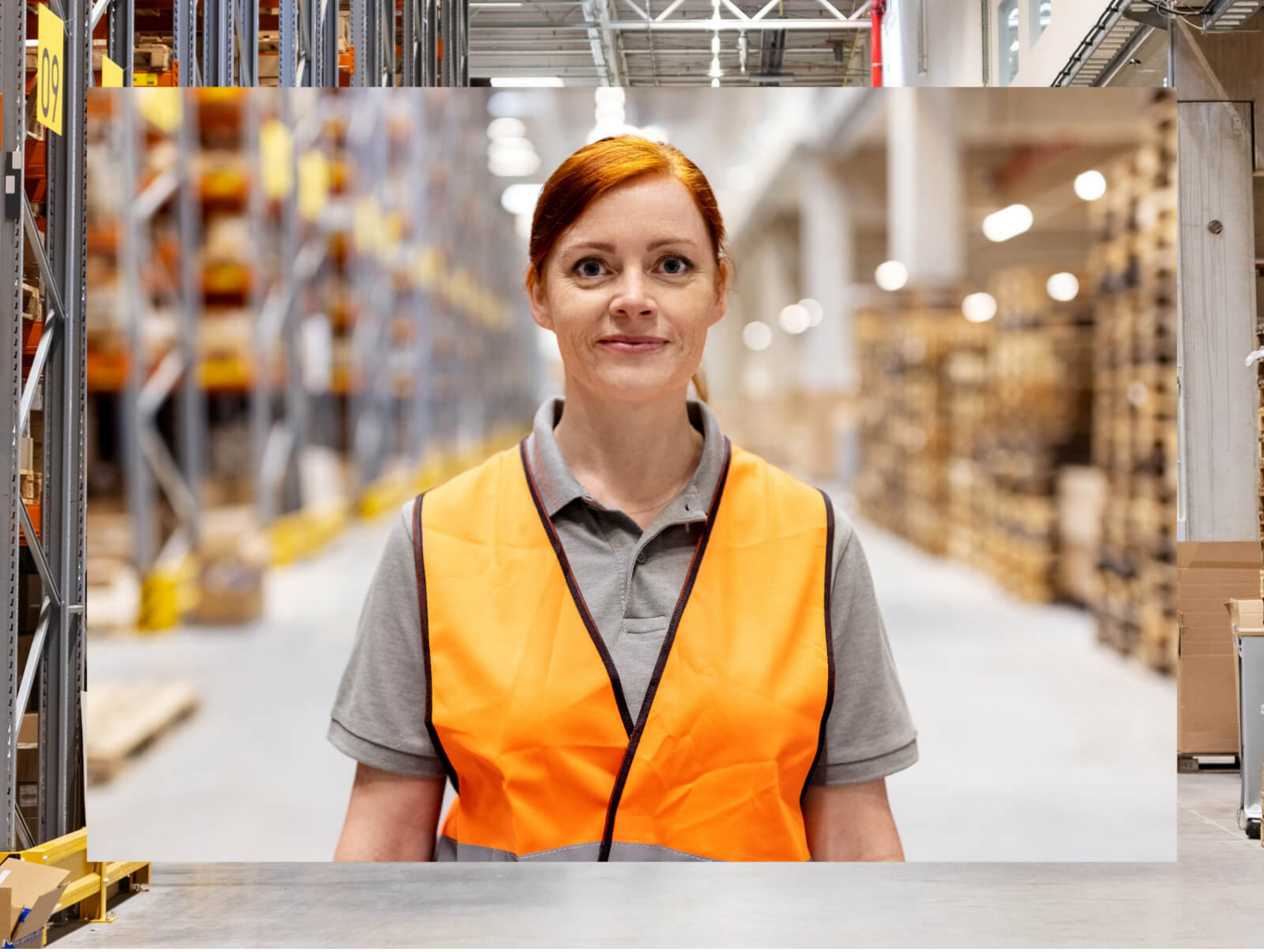

Accelerate performance-demanding technical workloads

HPE ProLiant Gen11 and HPE Cray systems powered by AMD EPYC 9004X Processors

Hewlett Packard Enterprise and AMD deliver exceptional compute performance and industry-leading x86 core density with 4th Generation AMD EPYC™ Processors, with up to 1.15 GB L3 cache per core to power your most demanding technical workloads.

Hewlett Packard Enterprise | AMD

Elevating technical computing to a new performance level

Today's technical computing workloads demand significantly greater processing performance, density, and energy efficiency than ever before. Data sets continue to grow, and time-to-solution demands place increased pressure to deliver results — quickly and accurately. HPE and AMD have the answer with a fleet of computational platforms optimized for technical workloads.

Looking for speed and efficiency to handle complex CFD workloads? We deliver the high core count, large memory, and broad bandwidth you need. Challenged to accelerate your EDA cycles? Our newest platforms deliver faster results than previous generations for key high-performance computing workloads. Need a performance uplift for implicit and explicit finite element analysis FEA simulations? Get incredible performance — and productivity — out of the box with the latest HPE and AMD compute capabilities.

For performance-intensive workloads like these and others — from weather simulation to ocean flow simulation to computational chemistry — the latest HPE ProLiant Gen11 and HPE Cray systems utilizing 4th Gen AMD EPYC Processors with AMD 3D V-Cache™ set a new bar for no-compromise technical computing.

HPE ProLiant Gen11 and HPE Cray systems powered by the latest AMD EPYC processors deliver performance- and space-optimized solutions to help maximize output and minimize cost — ideal for today's demanding technical computing workloads, including:

Computational fluid dynamics (CFD)

- Accelerate performance for CFD workloads by up to ~2.5x the performance vs. the competition[1]
- Superlinear Scaling: Get up to ~14 nodes of CFD performance on an 8-node cluster[2]
- Reduce CFD runtimes to boost engineering productivity
- Enable high core count throughput to do more simulations and improve design quality

Electronic design automation (EDA)

- Process massive quantities of data and perform more EDA register transfer level (RTL) simulations jobs each day than on a standard AMD EPYC 9004 Series Processors
- Reduce regression runtimes to increase productivity
- Enable high verification throughput to improve design quality

Finite element analysis (FEA)

- Boost explicit FEA workload performance and productivity by up to ~2.1x the performance vs. the competition[3]
- Reduce FEA runtimes to help maximize engineering productivity
- Enable high core count throughput to do more simulations and improve design quality

[1] AMD internal testing: Ansys® CFX® (External Air Flow over an Airfoil 10M/50M/100M) 2P 96C EPYC 9684X vs. 2P 56C Xeon 8480+. Results may vary due to factors including system configurations, software versions and BIOS settings. See Ansys CFX and AMD 3D V-Cache Technology Performance Brief.

[2] AMD internal testing: OpenFOAM® 2P 96C EPYC 9684X. Results may vary due to factors including system configurations, software versions and BIOS settings. See OpenFOAM and AMD 3D V-Cache Technology Performance Brief.

[3] AMD internal testing: Ansys® LS-DYNA® (4 Test Cases) 2P 96C EPYC 9684X vs. 2P 56C Xeon 8480+. Results may vary due to factors including system configurations, software versions and BIOS settings. See Ansys LS-DYNA and AMD 3D V-Cache Technology Performance Brief.

Engineered for optimal performance and efficiency

HPE ProLiant Gen11 and HPE Cray systems powered by AMD EPYC 9004X processors offer breakthrough capabilities that eclipse earlier generations. Our latest systems deliver leadership performance, density, security features, and energy efficiency essential for today's most demanding technical computing workloads. In fact, any workload with large data sets, constrained by compression and decompression demands or needing to apply Navier-Stokes equations, can boost performance on these latest HPE and AMD platforms.

With HPE ProLiant Gen11 or HPE Cray servers powered by AMD EPYC 9004 Series Processors with 3D V-Cache, you get up to 96 powerful Zen 4 cores and up to 1.15 GB of L3 cache for breakthrough performance on targeted technical computing workloads. Higher core counts mean you can run more parallel processes without sacrificing performance. The new systems also offer next-level energy-efficient DDR5 memory enhancing performance, along with the latest PCI Express 5.0 bus, you get improved bandwidth.

AMD EPYC 9004X Processors also offer high thread density to support simultaneous multithreading. Our 1U and 2U form factors are energy-efficient, featuring industry leadership performance per watt. Plus, you can access a full ecosystem of services to support fast, seamless deployment.

Strong security features to protect your technical computing assets

You can count on strong security capabilities from these latest HPE and AMD platforms, engineered for your hybrid world. For example, HPE ProLiant servers and HPE Cray systems provide similar hardware root-of-trust approaches that prevent systems from booting with compromised or corrupted firmware and restore firmware from a known and validated secure copy. Consequently, malicious code is contained, and healthy servers are defended.

HPE ProLiant servers use HPE iLO 6 and the silicon root of trust from HPE, which anchors each server to an HPE exclusive ASIC even before the server is built. This creates an immutable fingerprint (private key) for the AMD Secure Processor that must be matched exactly before the server boots. The hardware root of trust on HPE Cray systems uses the baseboard management controller (BMC) to allow the system and BIOS to bilaterally see that each is unmodified.

Additionally, HPE iLO 6 supports DTMF's Security Protocol and Data Model (SPDM) specifications and is integrated with HPE GreenLake for Compute Ops Management, a seamless as-a-service lifecycle management solution to remotely monitor and control your technical computing workloads. These security measures on HPE ProLiant servers are further augmented by the HPE secure supply chain, helping ensure that server security starts with corruption-free manufacturing by auditing the integrity of every component, including hardware and firmware.

Choose from a range of solutions ideal for technical computing

HPE offers server models to match the full range of your technical computing needs, each with a choice of AMD EPYC 9004X processors to optimize the core count for specific workload demands.

The full portfolio of HPE ProLiant Gen11 and HPE Cray systems spans single- and dual-processor solutions supporting up to 6 TB of high-speed DDR5 memory with, high-speed PCIe Gen5 I/O, and up to 1.15 GB of L3 cache with a choice of AMD EPYC 9004X processors core parts that include:

- AMD EPYC 9184X CPU 16 core: For workloads that benefit from more cache per core and higher frequency.
- AMD EPYC 9384X CPU 32 core: The ideal offering for workloads that need the perfect balance of frequency, cache per core, and density.
- AMD EPYC 9684X CPU 96 core: Offering maximum core density to open up more memory bandwidth for the most demanding technical computing workloads.

With this range of computing options, HPE and AMD enable you to fine-tune solutions for just the right combination of raw compute power and platform density to maintain reliable performance as workloads scale.

Added flexibility delivered by HPE GreenLake

For technical computing infrastructures built on HPE ProLiant servers, HPE offers flexibility to deploy either on-premises or through the HPE GreenLake edge-to-cloud platform. HPE GreenLake offers pay-per-use* consumption that optimizes OPEX, freeing trapped capital while simplifying infrastructure management and accelerating server updates.

With HPE GreenLake, you can deploy and scale your HPE ProLiant environment on-demand to support rapidly growing workloads. Additionally, you can take advantage of HPE GreenLake for Compute Ops Management to streamline compute management, securely and seamlessly. The solution offers real-time views of your entire server estate and rapid, bulk actions to quickly deploy new technical workloads. You can also count on automated firmware updates with an as-a-service model that provides a consistent experience that is always up to date with new features.

Power your modern technical computing workloads with HPE and AMD

If you're looking for technical computing solutions that combine world-class performance, density, energy efficiency, and compatibility, look no further than HPE and AMD. With HPE ProLiant Gen11 and HPE Cray systems powered by new 4th Gen AMD EPYC Processors with AMD 3D V-Cache, you can accelerate results and boost productivity while optimizing compute resource utilization and realize faster time to value.

* May be subject to minimums or reserve capacity may apply

Learn more at

HPE.com/partners/AMD

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