

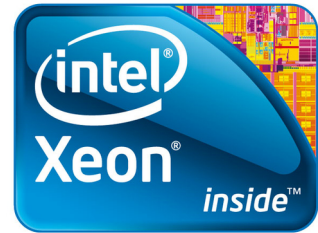
Intel Xeon E5-1650 processor 3.2 GHz 12 MB Smart Cache

Brand : Intel

Product family: Xeon

Product code:
CM8062101102002

Product name : E5-1650



Intel® Xeon® Processor E5-1650

(12M Cache, 3.20 GHz, 0.0 GT/s Intel® QPI)

Intel Xeon E5-1650. Processor family: Intel® Xeon® E5 Family, Processor socket: LGA 2011 (Socket R), Processor lithography: 32 nm. Memory channels: Quad-channel, Maximum internal memory supported by processor: 375 GB, Memory types supported by processor: DDR3-SDRAM. Market segment: Server, Supported instruction sets: AVX, Export Control Classification Number (ECCN): 5A992C. Intel® Turbo Boost Technology 2.0 frequency: 3.8 GHz. Processor package size: 52.5mm x 45mm



Processor		Processor special features	
Processor manufacturer *	Intel	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor model *	E5-1650	Intel® Identity Protection Technology (Intel® IPT)	✗
Processor base frequency *	3.2 GHz	Intel® Turbo Boost Technology	2.0
Processor family *	Intel® Xeon® E5 Family	Intel Flex Memory Access	✗
Processor cores *	6	Intel® Smart Cache	✓
Processor socket *	LGA 2011 (Socket R)	Intel® AES New Instructions (Intel® AES-NI)	✓
Component for	Server/workstation	Enhanced Intel SpeedStep Technology	✓
Processor lithography *	32 nm	Intel Trusted Execution Technology	✓
Processor series	Intel Xeon E5-1600	Intel® Turbo Boost Technology 2.0 frequency	3.8 GHz
Processor threads	12	Intel Enhanced Halt State	✓
Processor operating modes *	64-bit	Intel VT-x with Extended Page Tables (EPT)	✓
Processor boost frequency	3.8 GHz	Intel Demand Based Switching	✓
Processor cache	12 MB	Intel 64	✓
Processor cache type	Smart Cache	Intel Identity Protection Technology version	0.00
L3 cache speed	3.2 GHz	Intel Virtualization Technology (VT-x)	✓
Thermal Design Power (TDP)	130 W	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Box *	✗	Intel® vPro™ Platform Eligibility	✓
Cooler included *	✗	Operational conditions	
VID Voltage Range	0.6 - 1.35 V	Tcase	64 °C
Bus type	QPI	Technical details	
CPU multiplier (bus/core ratio)	38	Born on date	Q1'12
Memory bandwidth supported by processor (max)	51.2 GB/s	Launch date	Q1'12
Processor codename	Sandy Bridge EP	Processor cache	12288 KB
Processor ARK ID	64601	Processor core voltage	0.60 - 1.35 V
Memory			
Maximum internal memory supported by processor	375 GB		
Memory types supported by processor	DDR3-SDRAM		
Memory clock speeds supported by processor	800,1066,1333,1600 MHz		
Memory channels *	Quad-channel		

Memory		Technical details	
ECC	✓	Product name	Intel Xeon E5-1650 (12M Cache, 3.20 GHz, 0.0 GT/s Intel QPI)
Features		Product type	Processor
Execute Disable Bit	✓	Status	Discontinued
Idle States	✓	Maximum memory	256 GB
Thermal Monitoring Technologies	✓	Processor brand name	Intel Xeon
Market segment	Server	Supported memory types	DDR3-SDRAM
Maximum number of PCI Express lanes	40	Last change	63903513
PCI Express slots version	3.0	Product family	Intel Xeon Processor E5 Family
Supported instruction sets	AVX	Bus speed	0 QPI
CPU configuration (max)	1	Logistics data	
Embedded options available	✗	Harmonized System (HS) code	8542310001
PCI Express CEM revision	3.0	Weight & dimensions	
Export Control Classification Number (ECCN)	5A992C	Processor package size	52.5mm x 45mm
Commodity Classification Automated Tracking System (CCATS)	G077159	Other features	
Images Type Map	✗	Intel® Virtualization Technology (Intel® VT)	VT-d, VT-x
		Maximum internal memory	256 GB
		Maximum internal memory	262144 MB
		Cache memory	12 MB

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