

Processor	Cache	Frequency
Intel® Xeon® 6530P Processor	144M	2.30 GHz
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CPU Specifications

Product Collection

Intel® Xeon® 6 processors

Intel® Speed Select Technology - Performance Profile
(Intel® SST-PP)

Products formerly Granite Rapids

Supplemental Information

Vertical Segment

Server

Memory Specifications

Processor Number

6530P

Expansion Options

Lithography

Intel 3

Package Specifications

Recommended Customer Price

\$2234.00

Advanced Technologies

CPU Specifications

Total Cores	32
Total Threads	64
Max Turbo Frequency	4.1 GHz
All Core Turbo Frequency	3.7 GHz
Processor Base Frequency	2.3 GHz
Cache	144 MB
Intel® UPI Speed	24 GT/s
Max # of UPI Links	4
TDP	225 W

Intel® Speed Select Technology - Performance Profile (Intel® SST-PP)

Config	Active Cores	Base Frequency	TDP	Description
6530P(0)	32	2.3	225	Server Mode
6530P(1)	32	2.8	225	Compute Mode

Supplemental Information

Marketing Status	Launched
Launch Date 	Q1'25
Embedded Options Available 	Yes

Memory Specifications

Max Memory Size (dependent on memory type) ?	4 TB
Memory Types ?	DDR5(6400MT/s)
Maximum Memory Speed	6400 MT/s
Max # of Memory Channels ?	8
ECC Memory Supported [†] ?	Yes

Expansion Options

Scalability	25
PCI Express Revision ?	5.0
Max # of PCI Express Lanes ?	88

Package Specifications

Sockets Supported	FCLGA4710
Package Carrier	E2B
DTS Max	96 °C
T _{CASE}	81 °C
Package Size	77.5mm x 56.5mm

Advanced Technologies

Intel® QuickAssist Technology (QAT)	2 default devices
Intel® Dynamic Load Balancer (DLB)	2 default devices
Intel® Data Streaming Accelerator (DSA)	2 default devices
Intel® In-memory Analytics Accelerator (IAA)	2 default devices

Intel® Advanced Matrix Extensions (AMX)	Yes
Intel® Speed Select Technology – Core Power ?	Yes
Intel® Speed Select Technology – Turbo Frequency ?	Yes
Intel® Deep Learning Boost (Intel® DL Boost) on CPU ?	Yes
Intel® Speed Select Technology - Performance Profile ?	Yes
Intel® Speed Select Technology - Base Frequency ?	Yes
High Priority Cores	12
High Priority Core Frequency	2.4 GHz
Low Priority Cores	20
Low Priority Core Frequency	2.2 GHz
Intel® Resource Director Technology (Intel® RDT) ?	Yes
Intel® Speed Shift Technology ?	Yes
Intel® Turbo Boost Technology [‡] ?	2.0
Intel® Hyper-Threading Technology [‡] ?	Yes
Intel® Transactional Synchronization Extensions ?	Yes
Intel® 64 [‡] ?	Yes
Instruction Set Extensions ?	Intel® SSE4.2, Intel® AVX, Intel® AVX2, Intel® AVX-512, Intel® AMX
# of AVX-512 FMA Units ?	2
Intel® Volume Management Device (VMD) ?	Yes

Security & Reliability

Intel® Trust Domain Extensions (Intel® TDX) ?	Yes
Intel® Secure Key ?	Yes
Intel® Crypto Acceleration ?	Yes
Intel® QuickAssist Software Acceleration	Yes
Intel® Platform Firmware Resilience Support	Yes
Intel® Control-Flow Enforcement Technology ?	Yes
Intel® Total Memory Encryption - Multi Key	Yes
Intel® Total Memory Encryption ?	Yes
Intel® AES New Instructions ?	Yes
Intel® Software Guard Extensions (Intel® SGX) ?	Yes
Default Maximum Enclave Page Cache (EPC) Size for Intel® SGX	128 GB
Intel® OS Guard	Yes
Intel® Trusted Execution Technology [‡] ?	Yes
Execute Disable Bit [‡] ?	Yes
Intel® Boot Guard ?	Yes
Intel® Run Sure Technology ?	Yes
Mode-based Execute Control (MBEC) ?	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

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Refer to Datasheet for formal definitions of product properties and features.

[‡] 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.

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.

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System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all I/Os for chipsets are used.

Announced SKUs are not yet available. Please refer to the Launch Date for market availability.

Max Turbo Frequency refers to the maximum single-core processor frequency that can be achieved with Intel® Turbo Boost Technology. See <https://www.intel.com/content/www/us/en/gaming/resources/turbo-boost.html> for more information and applicability of this technology.

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.

Processors that support 64-bit computing on Intel® architecture require an Intel 64 architecture-enabled BIOS.

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.

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