Intel

Intel Xeon Platinum 8480+ Processor (PK8071305074801)

Datasheet

Product Overview

- The Intel Xeon Platinum 8480+ is a 4th Gen Intel Xeon Scalable processor for demanding enterprise, cloud, AI, networking, and data-center server workloads.
- It provides 56 cores and 112 threads, with a 2.00 GHz base frequency, up to 3.80 GHz Intel Turbo Boost frequency, 105 MB cache, and a 350 W TDP.
- The processor supports two-socket scalability, eight DDR5 memory channels, and high-bandwidth PCI Express 5.0 expansion for dense server platforms.
- Up to DDR5-4800 MT/s at 1DPC and DDR5-4400 MT/s at 2DPC support high-capacity server memory, with eight channels and ECC support for platform reliability.
- Eighty PCIe 5.0 lanes and 16 GT/s UPI with four UPI links support high-throughput multi-socket compute, networking, storage, and accelerator deployments.
- One default device each for QAT, DLB, DSA, and IAA provides hardware acceleration options, while Intel SGX supports a 512 GB default maximum EPC size.

Product Highlights

- **56-Core Platinum Compute:** 56 cores and 112 threads provide high parallel processing capacity for enterprise, cloud, AI, network, and data-center workloads.
- **Two-Socket PCIe Expansion:** 2S scalability, 80 PCIe 5.0 lanes, and 16 GT/s UPI with four links support high-speed networking, storage, accelerators, and server I/O.
- **DDR5 Memory Flexibility:** Eight memory channels support up to DDR5-4800 MT/s at 1DPC and DDR5-4400 MT/s at 2DPC, with ECC support for server-class systems.
- **Integrated Accelerator Portfolio:** Intel documents one default device each for QAT, DLB, DSA, and IAA, providing acceleration options for supported cryptography, load balancing, data movement, and analytics.

Detailed Features



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Quote | Help

Component	Specification
Processor	Intel Xeon Platinum 8480+, 56 cores / 112 threads
Ordering Information	PK8071305074801, FC-LGA16A Tray, Spec Code SRM7H
Frequency and Cache	2.00 GHz base, up to 3.80 GHz turbo, 105 MB cache
Memory	Up to DDR5-4800 MT/s 1DPC or DDR5-4400 MT/s 2DPC, 8 channels, ECC supported
Power and Expansion	350 W TDP, 2S scalability, PCIe 5.0 with 80 lanes, 16 GT/s UPI, 4 UPI links

High-Core-Count Server Performance

The 8480+ combines 56 cores and 112 threads with a 2.00 GHz base frequency and up to 3.80 GHz Intel Turbo Boost frequency. This profile suits enterprise, cloud, AI, network, analytics, and data-center workloads.

Two-Socket Platform Design

Intel specifies 2S scalability, 16 GT/s UPI, and four UPI links. The processor supports multi-socket platforms where high core density, shared memory capacity, and inter-socket bandwidth are required.

PCIe 5.0 Expansion Capacity

Eighty PCIe 5.0 lanes provide high-speed connectivity for Ethernet adapters, storage controllers, accelerators, and other I/O devices. The lane budget supports high-throughput expansion across a server platform.

DDR5 Memory Bandwidth

Eight memory channels support up to DDR5-4800 MT/s with one DIMM per channel and up to DDR5-4400 MT/s with two DIMMs per channel. ECC support helps maintain data integrity in server environments.

Server Instruction Set and AMX

The processor lists Intel AMX, SSE4.2, AVX, AVX2, and AVX-512 instruction extensions for supported server and AI workloads.

Integrated Accelerator Portfolio

Intel documents one default device each for QAT, DLB, DSA, and IAA. These engines can offload supported cryptography, load-balancing, data-movement, and in-memory analytics operations from general-purpose cores.

High-Bandwidth Multi-Socket Interconnect

Intel UPI operates at 16 GT/s with four links, supporting communication between processor sockets in two-socket server platforms.

Protected Server Execution

Intel SGX with a 512 GB default maximum EPC size, Total Memory Encryption, AES instructions, Boot Guard, and Control-Flow Enforcement Technology help protect data and workloads across the server lifecycle.

Technical Specifications

Product Specifications

Feature	Value
User SKU	INTL-Platinum-8480+
Intel ordering code	PK8071305074801
Intel Spec Code	SRM7H
Processor model	Intel Xeon Platinum 8480+ Processor
Product collection	4th Gen Intel Xeon Scalable Processors
Code name	Products formerly Sapphire Rapids
Vertical segment	Server
Processor number	8480+
Lithography	Intel 7
Marketing status	Launched
Launch date	Q1 2023
Use conditions	Server / Enterprise
Total cores	56
Total threads	112

Feature	Value
Processor base frequency	2.00 GHz
Max turbo frequency	3.80 GHz
Cache	105 MB
Intel UPI speed	16 GT/s
Max UPI links	4
TDP	350 W
Scalability	2S
Sockets supported	FCLGA4677
Package carrier	E1A
Package size	77.5 mm x 56.5 mm
DTS max	97 °C
TCASE	79 °C
Max memory size	Up to 4 TB, depending on memory type and platform configuration
Memory types	Up to DDR5-4800 MT/s 1DPC; up to DDR5-4400 MT/s 2DPC
Max memory channels	8
ECC memory supported	Yes
PCI Express revision	5.0
Max PCI Express lanes	80
Intel On Demand Activation Model	No
Intel QuickAssist Technology	1 default device
Intel Dynamic Load Balancer	1 default device
Intel Data Streaming Accelerator	1 default device
Intel In-memory Analytics Accelerator	1 default device
Intel Advanced Matrix Extensions	Yes
Intel Speed Select Technology - Core Power	Yes
Intel Speed Select Technology - Turbo Frequency	Yes
Intel Speed Select Technology - Base Frequency	Yes
Intel DL Boost	Yes
High Priority Cores	16

Feature	Value
High Priority Core Frequency	2.10 GHz
Low Priority Cores	40
Low Priority Core Frequency	1.70 GHz
Intel Resource Director Technology	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 AMX, Intel SSE4.2, Intel AVX, Intel AVX2, Intel AVX-512
AVX-512 FMA units	2
Intel Crypto Acceleration	Yes
Intel QuickAssist Software Acceleration	Yes
Intel Platform Firmware Resilience	Yes
Intel Control-Flow Enforcement Technology	Yes
Intel Total Memory Encryption	Yes
Intel AES New Instructions	Yes
Intel SGX	Yes with Intel SPS
Default maximum SGX EPC size	512 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	Yes
Intel Virtualization Technology	VT-x, VT-d, and VT-x with EPT
Shipping media	Tray
Stepping	E5

Product Comparison

Feature	Intel Xeon Platinum 8480+ / PK8071305074801	Intel Xeon Platinum 8490H	Intel Xeon Platinum 8480C
Processor family	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable
Product positioning	56-core, two-socket Platinum processor with AMX and integrated accelerators	60-core, high-capacity Platinum processor with AMX and four default accelerator devices	56-core custom Platinum processor with AMX and integrated accelerators
Total cores	56	60	56
Total threads	112	120	112
Processor base frequency	2.00 GHz	1.90 GHz	2.00 GHz
Max turbo frequency	3.80 GHz	3.50 GHz	3.80 GHz
Cache	105 MB	112.5 MB	105 MB
TDP	350 W	350 W	350 W
Max memory size	Up to 4 TB, depending on memory type	Up to 4 TB, depending on memory type	Up to 4 TB, depending on memory type
Scalability	2S	S8S	2S
UPI	16 GT/s, 4 links	16 GT/s, 4 links	16 GT/s, 4 links
Memory channels	8	8	8
PCI Express lanes	80	80	80
Default accelerator devices	QAT: 1; DLB: 1; DSA: 1; IAA: 1	QAT: 4; DLB: 4; DSA: 4; IAA: 4	QAT: 1; DLB: 1; DSA: 1; IAA: 1
Intel AMX	Yes	Yes	Yes
Best-fit role	Enterprise, cloud, AI, network, and two-socket data-center compute	High-capacity multi-socket enterprise and data-center compute	Custom two-socket enterprise and data-center compute

Accessories

Category	Accessories
Included Accessories	- Intel Xeon Platinum 8480+ processor (tray shipping media)
Optional Accessories	-

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References

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