Router-switch.com

Intel

Intel Xeon Platinum 8461V Processor (PK8071305073201)

Datasheet

Product Overview

- The Intel Xeon Platinum 8461V is a 4th Gen Intel Xeon Scalable processor for high-performance, virtualization-dense, and data-center server workloads.
- It provides 48 cores and 96 threads, with a 2.20 GHz base frequency, up to 3.70 GHz Intel Turbo Boost frequency, 97.5 MB cache, and a 300 W TDP.
- The processor is designed for single-socket server platforms, with eight DDR5 memory channels and high-bandwidth PCI Express 5.0 expansion.
- Up to DDR5-4800 MT/s at 1DPC and DDR5-4400 MT/s at 2DPC support high-capacity server memory, with ECC support for platform reliability.
- Eighty PCIe 5.0 lanes, one-socket scalability, and one default device each for QAT, DLB, DSA, and IAA support dense compute, virtualization, storage, and data-processing workloads.
- Intel Speed Select Performance Profile provides three all-core operating points, while Intel SGX with a 128 GB default maximum EPC size supports protected deployments.

Product Highlights

- **48-Core Platinum Compute:** 48 cores and 96 threads provide high parallel processing capacity for virtualization-dense enterprise servers, cloud platforms, and data-center workloads.
- **PCIe 5.0 Expansion:** Eighty PCIe 5.0 lanes provide high-bandwidth connectivity for accelerators, storage controllers, Ethernet adapters, and other server I/O devices.
- **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.
- **V-SKU Accelerator Portfolio:** One default device each for Intel QAT, DLB, DSA, and IAA provides acceleration options for security, load balancing, data movement, and in-memory analytics.

Detailed Features



Intel Xeon Platinum 8461V Processor (PK8071305073201)

Quote | Help

Component	Specification
Processor	Intel Xeon Platinum 8461V, 48 cores / 96 threads
Ordering Information	PK8071305073201, FC-LGA16A Tray, Spec Code SRM7D
Frequency and Cache	2.20 GHz base, up to 3.70 GHz turbo, 97.5 MB cache
Memory	Up to DDR5-4800 MT/s 1DPC or DDR5-4400 MT/s 2DPC, 8 channels, ECC supported
Power and Expansion	300 W TDP, 1S-only scalability, PCIe 5.0 with 80 lanes, no UPI links

High-Core-Count Platinum Performance

The 8461V combines 48 cores and 96 threads with a 2.20 GHz base frequency and up to 3.70 GHz Intel Turbo Boost frequency. This profile suits virtualization-dense servers, cloud services, analytics, and general-purpose data-center workloads.

Single-Socket Platform Design

Intel specifies 1S-only scalability and 0 GT/s UPI with no UPI links. The processor is intended for single-socket systems where high core density and local memory bandwidth are prioritized.

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 helps balance 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.

Intel AMX Acceleration

Intel Advanced Matrix Extensions are supported alongside Intel DL Boost and AVX-512. These capabilities can accelerate selected AI, inference, analytics, and vectorized workloads when enabled by the software stack.

Integrated Accelerator Portfolio

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

Speed Select Performance Profiles

Intel Speed Select Technology supports core power, turbo frequency, base frequency, and performance-profile controls. The 8461V lists 48 cores at 2.2 GHz and 300 W, 48 cores at 1.9 GHz and 270 W, or 48 cores at 1.7 GHz and 250 W.

Protected Server Execution

Intel SGX with a 128 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-8461V
Intel ordering code	PK8071305073201
Intel Spec Code	SRM7D
Processor model	Intel Xeon Platinum 8461V Processor
Product collection	4th Gen Intel Xeon Scalable Processors
Code name	Products formerly Sapphire Rapids
Vertical segment	Server
Processor number	8461V
Lithography	Intel 7
Marketing status	Launched
Launch date	Q1 2023
Use conditions	Server / Enterprise
Total cores	48
Total threads	96

Feature	Value
Processor base frequency	2.20 GHz
Max turbo frequency	3.70 GHz
Cache	97.5 MB
Intel UPI speed	0 GT/s
Max UPI links	0
TDP	300 W
Scalability	1S Only
Sockets supported	FCLGA4677
Package carrier	E1A
Package size	77.5 mm x 56.5 mm
DTS max	95 °C
TCASE	77 °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 Speed Select Technology - Performance Profile	Yes
Intel DL Boost	Yes

Feature	Value
High Priority Cores	16
High Priority Core Frequency	2.30 GHz
Low Priority Cores	32
Low Priority Core Frequency	1.90 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 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	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	Yes
Intel Virtualization Technology	VT-x, VT-d, and VT-x with EPT
Shipping media	Tray
Stepping	E5

Product Comparison

Feature	Intel Xeon Platinum 8461V / PK8071305073201	Intel Xeon Platinum 8460Y+	Intel Xeon Platinum 8460H
Processor family	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable
Product positioning	48-core single-socket workload-optimized Platinum processor	40-core Speed Select Platinum server processor	40-core high-performance Platinum server processor
Total cores	48	40	40
Total threads	96	80	80
Processor base frequency	2.20 GHz	2.00 GHz	2.20 GHz
Max turbo frequency	3.70 GHz	3.70 GHz	3.80 GHz
Cache	97.5 MB	105 MB	105 MB
TDP	300 W	300 W	330 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
Memory channels	8	8	8
PCI Express lanes	80	80	80
Intel AMX	Yes	Yes	Yes
Best-fit role	Dense single-socket virtualization and cloud compute	Configurable enterprise and data-center compute	High-core-count enterprise and data-center server

Accessories

Category	Accessories
Included Accessories	- Intel Xeon Platinum 8461V processor (tray shipping media)
Optional Accessories	-

Support & Warranty

24/7 Online Service

3-Year Premium Warranty

Professional Technical Support

100% Low Price Guarantee

100% Quality Assurance

100% Money Back Guarantee

About Us



Router-switch.com, headquartered in Hong Kong since 2002, has been a trusted global leader in ICT distribution for 20+ years. We provide cutting-edge networking, cybersecurity, data center, and AI solutions to meet evolving business needs. Our wide range includes products from top brands like Cisco, Arista, Aruba, Fortinet, Mellanox, and Huawei, ensuring access to the latest technology and innovations.

21,500+ global customers

600,000+ end-users

200+ countries & regions

20+ years experience

500+ global vendors

100,000+ SKUs available

700+ local sales experts

50-98% off global list prices

Contact Us

Email

Sales Inquiries: sales@router-switch.com
Expert Technical Support: ccie-support@router-switch.com
Cooperative Partnerships: partner@router-switch.com

Follow Us

Facebook: @Routerswitchdotcom
LinkedIn: Router-switch.com
X: @routerswitchcom
Instagram: @routerswitchdotcom

Phone

USA: +1-626-655-0998
Hong Kong: +852-25925389 / +852-25925411

Global Footprint

Global Warehouses & Service Centers Across Continents.



Global Branches

Hong Kong Branch

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

USA Branch

35 E Horizon Ridge Pkwy, Ste 110 #30131, Henderson, NV 89002, USA

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK

References

[1] Intel. (n.d.). Intel Xeon Platinum 8461V Processor Specifications. Accessed: 2026-09-28. https://www.intel.com/content/www/us/en/products/sku/231741/intel-xeon-platinum-8461v-processor-97-5m-cache-2-20-ghz/specifications.html

[2] Intel. (n.d.). Intel Xeon Platinum 8461V Processor Ordering and Spec Information. Accessed: 2026-09-28. https://www.intel.com/content/www/us/en/products/sku/231741/intel-xeon-platinum-8461v-processor-97-5m-cache-2-20-ghz/ordering.html