



Compare Intel® Products

Intel® Xeon®
Processor
D-1541Intel® Xeon®
Processor
E3-1241 v3Intel® Xeon®
Processor
E5-2620 v4Intel® Xeon®
Processor
E5-2640 v4Intel® Xeon®
Processor
E5-2630 v4

Essentials

Product Collection	Intel® Xeon® Processor D Family	Intel® Xeon® Processor E3 v3 Family	Intel® Xeon® Processor E5 v4 Family	Intel® Xeon® Processor E5 v4 Family	Intel® Xeon® Processor E5 v4 Family	
Vertical Segment	Server	Server	Server	Server	Server	
Processor Number	D-1541	E3-1241V3	E5-2620V4	E5-2640V4	E5-2630V4	
Status	Launched	Launched	Launched	Launched	Launched	
Launch Date	Q4'15	Q2'14	Q1'16	Q1'16	Q1'16	
Lithography	14 nm	22 nm	14 nm	14 nm	14 nm	
Recommended Customer Price	\$581.00	\$262.00 - \$273.00	\$417.00 - \$422.00	\$939.00	\$667.00 - \$671.00	

Performance

# of Cores	8	4	8	10	10	
# of Threads	16	8	16	20	20	
Processor Base Frequency	2.10 GHz	3.50 GHz	2.10 GHz	2.40 GHz	2.20 GHz	
Max Turbo Frequency	2.70 GHz	3.90 GHz	3.00 GHz	3.40 GHz	3.10 GHz	
Cache	12 MB	8 MB SmartCache	20 MB SmartCache	25 MB SmartCache	25 MB SmartCache	
TDP	45 W	80 W	85 W	90 W	85 W	
Bus Speed		5 GT/s DMI2	8 GT/s QPI	8 GT/s QPI	8 GT/s QPI	
# of QPI Links		0	2	2	2	
VID Voltage Range			0	0	0	

Supplemental Information



◀ Embedded Options Available ▶	No	No	Yes	Yes	No	
◀ Datasheet ▶	View now	View now	View now	View now	View now	
◀ Conflict Free ▶	Yes	Yes	Yes	Yes	Yes	
◀ Product Brief ▶	View now					

Memory Specifications



◀ Max Memory Size (dependent on memory type) ▶	128 GB	32 GB	1.54 TB	1.54 TB	1.54 TB	
◀ Memory Types ▶	DDR4, DDR3	DDR3 and DDR3L 1333/1600 at 1.5V	DDR4 1600/1866/2133	DDR4 1600/1866/2133	DDR4 1600/1866/2133	
◀ Max # of Memory Channels ▶	2	2	4	4	4	
◀ ECC Memory Supported ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Max Memory Bandwidth ▶		25.6 GB/s	68.3 GB/s	68.3 GB/s	68.3 GB/s	
◀ Physical Address Extensions ▶			46-bit	46-bit	46-bit	

Graphics Specifications



◀ Processor Graphics ‡ ▶	None	None	None	None	None	
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Expansion Options



◀ Scalability ▶	1S Only	1S Only	2S	2S	2S	
◀ PCI Express Revision ▶	2.0/3.0	3.0	3.0	3.0	3.0	
◀ PCI Express Configurations ‡ ▶	x4 x8 x16	1x16, 2x8, 1x8/2x4	x4, x8, x16	x4, x8, x16	x4, x8, x16	
◀ Max # of PCI Express Lanes ▶	32	16	40	40	40	

I/O Specifications



◀ USB Revision ▶	2.0/3.0					
◀ # of USB Ports ▶	8					

◀ Total # of SATA Ports ▶	6					
◀ Integrated LAN ▶	Yes					
◀ General Purpose IO ▶	Yes					
◀ UART ▶	Yes					

Networking Specifications



◀ SFI Interface ▶	Yes					
◀ KR Interface ▶	Yes					
◀ KR4 Interface ▶	No					
◀ KX Interface ▶	Yes					
◀ KX4 Interface ▶	No					
◀ 100Base-T ▶	No					
◀ 1000Base-T ▶	Yes					
◀ 10GBase-T ▶	Yes					

Package Specifications



◀ Sockets Supported ▶	FCBGA1667	FCLGA1150	FCLGA2011-3	FCLGA2011-3	FCLGA2011-3	
◀ Max CPU Configuration ▶	1	1	2	2	2	
◀ Package Size ▶	37.5mm x 37.5mm	37.5mm x 37.5mm	45mm x 52.5mm	45mm x 52.5mm	45mm x 52.5mm	
◀ Low Halogen Options Available ▶	See MDDS	See MDDS	See MDDS	See MDDS	See MDDS	
◀ Thermal Solution Specification ▶		PCG 2013D				
◀ T _{CASE} ▶			74°C	76°C	74°C	

Advanced Technologies



◀ Intel® Turbo Boost Technology ‡ ▶	2.0	2.0	2.0	2.0	2.0	
◀ Intel® Hyper-Threading Technology ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® Virtualization Technology (VT-x) ‡ ▶	Yes	Yes	Yes	Yes	Yes	

◀ Intel® Virtualization Technology for Directed I/O (VT-d) ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® VT-x with Extended Page Tables (EPT) ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® TSX-NI ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® 64 ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Instruction Set ▶	64-bit	64-bit	64-bit	64-bit	64-bit	
◀ Instruction Set Extensions ▶	AVX 2.0	SSE4.1/4.2, AVX 2.0	AVX 2.0	AVX 2.0	AVX 2.0	
◀ Idle States ▶	Yes	Yes	Yes	Yes	Yes	
◀ Enhanced Intel SpeedStep® Technology ▶	Yes	Yes	Yes	Yes	Yes	
◀ Thermal Monitoring Technologies ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® vPro™ Technology ‡ ▶		Yes	Yes	Yes	Yes	
◀ Intel® Fast Memory Access ▶		Yes				
◀ Intel® Flex Memory Access ▶		Yes	No	No	No	
◀ Intel® Identity Protection Technology ‡ ▶		Yes	No	No	No	
◀ Intel® Stable Image Platform Program (SIPP) ▶		Yes				
◀ Intel® Demand Based Switching ▶			Yes	Yes	Yes	

Security & Reliability



◀ Intel® AES New Instructions ▶	Yes	Yes	Yes	Yes	Yes	
◀ Secure Key ▶	Yes	Yes	Yes	Yes	Yes	
◀ Intel® Trusted Execution Technology ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ Execute Disable Bit ‡ ▶	Yes	Yes	Yes	Yes	Yes	
◀ OS Guard ▶	Yes	Yes	Yes	Yes	Yes	
◀ Anti-Theft Technology ▶		Yes				

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