



## Compare Intel® Products



Intel® Xeon® Processor D-1541



Intel® Xeon® Processor E3-1241 v3



Intel® Xeon® Processor E5-2620 v4



Intel® Xeon® Processor E5-2640 v4



Intel® 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	<a href="#">View now</a>					
Conflict Free	Yes	Yes	Yes	Yes	Yes	
Product Brief	<a href="#">View now</a>					

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 <sub>CASE</sub> >			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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Refer to Datasheet for formal definitions of product properties and features.