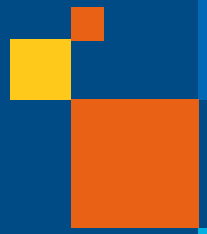
Product 30-3-30

Intel® Xeon® E-2400 Processors

Content Revision Date: December 2023

Catlow Platform, Raptor Lake-E Processors

Public Use Approved



intel®

Intel® Xeon® E-2400 Processors 30-Second Presentation

Introducing Intel® Xeon® E-2400 Processors

8 new processors for single-socket servers featuring 8, 6 or 4 CPU cores

Enhanced Performance

- Up to a 1.3x performance improvement over the prior generation[1]
- Frequencies up to 5.6 GHz with Intel® Turbo Boost Max Technology 3.0
- Up to 128GB DDR5 memory with speeds up to 4800 MT/s and ECC support

Greater Expandability

- Up to 16 lanes of PCIe 5.0 from CPU
- Up to 24 lanes of PCIe 4.0 from CPU and PCH
- Up to 15 total USB 3.2 ports

Modern Manageability and Security

- Intel® Server Platform Services (Intel® SPS) 6 firmware with Intel® Node Manager support

Essential performance, expandability and reliability for entry-level servers

[1] See backup for workloads and configurations. Results may vary.

Intel® Xeon® E-2400 Processors 3-Minute Presentation

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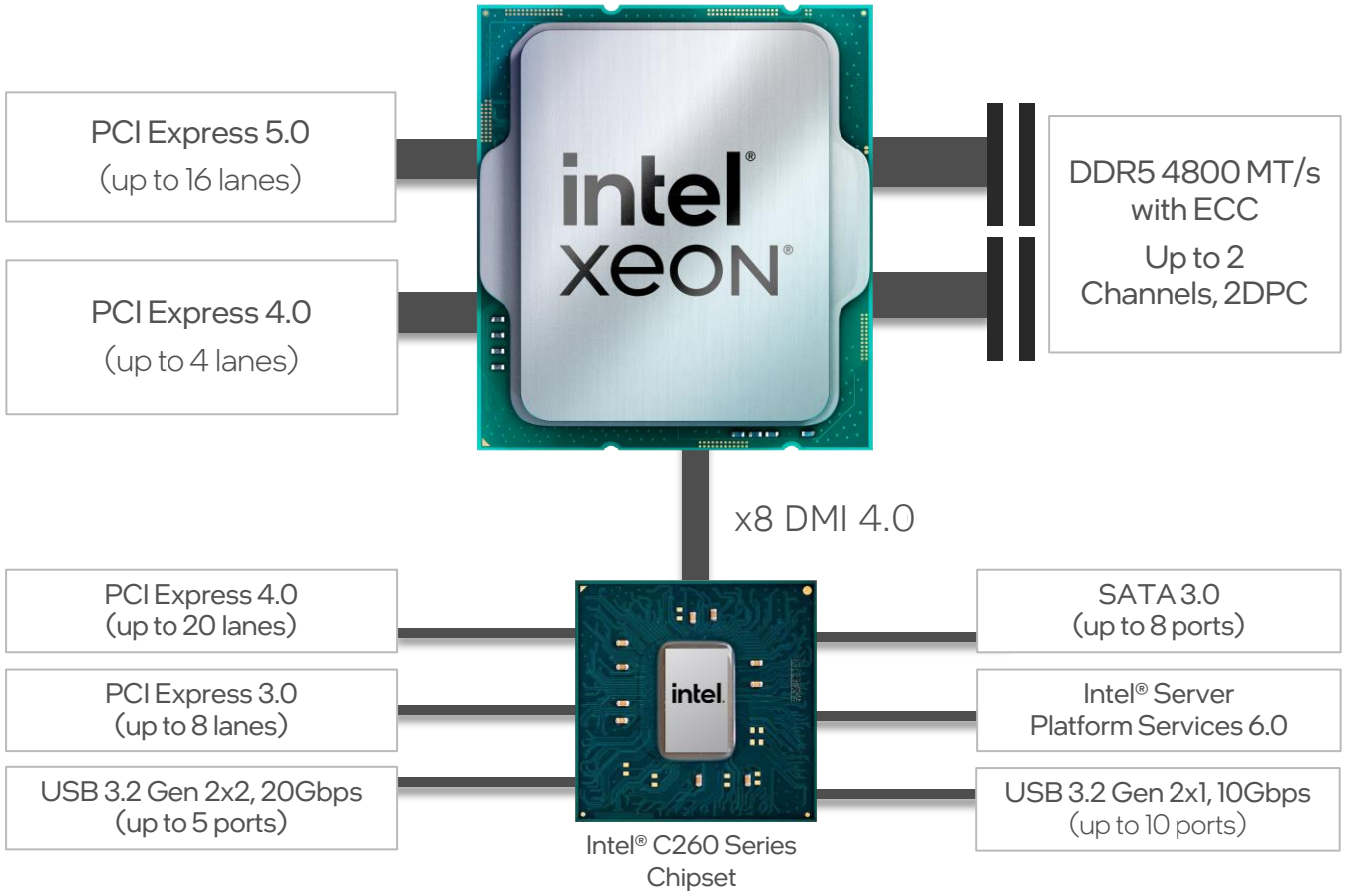
Intel® Xeon® E Processors

New Intel Xeon E-2400 Processors for Entry-Level Servers



AVAILABLE IN SINGLE-SOCKET CONFIGURATION ONLY

Processor, chipset and diagram provided for illustration purposes only.
Diagram and table are not a comprehensive of all features and capabilities.

Maximum Core Count Supported	Up to 8 Cores
Maximum Base Frequency Supported	3.5 GHz
Maximum Intel Turbo Boost Technology 3.0 Frequency Supported	5.6 GHz
Processor Cache Memory Support	Up to 24 MB Intel® Smart Cache
Processor Performance Support	Intel® Turbo Boost Max Technology 3.0, Intel® Hyper-Threading Technology (Intel® HT)
Maximum Number of Processor Sockets Supported	One Socket
Thermal Design Point (TDP)	Up to 95 Watts
Socket Type	LGA1700 Socket
System Memory Support	2 channels of DDR5 ECC Up to 4800 MT/s 2 DPC, UDIMMs only
Maximum System Memory Supported	Up to 128 GB
Supported Chipset	Intel® C262 or C266 Chipsets
I/O	PCI Express 5.0 – Up to 16 lanes (CPU) PCI Express 4.0 – Up to 20 lanes (PCH) USB 3.2 Gen2x2 (20G) – Up to 5 ports USB 3.2 Gen2x1 (10G) – Up to 10 ports SATA 3.0 – Up to 8 ports DMI – 8 lanes, Gen 4
Intel® Server Platform Services	Intel® SPS 6.0 with Intel® NM support
Intel® VROC	SATA RAID
Support for Intel® Ethernet	1 GbE i210 (LOM/AIC) 10 GbE x710 (AIC) 25 GbE E810 (AIC)
Processor Manufacturing Process	Intel 7 process technology

Intel® Xeon® E-2400 Processors 30-Minute Presentation

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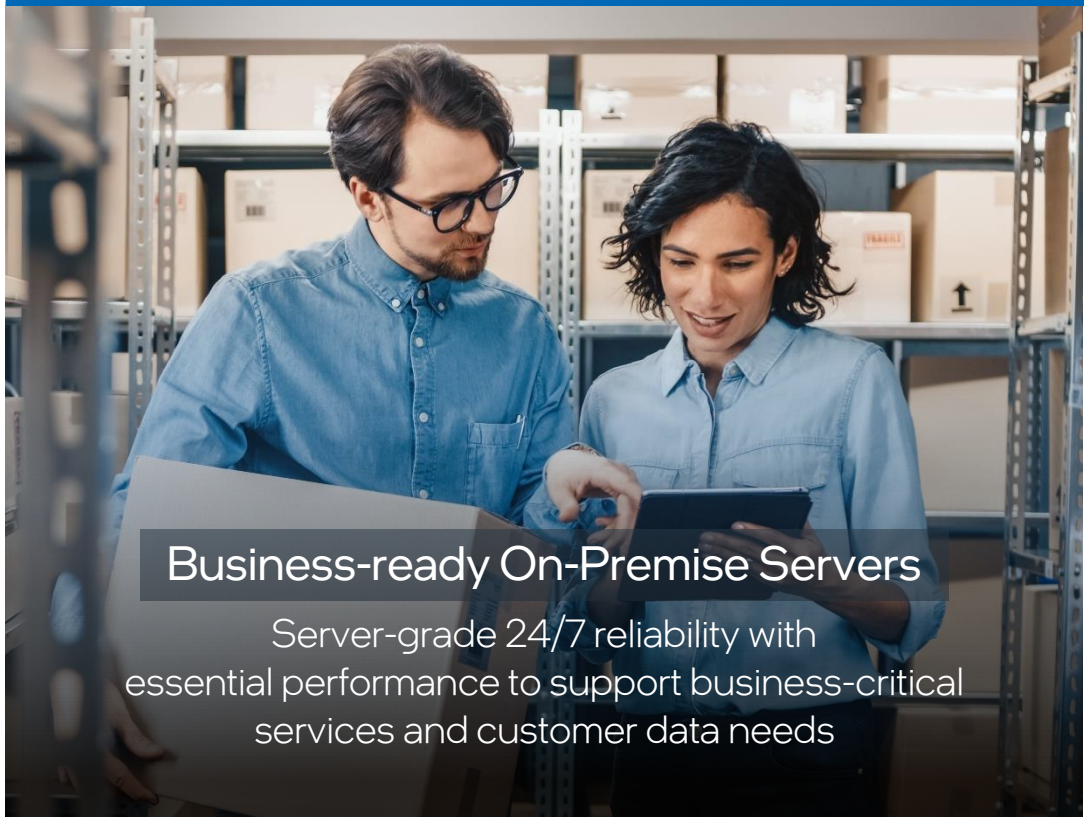
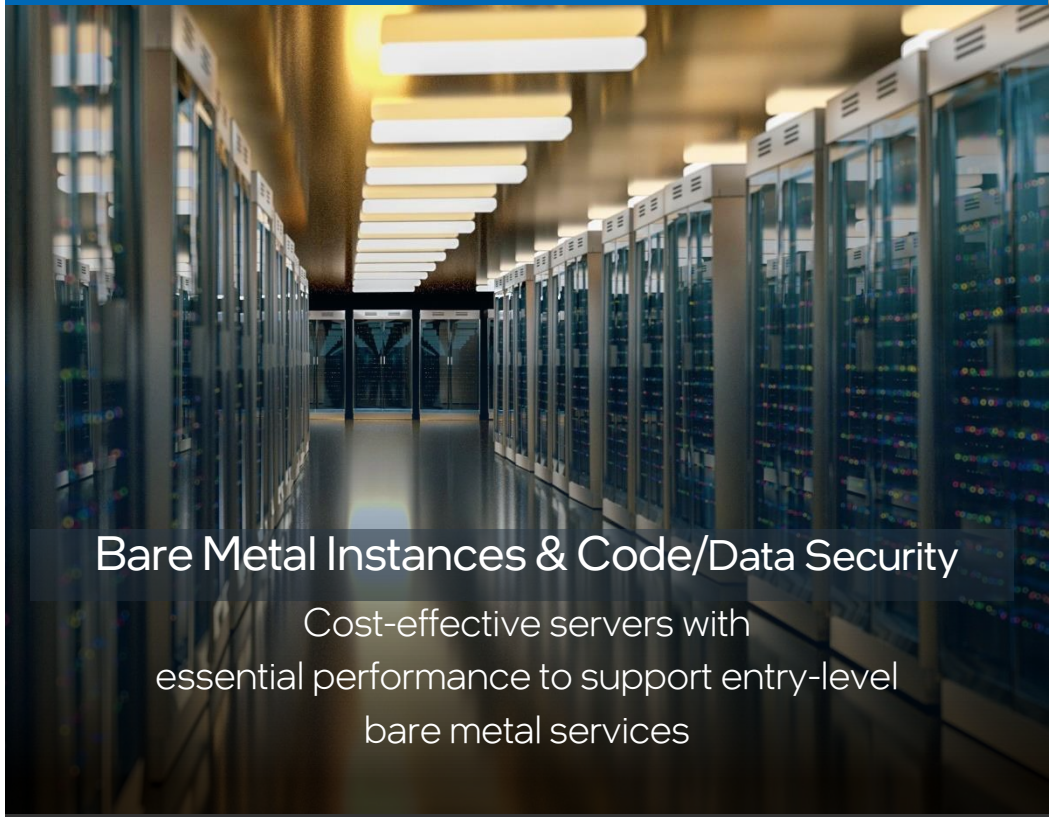
Intel® Xeon® E Processors
Server Landscape

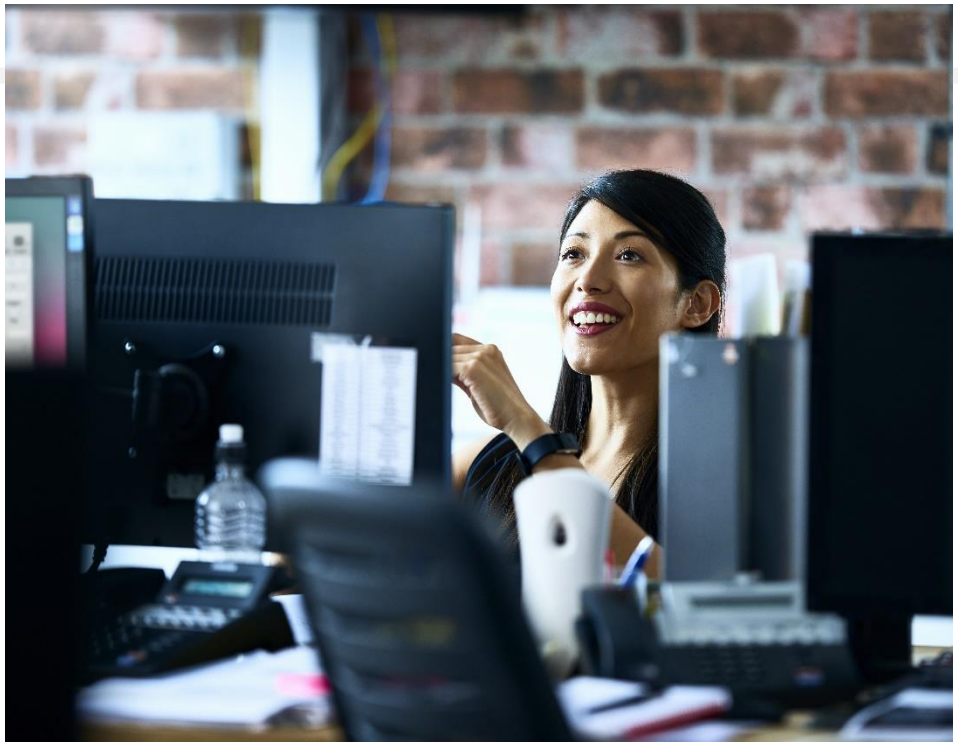
Small Businesses



Cloud Services



Intel® Xeon® E Processors for Small Business

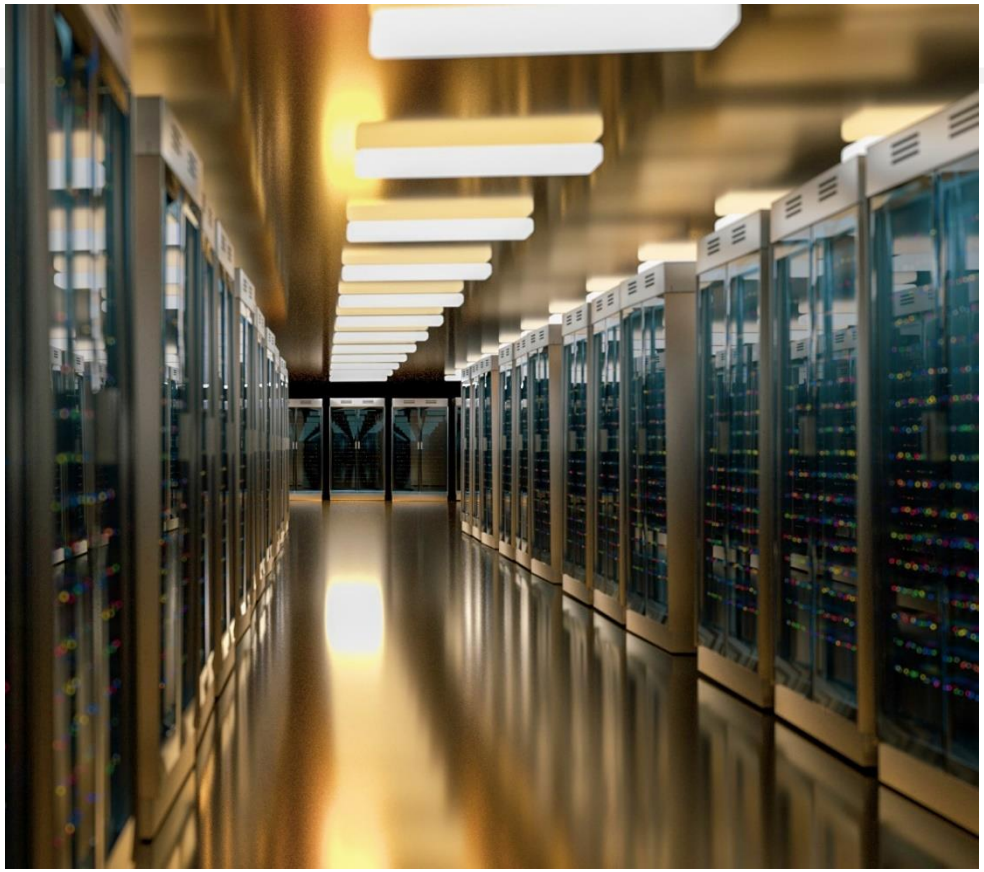


Why Upgrade Now?

- **Reduce risks**—Help protect your business data from the latest security threats with modern server hardware, features, and regular OS security patches
  - Intel Xeon E-2400 processors include support for Windows Server 2022
- **Reduce costs and downtime**—Older hardware can increase the risk of downtime and repair costs, particularly after warranties have expired
- **Improve efficiencies**—A server upgrade can offer faster, more capable support for newer business software and more users
  - Added server performance can help your business maintain a competitive edge and improve customer service
- **Be ready for remote management**—get the IT help you need with built-in firmware support for the latest remote management tools

An investment in a professional-grade server featuring an Intel Xeon E processor is an investment in your business

Intel® Xeon® E Processors for Cloud Services

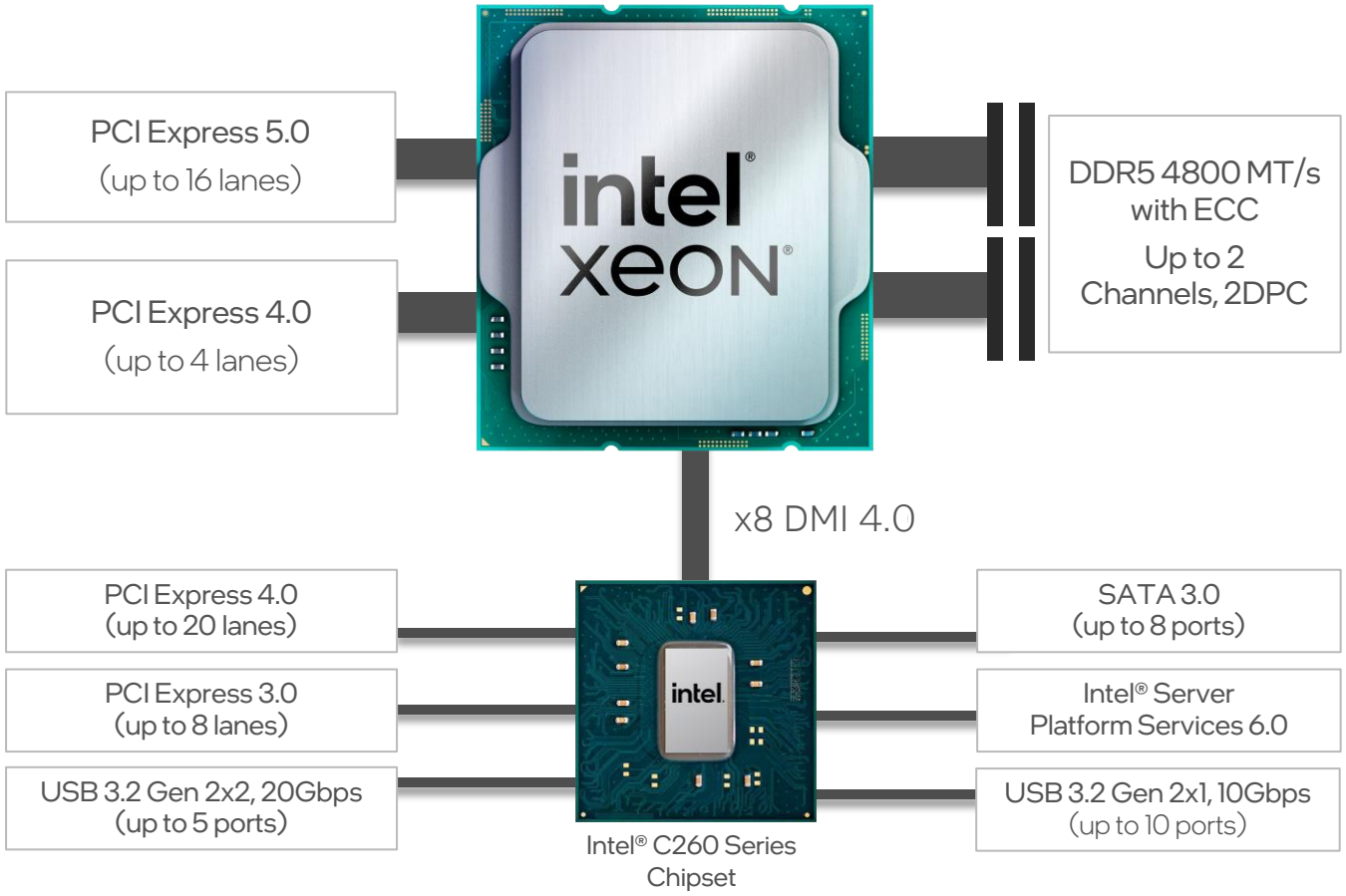


Entry Server Bare Metal & Cloud Performance

- **Expand your IaaS customer base**—with cost-effective, entry-level bare metal instances designed to deliver essential performance, manageability and reliability
  - Available with 4, 6, or 8 cores (8, 12, or 16 threads) and processor TDPs ranging from 55-95W.
  - Base frequencies as high as 3.5 GHz, with Intel® Turbo Boost Max Technology 3.0 frequencies up to 5.6 GHz on Intel 7 process technology.
  - Up to 128 GB of DDR5 memory, with speed up to 4800 MT/s, ideal for workloads and applications that require faster memory throughput.
  - PCIe 5.0 support provides high-speed I/O for faster storage or network connectivity.
- **Manageability and Reliability**
  - Server-grade manageability with Intel® Server Platform Services 6 (Intel® SPS) supporting Intel® Node Manager.
  - Error Correcting Code (ECC)-enabled memory subsystem prevents inadvertent data changes or system crashes.

Intel® Xeon® E Processors

New Intel® Xeon® E-2400 Processors for Entry-Level Servers



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Prior Platform Comparison

New capabilities, relative to the prior Tatlow platform with Intel® Xeon® E-2300 processors, in **Bolded Blue**

Platform	Tatlow (prior)	Catlow (new)
CPU	Intel® Xeon® E-2300 processors (Rocket Lake-E)	**Intel® Xeon® E-2400 processors (Raptor Lake-E)**
Socket	LGA 1200	**LGA 1700**
Scalability	1S	1S
Core	Up to 8 Cores Gen12 Graphics Support	Up to 8 Cores **(Raptor Cove)**
Memory	2 channels DDR4 2 DPC UDIMM ECC Up to 3200 MT/s	2 channels **DDR5** 2 DPC UDIMM ECC **Up to 4800 MT/s**
PCIe	20 lanes PCIe 4.0 Bifurcation support: 1x16+1x4, 2x8+1x4, 1x8+3x4	**16 lanes PCIe 5.0** 4 lanes PCIe 4.0 Bifurcation support: 1x16+1x4, 2x8+1x4
ISE Support	SSE4.1, SSE4.2, AVX, AVX2, AVX3	SSE4.1, SSE4.2, AVX, AVX2
PCH	Intel® C250 Series Chipset DMI x8 3.0 Up to 8 SATA ports Up to 24 PCIe 3.0 lanes USB 3.2 Gen 2x1 (10 Gb) up to 10 ports USB 3.2 Gen 2x2 (20 Gb) up to 3 ports USB 2.0 (5 Gb) up to 14 ports eSPI supported	**Intel® C260 Series Chipset** DMI x8 **4.0** Up to 8 SATA ports Up to **20 PCIe 4.0** and 8 PCIe 3.0 lanes USB 3.2 Gen 2x1 (10 Gb) up to 10 ports **USB 3.2 Gen 2x2 (20 Gb) up to 5 ports** USB 2.0 up to 14 ports eSPI supported
AMT Server	Yes	No
SGX	Yes	No

Intel® Xeon® E-2400 Processors

Processor Number	Base Clock Speed (GHz)	Intel Turbo Boost Technology Frequency (GHz)*	Cores/ Threads	Cache (MB)	PCI Express 5.0, 4.0, and 3.0 Lanes (CPU + Chipset)	Memory Support	Thermal Design Power (TDP)	Socket (LGA)	Recommended Customer Pricing (RCP)
Intel Xeon E-2488 Processor	3.2	5.6	8/16	24 MB SmartCache	48	Two channels DDR5-4800	95W	1700	$606
Intel Xeon E-2478 Processor	2.8	5.2	8/16	24 MB SmartCache	48	Two channels DDR5-4800	80W	1700	$556
Intel Xeon E-2468 Processor	2.6	5.2	8/16	24 MB SmartCache	48	Two channels DDR5-4800	65W	1700	$426
Intel Xeon E-2486 Processor	3.5	5.6	6/12	18 MB SmartCache	48	Two channels DDR5-4800	95W	1700	$506
Intel Xeon E-2456 Processor	3.3	5.1	6/12	18 MB SmartCache	48	Two channels DDR5-4800	80W	1700	$375
Intel Xeon E-2436 Processor	2.9	5.0	6/12	18 MB SmartCache	48	Two channels DDR5-4800	65W	1700	$319
Intel Xeon E-2434 Processor	3.4	5.0	4/8	12 MB SmartCache	48	Two channels DDR5-4800	55W	1700	$281
Intel Xeon E-2414 Processor**	2.6	4.5	4/4	12 MB SmartCache	48	Two channels DDR5-4800	55W	1700	$213

*Intel® Turbo Boost Max Technology 3.0 may not be available on all SKUs.
**Intel Xeon E-2414 processors does not support Intel® Hyper-Threading Technology (Intel® HT technology).
See intel.com/products/processor_number for details.
Processor details, features, cost and availability are subject to change without notice. Please visit intel.com/xeone for the latest product information.

Enabling the Entry-level Server Ecosystem with Intel® Xeon® E-2400 Processors

Notices and Disclaimers

- Intel technologies may require enabled hardware, software or service activation.
- No product or component can be absolutely secure.
- Your costs and results may vary.
- Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details.
- Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.
- Intel contributes to the development of benchmarks by participating in, sponsoring, and/or contributing technical support to various benchmarking groups, including the BenchmarkXPRT Development Community administered by Principled Technologies.
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Configuration Details

1. “Up to a 1.3x performance improvement compared to the prior generation.”
   - Baseline: 1-node, 1x Intel(R) Xeon(R) E-2314 CPU @ 2.80GHz, 4 cores, HT Off, Turbo On, NUMA 1, Total Memory 128GB (4x32GB DDR4 3200 MT/s [2933 MT/s]), BIOS RKLSE2I1.R00.2124.A18.2303010847, microcode 0x59, 1x I210 Gigabit Network Connection, 1x 894.3G INTEL SSDSC2KG96, Red Hat Enterprise Linux 8.9 (Ootpa), 4.18.0-504.el8.x86_64, est_SPEC CPU2017, Intel IC20232.3 Test by Intel as of November 2023.
   - New: 1-node, 1x Intel(R) Xeon(R) E E-2414, 4 cores, HT Off, Turbo On, NUMA 1, Total Memory 128GB (4x32GB DDR5 4800 MT/s [3600 MT/s]), BIOS CTLSFWI1.R00.3240.A00.2306111911, microcode 0x118, 2x I210 Gigabit Network Connection, 1x Ethernet interface, 1x 894.3G INTEL SSDSC2KG96, Red Hat Enterprise Linux 8.9 (Ootpa), 4.18.0-504.el8.x86_64, est_SPEC CPU2017, Intel IC20232.3 Test by Intel as of November 2023.


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