



POWERING THE AI-DRIVEN FUTURE OF HEALTHCARE

Healthcare is entering its most technology-driven era yet. AI is transforming medical imaging, reshaping diagnostics, and clinical decision-making. Data volumes are surging. Margins are tightening. Workforce shortages persist. Regulatory and cybersecurity pressures continue to intensify. Sustainability targets are no longer optional.

In this environment, infrastructure is no longer a back-office function. It directly impacts care quality, system resilience, cost control, and clinical speed.

AMD enables healthcare organizations to modernize with validated, scalable compute architectures designed for AI-driven care delivery – from the data center to the clinical edge – helping healthcare organizations accelerate innovation, control costs, and deliver better patient outcomes.

HEALTHCARE AT AN INFLECTION POINT

Today, healthcare leaders face converging pressures including:

- AI adoption at scale across imaging, diagnostics, operations, and research
- Margin compression and rising infrastructure costs
- Clinician burnout and staffing shortages
- Mission-critical uptime requirements for EHR systems
- Cybersecurity risks and regulatory complexity (HIPAA, GDPR)
- Energy consumption and ESG commitments

At the same time, healthcare IT environments are increasingly hybrid:

- Core EHR systems running on-premises
- Cloud-based AI model training and analytics
- Edge-enabled care, from real-time inference to remote monitoring

Healthcare now requires an architectural foundation designed to scale across all three – securely and efficiently.

ONE ARCHITECTURE FOR EVERY HEALTHCARE WORKLOAD

FROM CLINICAL CORE TO INTELLIGENT EDGE

AMD delivers a unified compute strategy that spans the entire healthcare ecosystem:

- **Clinical Core**
Powering mission-critical EHR systems, virtualization, and data center consolidation with high core density and strong per-core performance.
- **AI and Insight Layer**
Accelerating diagnostics, medical imaging, genomics, predictive modeling, and operational analytics with scalable CPU and GPU compute.
- **Intelligent Edge**
Enabling clinician workstations, medical devices, and edge inference systems with responsive, energy-efficient processing.

By providing consistent architecture across data center, cloud, and edge, AMD helps healthcare organizations reduce complexity while scaling AI capabilities across environments.

TURNING INFRASTRUCTURE INTO IMPACTFUL OUTCOMES

Rather than simply modernizing hardware, AMD enables measurable business impact:

- **Infrastructure Consolidation & Cost Optimization**
Higher core density and strong performance per watt allow healthcare organizations to reduce server footprint, lower licensing costs, and optimize data center space.
- **AI-Ready Without Infrastructure Sprawl**
Support demanding AI workloads without sacrificing EHR performance or operational stability.
- **Protected Patient Data in Hybrid Environments**
Built-in security technologies such as Secure Encrypted Virtualization (SEV) and Secure Memory Encryption (SME) are designed to help protect health information (PHI) across virtualized and hybrid deployments.
- **Energy Efficiency Aligned to ESG Goals**
Strong performance per watt helps reduce energy consumption and cooling demands – supporting sustainability mandates while lowering operational expenses.
- **Faster Time to Insight**
Accelerated analytics and research workloads shorten time to diagnosis, speed clinical decision-making, and advance precision medicine initiatives.

A PURPOSE-BUILT PORTFOLIO FOR HEALTHCARE TRANSFORMATION

The AMD portfolio supports the full spectrum of healthcare workloads:

- **Data Center – AMD EPYC™ server CPUs**
High core density, strong virtualization performance, and advanced security features support EHR consolidation, analytics platforms, and hybrid cloud expansion.
- **AI & Research Acceleration – AMD Instinct™ GPUs and AMD Radeon™ AI PRO GPUs**
Scalable GPU acceleration for AI-enabled imaging, diagnostics, genomics, and advanced research workloads within an open software ecosystem.
- **Software Platform – AMD ROCm™ Software**
The AMD ROCm™ platform provides an open, HIP-supported software ecosystem for GPU-accelerated AI and high-performance computing workloads. ROCm enables healthcare and life sciences teams to scale compute-intensive applications – including medical imaging, analytics, and genomics pipelines – across supported AMD GPU platforms with consistency and performance.
- **Edge & Client – AMD Ryzen™ processors and Ryzen™ Embedded processors**
Responsive, efficient compute for clinician workstations, imaging devices, and point-of-care systems – delivering reliable performance for distributed healthcare environments.

Together, these components – deployed across leading OEM platforms and supported in major cloud environments – form a cohesive CPU + GPU + software architecture designed for secure, scalable, and AI-driven healthcare infrastructure.

REAL-WORLD OUTCOMES ADVANCED BY AMD

Healthcare and life sciences organizations are already realizing measurable results with AMD-powered infrastructure:

- **Reduced energy consumption** in modernized server environments
- **Faster build and research cycles** in medical and pharmaceutical workloads
- **Improved cost efficiency** compared to legacy infrastructure
- **Higher density** of patient records and clinical workloads per server

These results demonstrate how compute modernization translates directly into operational resilience and improved care delivery.

OPERATIONAL EFFICIENCY & COST REDUCTION

With AMD, providers can reduce IT costs, enable faster diagnosis and secure data sharing, and give clinicians AI-enhanced devices that improve productivity.

EPYC server CPUs cut energy use by up to

35%ⁱ

and deliver up to

2X faster AI responsivenessⁱⁱ, helping care teams do more with less.

INCREASED PERFORMANCE

Up to

37%

more Hyperdrive sessions per server

and

15%

improvement in per core efficienciesⁱⁱⁱ

AI RESPONSIVENESS

AMD EPYC™ powered servers reduce energy use by up to

35%^{iv}

Actual results may vary based on workload, configuration, and environment.

A TRUSTED ECOSYSTEM FOR HEALTHCARE INNOVATION

AMD collaborates with leading server OEMs, cloud providers, and healthcare technology partners to deliver validated solutions for:

- **EHR systems**
- **AI-enabled diagnostics** for medical imaging and research
- **High-performance research computing** for drug discovery and genomics
- **Secure hybrid cloud instances** for industry-leading performance

ADVANCE THE FUTURE OF HEALTHCARE WITH AMD

AI-driven healthcare requires more than faster processors – it requires a scalable, secure, and energy-efficient compute backbone that spans clinical systems, research environments, and intelligent edge devices.

AMD enables healthcare organizations to modernize infrastructure, accelerate AI adoption, reduce operational costs, and deliver better patient outcomes – today and into the next era of care.

Explore validated healthcare architecture at amd.com/healthcare or connect with your AMD representative.

ⁱSource: https://www.amd.com/en/solutions/data-center/insights/4th-gen-amd-epyc-architectures-optimized-for-enterprise-workloads.html?utm_source=chatgpt.com

ⁱⁱSource: <https://www.amd.com/en/products/processors/server/epyc/9005-series.html>

ⁱⁱⁱSolution: Epic Electronic Health Records application + EPYC 9005 + Dell/HPE/Lenovo racks & Cisco Blade server

^{iv}Source: 2P EPYC 9355 vs 2P Intel Xeon 6530 delivering 16740 integer score.