Intel® Xeon® Processor E5-2680 (20M Cache, 2.70 GHz, 8.00 GT/s Intel® QPI)

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Specifications

Essentials

Processor Number	E5-2680
Status	End of Life
Launch Date	Q1'12
Expected Discontinuance	Q2'15
Lithography	32 nm
Recommended Customer Price	-

Performance

# of Cores	8
# of Threads	16
Processor Base Frequency	2.70 GHz
Max Turbo Frequency	3.50 GHz
Cache	20 MB SmartCache
Bus Speed	8 GT/s QPI
# of QPI Links	2
TDP	130 W
VID Voltage Range	0.60V-1.35V

Supplemental Information

Embedded Options Available	No
Datasheet	Link

Memory Specifications

Max Memory Size (dependent on memory type)	384 GB
Memory Types	DDR3 800/1066/1333/1600
Max # of Memory Channels	4
Max Memory Bandwidth	51.2 GB/s
ECC Memory Supported ‡	Yes

Expansion Options

Scalability	2S Only
PCI Express Revision	3.0
Max # of PCI Express Lanes	40

Package Specifications

Sockets Supported	FCLGA2011
Max CPU Configuration	2
T_{CASE}	85°C
Package Size	52.5mm x 45.0mm
Low Halogen Options Available	See MDDS

Advanced Technologies

Related Products

Intel® Xeon® Processor E5 Family

Intel® Xeon® Processor E5-2600 Product Family

Products formerly Sandy Bridge EP

Quick Links

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PCN/MDDS Information

SR0KH
919064: PCN | MDDS
919846: PCN | MDDS
SR0GY
917883: PCN | MDDS

Intel® Turbo Boost Technology ‡	2.0
Intel® vPro Technology ‡	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® 64 ‡	Yes
Instruction Set	64-bit
Instruction Set Extensions	AVX
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 ‡	No

Intel® Data Protection Technology

Intel® AES New Instructions	Yes

Intel® Platform Protection Technology

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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