 v4 Family

Intel® Xeon® Processor E7-4800 v4 Product Family

Products formerly Broadwell

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PCN/MDDS Information

SR2S2
948735: PCN | MDDS

Package Size	45mm x 52.5mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Intel® Turbo Boost Technology ‡	2.0
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	64-bit
Instruction Set Extensions	AVX2.0
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Instruction Replay Technology	No

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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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.

“Conflict free” and “conflict-free” means “DRC conflict free”, which is defined by the U.S. Securities and Exchange Commission rules to mean products that do not contain conflict minerals (tin, tantalum, tungsten and/or gold) that directly or indirectly finance or benefit armed groups in the Democratic Republic of the Congo (DRC) or adjoining countries. Intel also uses the term "conflict-free" in a broader sense to refer to suppliers, supply chains, smelters and refiners whose sources of conflict minerals do not finance conflict in the DRC or adjoining countries. Intel processors manufactured before January 1, 2013 are not confirmed conflict free. The conflict free designation refers only to product manufactured after that date. For Intel Boxed Processors, the conflict free designation refers to the processor only, not to any additional included accessories, such as heatsinks/coolers.

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.

The Recommended Customer -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.

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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