AMD EPYC

WHICH AMD EPYC™ PROCESSOR IS RIGHT FOR MY WORKLOAD?

AMD EPYC processors provide exceptional performance, efficiency and security features for the widening array of scenarios and applications your business counts on today.

Since its introduction in 2017, the AMD "Zen" microprocessor architecture has enabled significant improvements for each processor generation. Compatible with x86 software applications, it's the foundation for streamlined data center upgrades and transformations achieved at your pace and on your budget.

PICK YOUR PROCESSOR

	AMD EPYC 4004 SERIES	AMD EPYC 7003 SERIES	AMD EPYC 7003 SERIES WITH AMD 3D V-CACHE™ TECHNOLOGY	AMD EPYC 8004 SERIES	AMD EPYC 9004 SERIES	AMD EPYC 9004X SERIES WITH AMD 3D V-CACHE TECHNOLOGY	AMD EPYC 97X4 SERIES
	Accommodate the all-day, every day entry-level needs of price-conscious small businesses and dedicated hosted services that require robust performance in a low-cost, dependable and easy-to-use server.	Utilize proven technology solutions to gain excellent performance, high efficiency and great value in the data center and in the cloud. Choose the ideal number of cores, frequencies and cache sizes for everyday server workloads.	Achieve breakthrough performance for complex technical computing workloads like EDA, CFD, FEA and more with generous L3 cache.	Optimize intelligent edge, cloud services and telco workloads with purpose-built, energy-efficient CPUs.	Supercharge your applications, accelerate your business results and optimize your ROI in the data center and in the cloud with leadership performance and energy efficiency.	Surge ahead with the cores, cache and throughput you need to address today's most complex technical workloads, including EDA, CFD, FEA and WFA.	Get performance, density, energy efficiency and compatibility for high-throughput, high-thread-density applications including AI and ML, on premises or in cloud-native environments.
THE SPECS	1P capable 4th Gen AMD EPYC processor based on 5nm process technology and "Zen 4" architecture • Up to 16 cores and 32 threads • Up to 28 PCIe® 5.0 I/O lanes • Up to 128 GB of DDR5-5200 memory • Up to 64 MB L3 Cache	1P and 2P capable 3rd Gen AMD EPYC processor based on 7nm process technology "Zen 3" architecture • Up to 64 cores and 128 threads • Up to 128 PCIe 4.0 I/O lanes[1] • Up to 4 TB of DDR4-3200 memory across 16 DIMM slots • Up to 256 MB L3 Cache	1P and 2P capable 3rd Gen AMD EPYC processor architecture based on 7nm process technology and "Zen 3" architecture • Up to 64 cores and 128 threads • Up to 128 PCIe 4.0 I/O lanes[1] • Up to 4 TB of DDR4-3200 memory across 16 DIMM slots • Up to 768 MB L3 cache enabled by AMD 3D V-Cache technology	1P capable 4th Gen AMD EPYC processor based on 5nm process technology and ultra-efficient "Zen 4c" chiplet microarchitecture • Up to 64 cores and 128 threads • Up to 96 PCIe 5.0 I/O lanes[1] • Up to 1.152 TB of DDR5-4800 memory across 12 DIMM slots • Up to 128 MB L3 Cache • Up to 48 lanes of CXL™ connectivity for cache-coherent memory pools • Industry-standard AVX-512 support	1P and 2P capable 4th Gen AMD EPYC architecture based on 5nm process technology "Zen 4" architecture • Up to 96 cores and 192 threads • Up to 128 lanes of PCIe 5.0 I/O[1] • Up to 6 TB of DDR5-4800 memory across 24 DIMM slots • Up to 384 MB of L3 cache • Up to 64 lanes of CXL™ connectivity for cache-coherent memory pools • Industry-standard AVX-512 support	1P and 2P capable 4th Gen AMD EPYC architecture based on 5nm process technology and "Zen 4" architecture • Up to 96 cores and 192 threads • Up to 128 lanes (1P) or 160 lanes (2P) of PCIe 5.0 I/O[1] • Up to 6 TB of DDR5-4800 memory channels across 24 DIMM slots Plus, up to 1152 MB L3 cache, enabled by AMD 3D V-Cache™ technology • Up to 64 lanes of CXL™ connectivity for cache-coherent memory pools • Industry-standard AVX-512 support	1P and 2P capable 4th Gen AMD EPYC architecture based on 5nm process technology and ultra-efficient "Zen 4c" chiplet microarchitecture • Up to 128 cores and industry-leading 256 threads • Up to 128 lanes of PCIe 5.0 I/O[1] Up to 6 TB of DDR5-4800 memory channels across 24 DIMM slots • Up to 256 MB of L3 cache • Up to 64 lanes of CXL™ connectivity for cache-coherent memory pools • Industry-standard AVX-512 support
PERFORMANCE HIGHLIGHTS	Essential server solutions with impressive performance per dollar. Comparing 1P 8c servers, an AMD EPYC 4344P CPU delivers an estimated 9% better performance/estimated system $ than an Intel® Xeon® E-2488 CPU.[EK4-002A]	Get fast time to results, fast processing, high throughput and good TCO. Delivers up to ~19% average IPC generational uplift on representative server workloads.[MLN-003]	Outstanding x86 server processors that introduced breakthrough per-core L3 cache and exceptional energy efficiency for low TCO.	Energy-efficient performance in space and power-constrained environments. Get 44% better integer performance per system watt when comparing single-socket servers using a 64c AMD EPYC 8534PN CPU vs. a 52c Intel® Xeon® Platinum 8471N CPU.[SP6-003]	The AMD EPYC 9004 Series delivers up to ~14% geomean IPC single thread uplift generationally on representative server workloads.[EPYC-038] Comparing 2P servers with AMD EPYC 9554 CPUs vs. Intel® Xeon® 8592+ CPUs, EPYC delivers 19% higher integer performance[SP5-173A] and supports 1.5X the number of SAP® SD 2-tier benchmark users.[SP5-056C]	High-impact out-of-the-box performance across a range of high-performance computing (HPC), computer-aided engineering (CAE) and memory-intensive, serially dependent technical workloads. The 96-core AMD EPYC 9684X is the world's highest performance x86 server CPU for technical computing.[SP5-165]	The 128-core EPYC 9754 processor is the world's highest-performing server CPU.[SP5-143A] It delivers the greatest vCPU density[EPYC-049] and up to 2.6x the performance uplift on key cloud-native workloads vs. top-of-stack Intel® Xeon® Platinum 8490H and Ampere® Altra® Max CPUs.

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DEFEND AGAINST THREATS AND GUARD YOUR DATA

AMD IS SERIOUS ABOUT SECURITY.

AMD processors are designed with security in mind from the ground up to be highly resistant to today's sophisticated attacks, helping protect your sensitive data, avoid downtime and reduce resource drain. All AMD EPYC Series processors include AMD Infinity Guard,[3] which provides a unique and robust set of on-chip security features to help complement industry ecosystem partners at the software and system levels.

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1 Up to 160 lanes in 2-socket configurations.

2 Comparing 2P servers running eight common cloud-native workloads.

3 AMD Infinity Guard features vary by EPYC processor generations and/or Series. Infinity Guard security features must be enabled by server OEMs and/or cloud service providers to operate. Check with your OEM or provider to confirm support of these features.

AMD
together we advance_data centers

PERFORMANCE HIGHLIGHTS

THE SPECS