EHR MODERNIZATION

Saving Costs and Preparing for AI

AMD × DELL Technologies × World Wide Technology

together we advance_

INTRODUCTION: A NEW ERA FOR EHR MODERNIZATION

Healthcare is entering a transformative era where technology drives better care, cost savings, and innovation. This eBook explores EHR Modernization, focusing on optimizing systems to enhance efficiency, reduce costs, and integrate AI.

Drawing from industry leaders at AMD, Dell, and World Wide Technology (WWT), we highlight:

- Strategies to streamline EHR systems and improve user experiences.
- Opportunities for cost savings through modern infrastructure and AI.
- Solutions to challenges like interoperability, data security, and governance.

Experts Dr. Eric Quiñones, MD, Harini Malik, Michael Giannopoulos, Vinny Lee, and Justin Barnes, FHIMSS share actionable insights and real-world use cases, emphasizing operational efficiency, patient-centered care, and the integration of AI to unlock new possibilities.

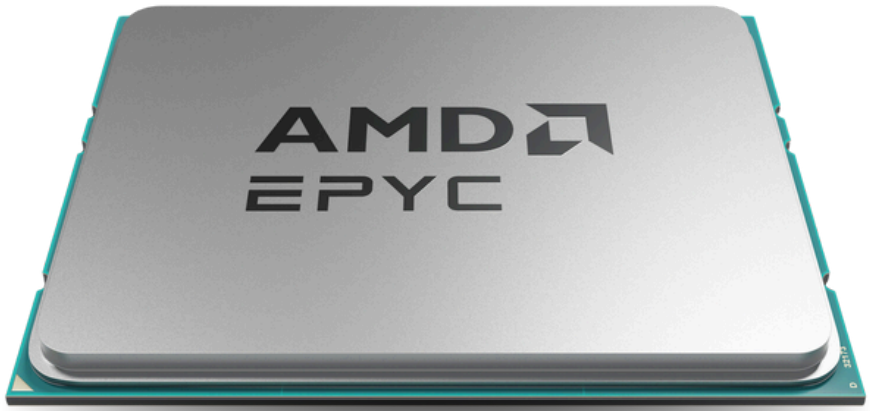
This guide equips healthcare organizations to thrive in today's fast-evolving digital landscape.

> ***IN THE HANDS OF COMPASSIONATE MINDS, AI BECOMES MORE THAN TECHNOLOGY; IT BECOMES A PARTNER IN SAVING LIVES AND RESHAPING THE FUTURE OF HEALTH.***

MODERNIZING EHRS: A ROADMAP FOR THE FUTURE

Embracing Innovation in Healthcare

The landscape of EHR modernization has rapidly evolved with the introduction of new technologies, AI integration, and enhanced data accessibility. Dr. Eric Quiñones highlights how recent advancements, particularly AI-driven automation and cloud-based solutions, are reshaping electronic health records (EHRs) to improve efficiency, security, and patient care.



DRIVING THE QUINTUPLE AIM IN HEALTHCARE

- LOWERING COSTS
- IMPROVING PATIENT OUTCOMES
- ENHANCING PATIENT EXPERIENCES
- SUPPORTING CLINICIAN WELL-BEING
- ADVANCING HEALTH EQUITY

KEY PILLARS OF EHR MODERNIZATION

SECURITY & INTEROPERABILITY

Strong cybersecurity measures protect patient data, while addressing interoperability challenges ensures seamless data exchange. Removing barriers allows real-time access to patient information, improving care coordination, clinical efficiency, and overall healthcare system performance.

CLOUD & IMPROVED ANALYTICS

Cloud-based EHRs improve data accessibility, scalability, and flexibility. Advanced analytics, including data lakehouses, provide real-time insights that support decision-making. These tools enhance patient outcomes and optimize resources, enabling healthcare organizations to manage growing data demands efficiently.

AI INTEGRATION & AUTOMATION

AI-driven tools automate documentation, inbox management, and chart review, reducing administrative workload. Personalized medicine benefits from AI's ability to analyze patient-specific data, enabling tailored treatment plans. Automating tasks increases efficiency and allows providers to focus more on patient care.

INNOVATION THROUGH EHR MODERNIZATION

OPTIMIZING INFRASTRUCTURE FOR HEALTHCARE TRANSFORMATION

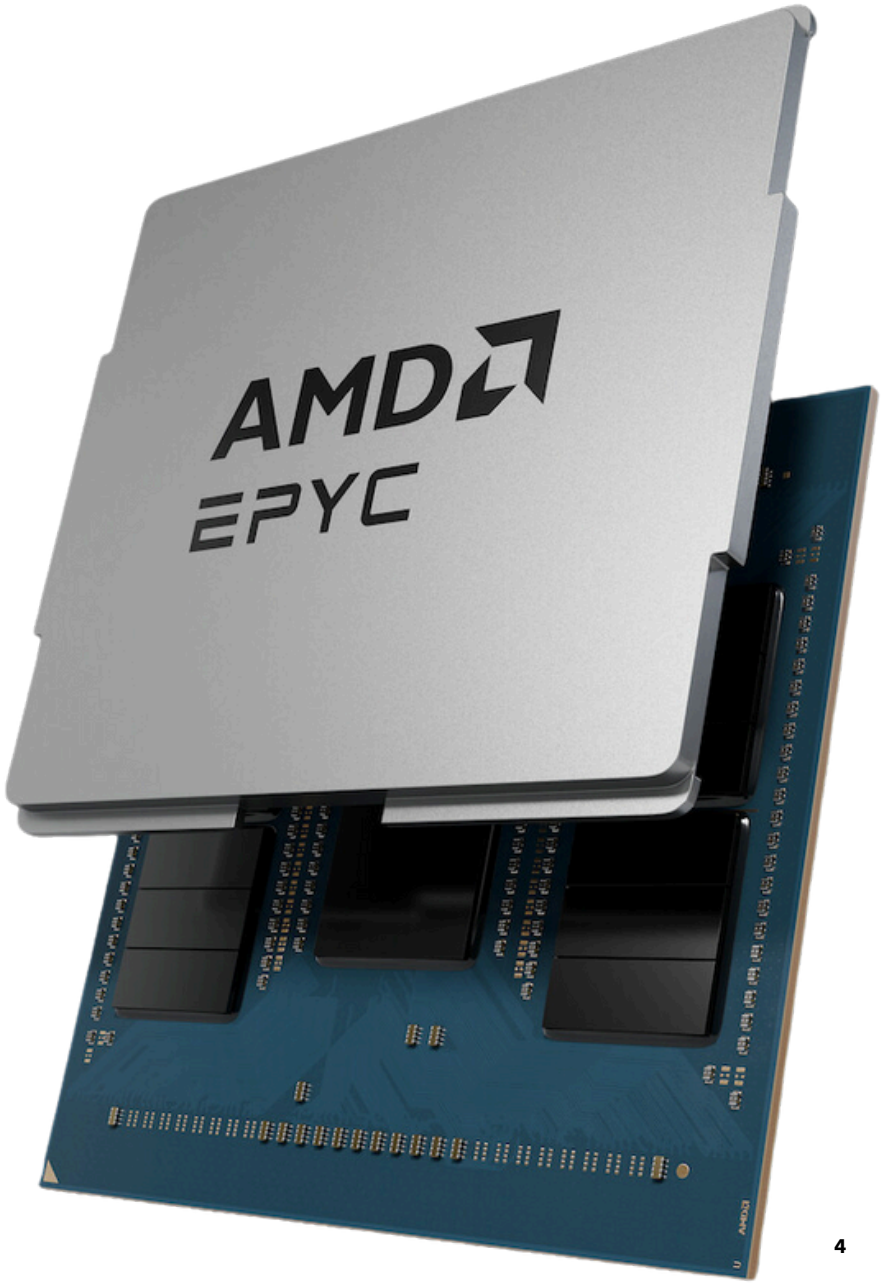
Modernizing IT infrastructure is essential for meeting the growing demands of healthcare. By consolidating data centers, organizations can achieve significant cost savings while enhancing performance. Advanced processors now enable healthcare providers to reduce server counts, cut licensing expenses, and lower power consumption—creating a sustainable and efficient foundation for innovation.

THE ROLE OF AI IN HEALTHCARE ADVANCEMENT

AI is driving a new era of healthcare transformation, from personalized medicine to predictive analytics. With open-source ecosystems and cutting-edge processing technologies, healthcare organizations can leverage AI to improve patient outcomes, streamline operations, and unlock insights from vast amounts of data. AI-powered solutions are becoming essential tools for addressing the complexities of modern healthcare.

FUTURE-READY SECURITY FOR PATIENT DATA

In a rapidly evolving digital landscape, robust security is more important than ever. Modern technologies now embed advanced security features, such as encrypted virtualization and hardware-level protections, directly into IT infrastructure. These innovations ensure that sensitive patient data remains secure, even in highly virtualized and distributed environments.



OSF HEALTHCARE

A BLUEPRINT FOR MODERNIZATION AND SAVINGS

- **7- Figure Savings**
  Returned in OpEx in the next 5 years
- **50%**
  Reduction in Capital Purchase
- **90%**
  Reduction in Maintenance Costs
- **50%**
  Reduction in EHR Response Time
- **75%**
  Reduction in Database Access Time

REAL-WORLD IMPACT

TRANSFORMATIONAL COST SAVINGS

OSF Healthcare saved **seven figures** in operational expenses over five years by upgrading to AMD EPYC CPUs on Dell platforms. The modernization cut capital purchases by **50%** and slashed maintenance costs by over **90%**, proving that advanced technology can yield immediate financial benefits.

ENHANCED EFFICIENCY

The upgrade boosted performance with **75%** faster database access and a **50%** reduction in EHR response times. These improvements streamlined clinician workflows, reduced bottlenecks, and enhanced patient care, while saving time and alleviating burnout.

STREAMLINED UPGRADES

OSF Healthcare also reduced upgrade processing times by **85%**, ensuring minimal downtime and uninterrupted service. This modernization simplified operations, delivered scalable performance, and prepared their IT environment for future healthcare demands.

HEALTHCARE IN A DATA-DRIVEN WORLD

A NEW ERA OF CARE DELIVERY

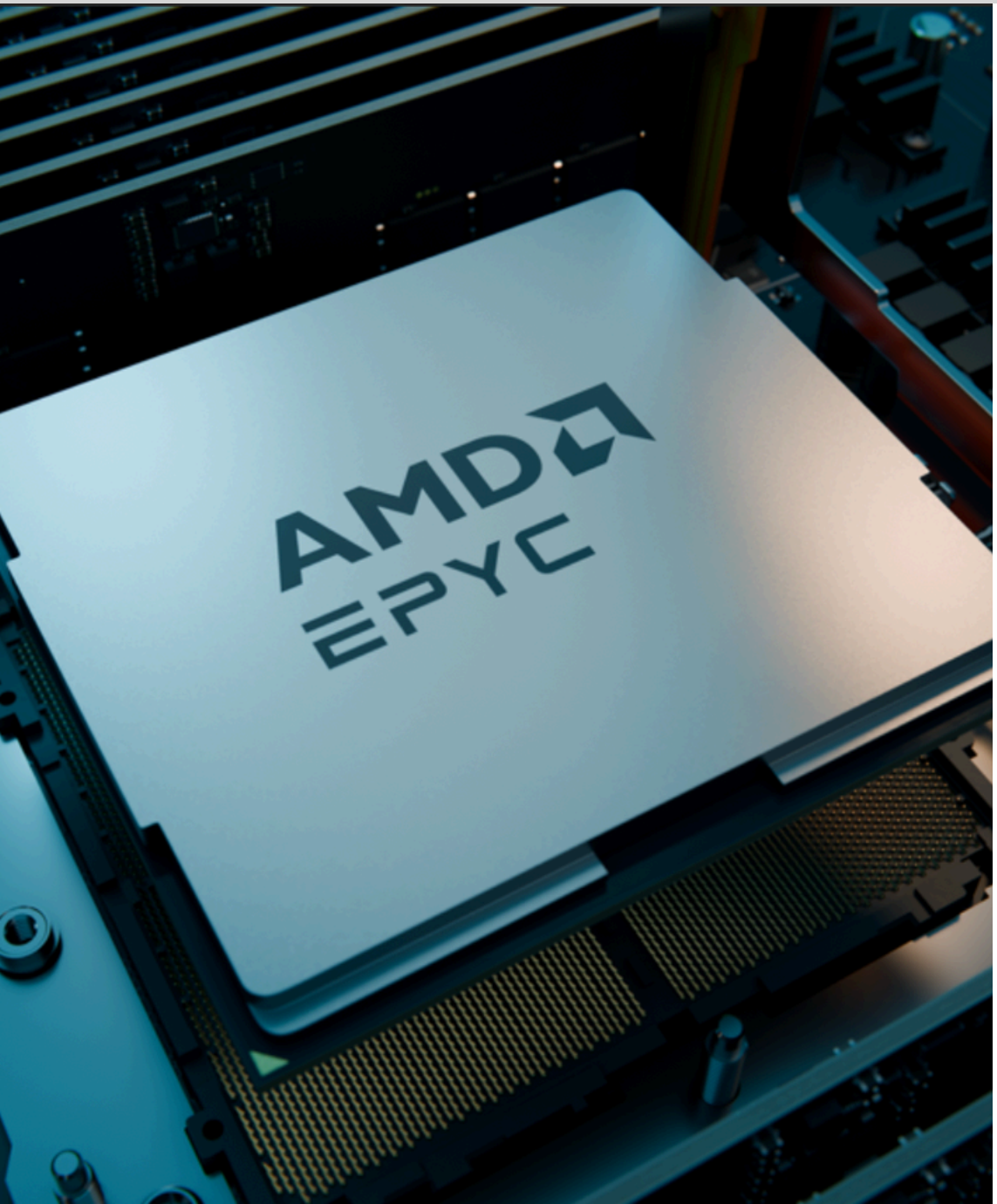
Healthcare now extends beyond hospitals to pharmacies, wearable devices, and smartphones. With technologies like AI diagnostics and vital sign monitoring, care is more accessible than ever. This evolution opens new possibilities while requiring innovative approaches to manage healthcare delivery.

THE DATA EXPLOSION

Healthcare data is growing rapidly, representing 30% of global digital information in 2021 and projected to reach 180 zettabytes by 2025. While this data offers opportunities for precision medicine, managing it effectively demands advanced tools and scalable infrastructure.

PREPARING FOR THE FUTURE

Meeting these demands requires modern IT strategies that transform data into actionable insights. Scalable, secure infrastructure is essential for handling increasing data loads while ensuring better patient outcomes and operational efficiency.



THE KEY TO SUSTAINABLE HEALTHCARE

NAVIGATING GROWING PRESSURES

Healthcare faces mounting challenges—rising costs, clinician burnout, security threats, and surging data volumes. Outdated systems struggle to keep up, creating inefficiencies that impact providers and patients. To sustain quality care, organizations must adopt smarter, more scalable technology strategies.

TRANSFORMING IT FOR EFFICIENCY

One solution is application rationalization—reducing redundant or outdated applications. Some hospital systems run hundreds, even thousands of apps, many adding complexity without value.

AI AND AUTOMATION: UNLOCKING NEW POSSIBILITIES

AI and automation are transforming healthcare by optimizing workflows, enhancing decision-making, and improving care. From predictive analytics to automated documentation, these innovations save clinicians time while improving outcomes. The key is to adopt AI strategically—aligning technology with real-world needs.

THE NEXT ERA OF HEALTHCARE IT

OUTDATED INFRASTRUCTURE MEETS GROWING DEMANDS

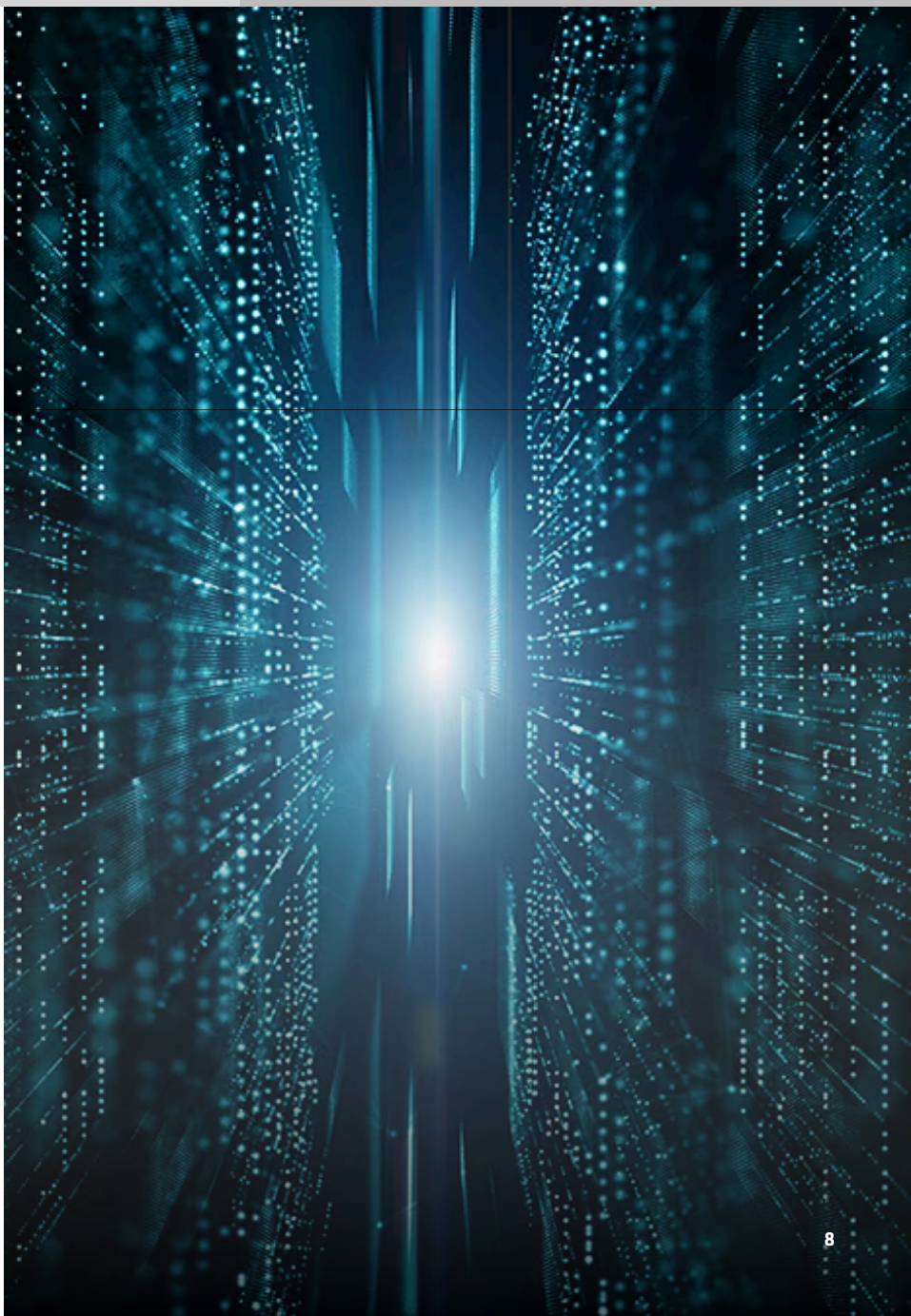
Many hospital data centers were built 20-30 years ago to support past-generation technologies. Today, the demand for AI, real-time analytics, and cloud connectivity is straining these legacy systems. Outdated infrastructure creates performance bottlenecks, making it harder to process and store the massive volumes of healthcare data being generated every second.

THE POWER & SPACE DILEMMA

As AI workloads and EHR systems expand, power and cooling requirements skyrocket. However, many healthcare organizations lack the space to scale up their data centers. Without modernization, providers risk inefficiencies, slower response times, and higher operational costs. Addressing this challenge requires more powerful yet energy-efficient computing solutions that optimize existing real estate.

SUSTAINABILITY IN IT

Sustainability is now a major factor in IT decision-making. New technology must balance higher performance with lower power consumption to reduce carbon footprints. By consolidating infrastructure—achieving the same or greater computing power with fewer servers—organizations can lower energy costs while enhancing scalability for the future of healthcare.



BUILDING A SMARTER, MORE EFFICIENT HEALTHCARE IT INFRASTRUCTURE

MAXIMIZING PERFORMANCE WHILE REDUCING COSTS

Modern healthcare IT must handle growing AI and EHR workloads while staying cost-effective. New-generation processors allow organizations to reduce server counts while delivering higher performance—cutting costs on hardware, licensing, and power consumption. This shift enables hospitals to do more with less, optimizing both resources and real estate.

FASTER, MORE INTELLIGENT WORKFLOWS

Optimized infrastructure enhances EHR response times, database access speeds, and AI-driven analytics. By modernizing their systems, organizations can:

- Achieve up to 3x faster application performance with Dell's 16G platform and AMD 4th-gen EPYC processors, compared to systems from five years ago.
- Reduce database access times by up to 75%, improving operational efficiency and clinician workflows.
- Leverage advanced AI capabilities to optimize workflows, enable predictive analytics, and streamline automation.

These advancements improve operational efficiency, reduce bottlenecks, and support better clinician and patient experiences.

ADAPTING TO NEW LICENSING MODELS

With virtualization licensing costs rising, healthcare IT teams are exploring socket-based models that scale computing power without excessive fees. Strategic infrastructure investments ensure long-term cost efficiency, security, and adaptability to future demands.

FUTURE-PROOFING HEALTHCARE IT

By modernizing infrastructure, healthcare organizations reduce costs, improve performance, and create scalable, energy-efficient environments. These upgrades are essential to support AI, real-time data access, and the next generation of digital healthcare.

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