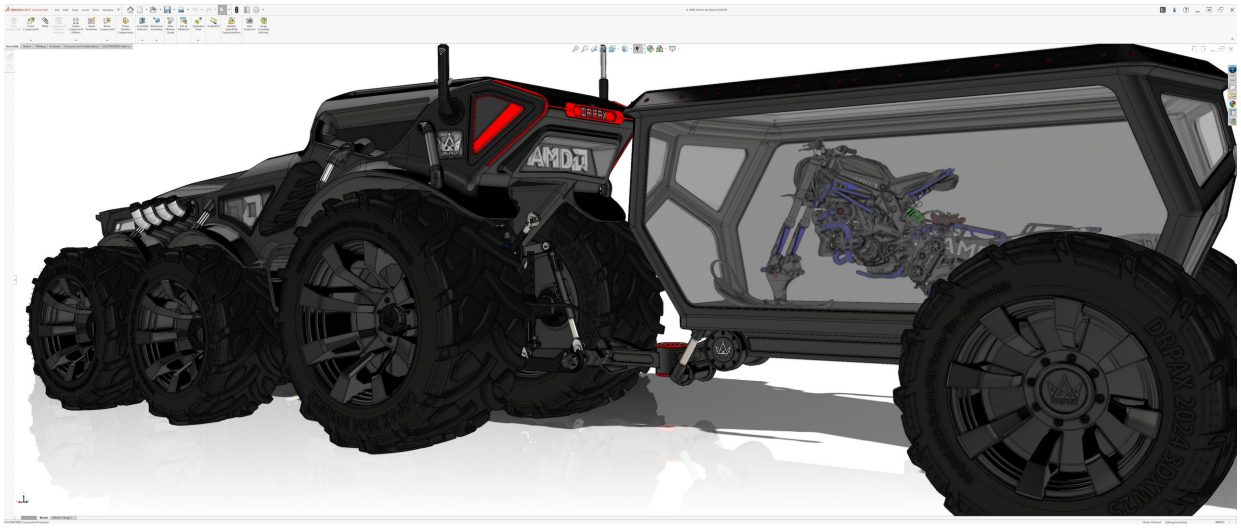
AMD RYZEN™ THREADRIPPER™ 9000 WX-SERIES PROCESSORS

BUILT FOR BREAKTHROUGHS, DESIGNED TO DELIVER

The engineers, designers, and expert professionals who work in the design and manufacturing industry must wrangle historically contradictory requirements where computing is concerned. Traditional CAD/CAM work prizes single-threaded responsiveness for quick viewport updates and favors high frequency processors. Historically, such CPUs are more likely to swap core count for clock speed.

The problem, of course, is that not every workstation does unilateral duty as a CAD system. Computational fluid dynamics, physical simulation, finite element analysis, and real-time rendering are some of the fields that tend to favor multi-processing capabilities and wide memory interfaces more than higher frequencies.



While this type of optimization problem is enjoyable in other contexts, real-world processing constraints that limit responsiveness or prevent quick iteration can easily transform from an interesting challenge to an intrinsic drag. When AMD launched the first Threadripper™ PRO CPUs in 2020, it emphasized their ability to solve precisely this dilemma, combining high clock frequencies, eight memory channels, and up to 64 cores – 2.2x more than the largest single-socket competitive workstations available at the time.

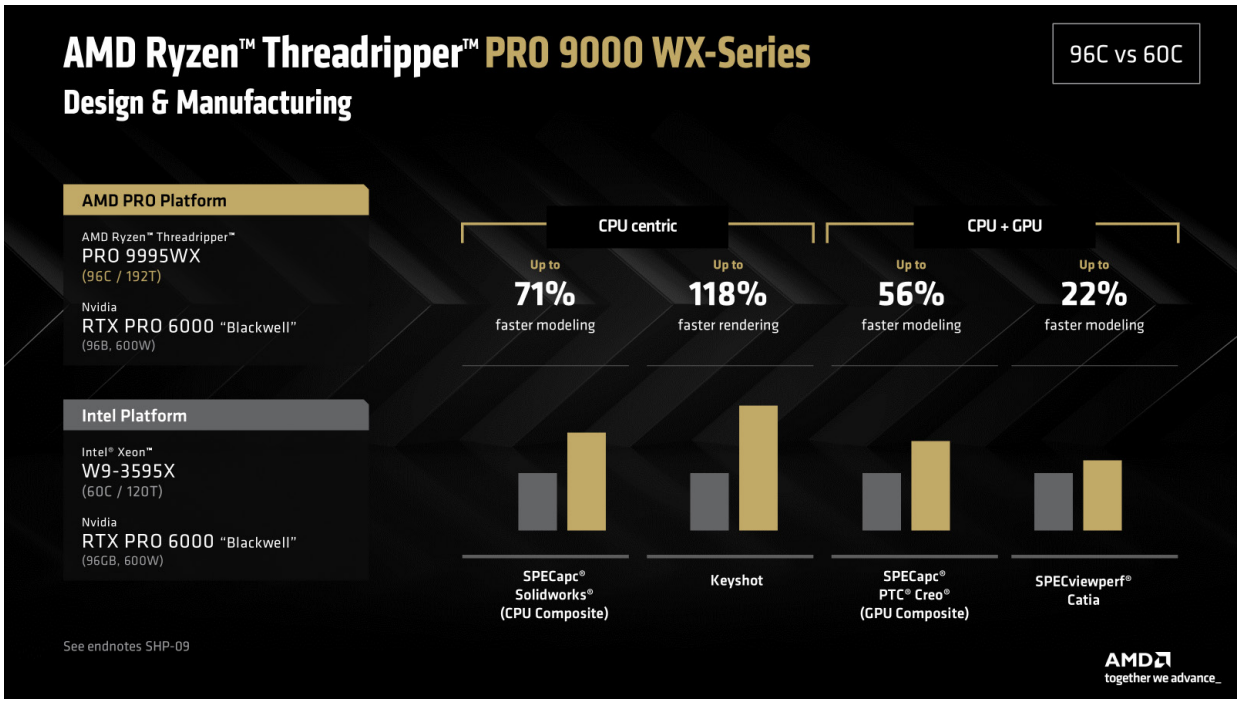
Fast forward half a decade, and the AMD Ryzen™ Threadripper™ 9000 WX-Series processors launched in July 2025 continue to deliver the excellent performance design engineers rely on. The most recent Threadripper PRO product family scales from 12 to 96 cores, with base clocks as high as 4.7GHz. While certain features, like 128 PCIe 5.0 lanes and eight DDR5-6400 memory channels are universal to the lineup, the large number of available SKUs helps engineers align their processing requirements with the AMD CPU best-suited to the task. CAD/CAM workloads that need relatively few cores but large amounts of memory and high clock speeds are as well-supported as the most intensive CFD and FEA projects.

AMD Ryzen™ Threadripper™ PRO 9000 WX-Series								
	9995WX	96 cores	192 threads	up to 5.4 GHz max boost*	2.5 GHz base	384 MB L3 cache	PCIe® 5.0	350W TDP
	9985WX	64 cores	128 threads	up to 5.4 GHz max boost	3.2 GHz base	256 MB L3 cache	AMD PRO Technologies	
	9975WX	32 cores	64 threads	up to 5.4 GHz max boost	4.0 GHz base	128 MB L3 cache	sTR5 Socket	
	9965WX	24 cores	48 threads	up to 5.4 GHz max boost	4.2 GHz base	128 MB L3 cache		
	9955WX	16 cores	32 threads	up to 5.4 GHz max boost	4.5 GHz base	64 MB L3 cache		
	9945WX*	12 cores	24 threads	up to 5.4 GHz max boost	4.7 GHz base	64 MB L3 cache		

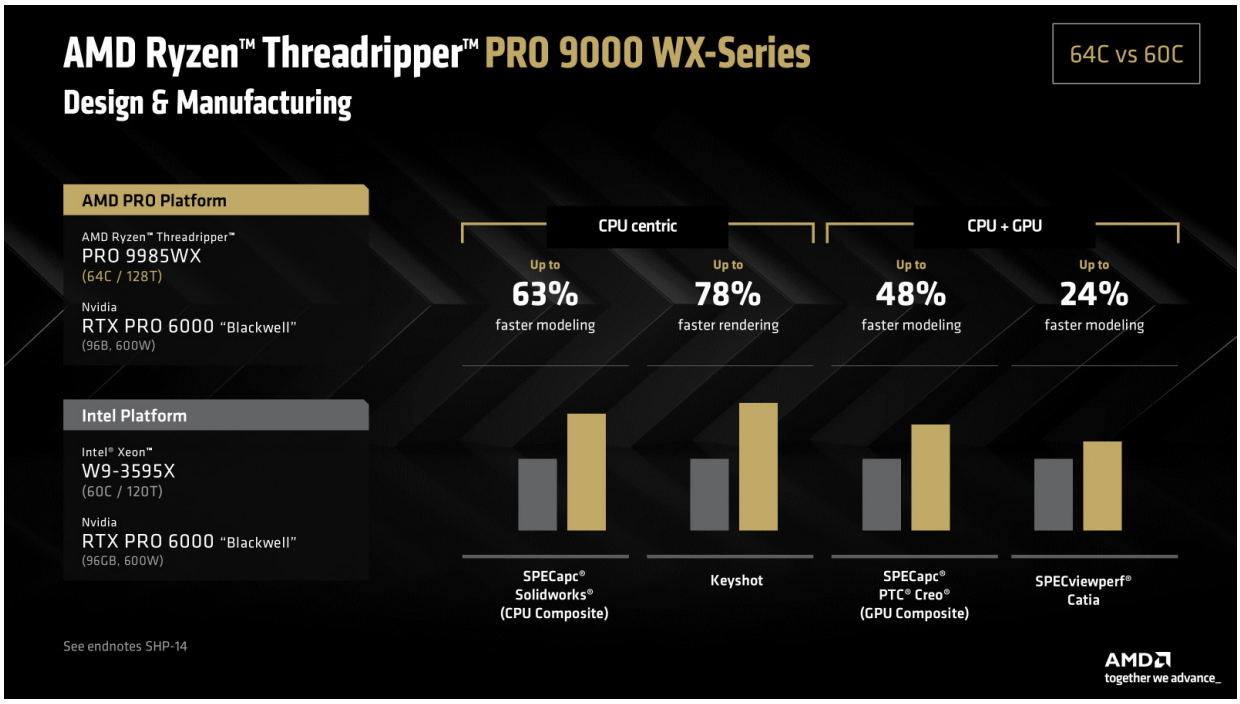
Artificial intelligence is an emerging third pillar of design and manufacturing as software developers move to integrate cloud and local AI processing into their applications. Here, AMD Threadripper PRO 9000 WX-Series processors are similarly well-provisioned. 128 PCIe lanes allow even a 12- or 16-core system to support up to four GPUs simultaneously, with a full x16 electrical connection for each card. This abundance of peripheral connectivity allows plenty of room for NVMe SSDs, up to and including arrays of the largest available drives and add-in controllers.

ENGINEER WITH CONFIDENCE

Performance comparisons between the AMD Threadripper PRO 9995WX, Threadripper PRO 9985WX, and the Intel Xeon w9-3595X strongly favor Threadripper PRO, across both the 96-core and 64-core parts.

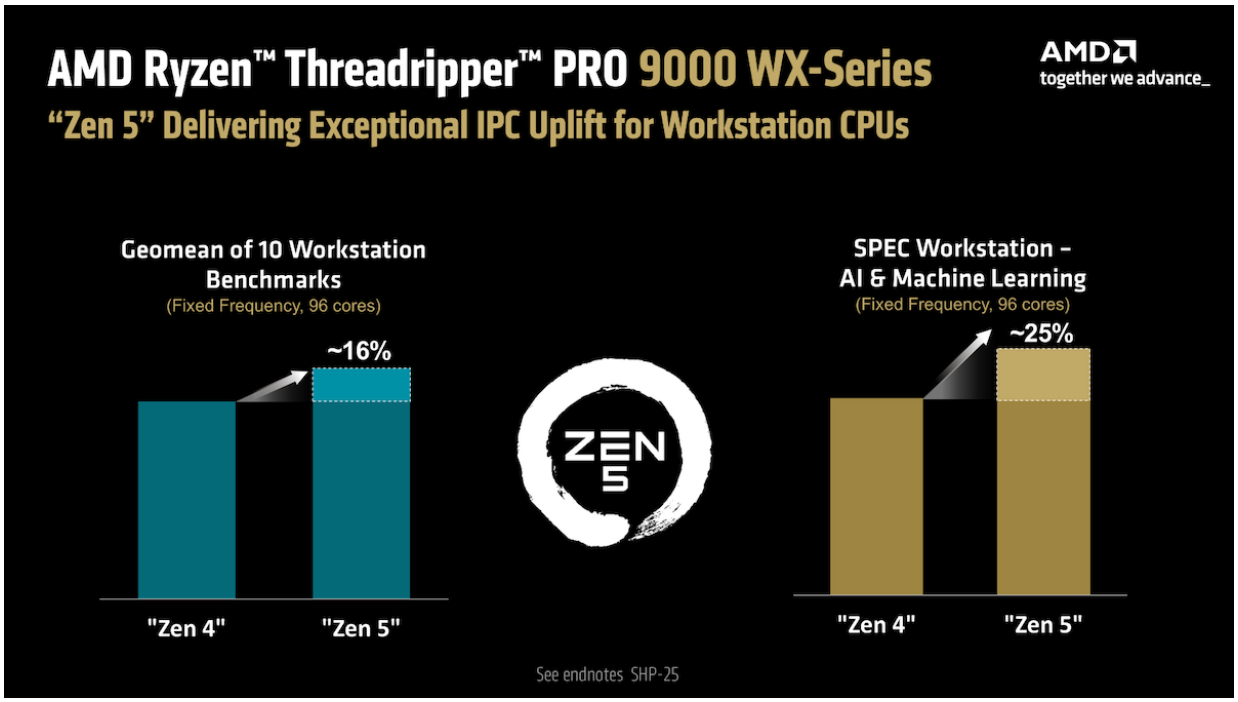


It's particularly useful to look at these results as a pair, as much for what they say about the differences between the two AMD SKUs as for the Intel comparison.



The 96-core Threadripper PRO 9985WX is only significantly faster in one workload, Keyshot. This reflects the fact that relatively few applications are designed to scale to such aggressive core counts, even if they do technically support them. Engineers whose workloads don't involve much 3D rendering may benefit from CPUs lower in the product stack, or from higher-end graphics cards.

The dramatic performance difference between the two AMD CPUs and their Intel counterpart, however, cannot be denied. In both cases, even when the gap between the core counts of the two CPUs is modest, the AMD platform turns in significantly better performance. This is explained by some of the key enhancements AMD made to the Threadripper PRO 9000 WX-Series relative to the 7000 WX-Series it supplants. Moving from the "Zen 4" to the "Zen 5" architecture improved IPC performance by a geomean of 16% overall and by as much as 25% in the SPEC Workstation AI & Machine Learning benchmark, respectively.[SHP-25]



One of the "Zen 5" architectures salient features in this context is its improved support for the AVX-512 ISA (Instruction Set Architecture). Where the previous AMD Threadripper PRO 7000 WX-Series of processors implemented AVX-512 with a 256-bit internal data path, the most recent update has bumped this to a 512-bit internal data path. AVX-512 is commonly used in AI-centric and "HPC workloads", making this an ideal update for anyone fine-tuning existing models or looking to explore the benefits of low-latency local AI.

EXCELLENCE BEYOND HARDWARE

AMD Threadripper PRO processors are impressive pieces of kit, but systems that compete at this level rely on more than just a fast core or performant motherboard platform. Improving performance in complex simulations relies on software optimization and close collaboration between developer and manufacturer.

Over the past five years, AMD has worked with companies like Ansys to boost the speed of its fluid simulation software (Ansys Fluent), with Altair on its new Physics AI tool, and with MathWorks to make certain the latest AMD Optimizing CPU Libraries (AOCL) are widely available and easily used. It's invested in education, sponsoring the work of Dr. Adi Panzic at the University of Sarajevo and helping to give a new generation of students access to cutting-edge technology an order of magnitude faster than anything they had used before.

AMD is committed to building relationships with more companies and ISVs to extend the benefits of the Threadripper PRO product family and ensure its users enjoy the fastest possible performance regardless of whether you focus on drafting, designing, or advanced simulation. From Fourier to Euler, and Courant to Lorentz, AMD workstation CPUs are designed for mathematical excellence – and to support the engineers who push the boundaries at the intersection of digital design and the physical world.

Visit www.amd.com to explore systems today.

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SPECviewperf 2020 v3.1 Solidworks/Creo/CATIA/SNX, SPECapc Creo 9.1.0 (AA = On), SPECapc Solidworks 2024 (FSAA, 4K) and Keyshot Viewer 2025.1 benchmarks to compare the performance of the AMD Ryzen Threadripper PRO 9995WX processor in a reference system configured with 8x 64GB DDR5 memory, Nvidia RTX PRO 6000 Blackwell graphics, 1TB SSD, Win 11 vs. a similarly configured BOXX workstation with the Intel® Xeon® W9-3595X processor. Workstation manufacturers may vary configurations, yielding different results. Results may vary. SHP-09.

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SPEC Workstation, SPECapc PTC Creo, Revit Model Creation, V-Ray, Keyshot Viewer, Cadalyst AutoCAD and PugetBench for Adobe After Effects benchmark to compare the performance of the AMD Ryzen Threadripper PRO 9995WX with a fixed frequency of 3.2GHz in a reference system configured with 8x64GB DDR5 memory, 1TB SSD, Win 11 vs. a similarly configured reference system with the AMD Ryzen Threadripper PRO 7995WX processor also at the same fixed frequency. Workstation manufacturers may vary configurations, yielding different results. Results may vary. SHP-25.