Make Digital Transformation Real with HIT Transformation.
ACCELERATE INNOVATION WITH HIT TRANSFORMATION

Digital transformation in healthcare has been described as the use of technology to improve the connected patient and physician experience, increase efficiencies throughout the healthcare ecosystem, and accelerate the decision-making process to improve outcomes and results. However, successfully harnessing technology to advance health mission and business and clinical outcomes takes more than digital innovation. It requires a modern Health IT organization that can work strategically with clinical, administrative, research, and financial stakeholders to put data, devices, and applications to work to achieve real results. Explore this ebook to learn more about proven approaches and solutions that Dell EMC offers to help healthcare organizations accelerate their HIT transformation journey.

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WHY DELL EMC?
Rapid and radical change is the new norm. From a mix of new market players to increasing security risks to an explosion of data, healthcare is in a state of constant flux, leaving many healthcare organizations with gaps in how to best provide a future-proof IT infrastructure. But disruption can also be a force for positive change.

**TOP THREE HIT CHALLENGES**

*What’s standing in the way of HIT transformation?*

The disruptive power of digital transformation promises to enable simpler, more agile operations and an increased level of collaboration to improve patient care delivery and ultimately contribute to improvements to the bottom line. In order to realize that promise and move from static systems of record to real-time engagement and insight, some barriers must be overcome.

**These include:**

1. **Rapid, unpredictable change and uncertainty affecting every aspect of healthcare, including:**
   - Technology
   - Data
   - Security
   - Government regulations

2. **Legacy applications, systems, and organizational structures**
   - HIT transformation efforts are largely encumbered by legacy applications, procedures, and systems, sometimes decades old
   - Up to 75% of IT staff time is spent on maintenance and upkeep

3. **Limited resources and time horizons for delivering results**
   - With the majority of time spent on keeping the lights on, how can IT streamline processes to help invest in innovation?
   - Typical margins within a healthcare system are 3-4%

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**Markets**

Market forces and dwindling margins have favored economies of scale.

**Data**

Healthcare is already experiencing data overload with volumes in the zettabyte and even yottabyte scale.

**Technology**

Digital advances in areas such as mHealth, multi-cloud, IoT, and AI are spurring on a rate of technological change that is accelerating.

**Security**

The sophistication of cyberattacks continually evolves, and traditional healthcare presents a broad attack surface.
Today, every healthcare organization is examining how best to apply rapidly emerging digital technologies from predictive analytics and AI / machine learning (ML) to wearable devices and telehealth in order to secure anytime, anywhere access to real-time health data. A critical component remains to realizing the impact of these technologies, and that is the need for organizations to modernize their infrastructures (including servers, storage, and networking) to move toward the next stage of Health IT transformation maturity.

Dell EMC is uniquely positioned to help you move forward on your transformation journey, with a portfolio of products, solutions, services, and partnerships spanning the entire HIT ecosystem—from the point of care to the data center to the cloud—bringing together seven technology leaders focused on delivering the highest levels of performance, availability, security, and automation to the healthcare industry.

HIT TRANSFORMATION MATURITY

Dell EMC has the most comprehensive portfolio of technology solutions to get you there

Across industries, organizations with high IT transformation maturity are:

- **3x more likely to complete IT projects ahead of schedule**
- **2x more likely to exceed revenue goals**
- **4x more likely to release applications ahead of schedule**

And they:

- Complete **25% of their projects under budget**
- Spend up to **14% less per mission-critical application**
- Allocate up to **12% of their annual IT spend on innovation**

These businesses, collectively under the banner of Dell Technologies, include:
Today’s HIT organization is being asked to do more with less and to do it more quickly in an environment of unprecedented change. What’s needed is a new approach. Instead of looking to specific hardware or software solutions, healthcare organizations need to build a strategic and holistic foundation that supports all-flash, scale-out, software-defined, cloud-enabled, and ML/AI.

By following a three-step approach – modernize, automate, transform (MAT), organizations will gain the foundation needed to:

• Integrate data from data silos with software-defined technologies
• Properly secure information wherever it resides to ensure patient privacy and safety with multi-layer, intelligent security solutions
• Make information readily available any time, at any point of care, with a multi-cloud approach
• Empower patients to become active participants in their own care by becoming a strategic IT services HIT organization

A THREE-STEP PROCESS:
MODERNIZE, AUTOMATE, AND TRANSFORM

Take a stepwise approach to HIT transformation

There are three steps that HIT can take to shift resources from business as usual to innovation—and gain the operational agility to become a valued, responsive, and strategic partner in digital healthcare transformation.

1. Modernize your infrastructure
Standardize and consolidate on software-defined technologies to support new workloads, improve performance, and gain new agility and cost-efficiency.

2. Automate IT services
Leverage multi-cloud options to enable end-to-end user self-provisioning of standardized IT services.

3. Transform operations
Operate as a strategic IT-services broker and valued partner in enabling and advancing the healthcare mission.

“Dell EMC has positioned itself as the data center and technology partner for the future, and that offers clear benefits. It will enable us to continue to deliver the world-class integrated care our patients deserve.”

– Michael Hale, Senior Director of Enterprise Architecture, Steward Health Care System

Did you know?
Across industries, organizations that adopt an ITaaS cloud model are 3X more likely to achieve their digital business goals.10

Automated, cloud-enabled ITaaS can reduce IT costs by up to 24%, with about 40% of savings applied to digital initiatives.10
Modern infrastructure provides the foundation for standardization, consolidation, and automation that enables HIT to shift its focus and spend from routine maintenance and support to healthcare-enabling innovation.

Advanced storage technologies help address healthcare data challenges by storing larger volumes of data in less space.

**STEP 1A: MODERNIZE YOUR INFRASTRUCTURE**

Cut costs, complexity, and risks with CI/HCI platforms built on world-class servers and all-flash storage

CI and HCI also allow organizations to create in-a-box approaches to application management, for example, choosing either to run your EHR environment on a VxBlock or to offer a service to remote clinics or branches with smaller VxRail configurations that provide all the application support that smaller offices may need.

Featuring:
- VxRail appliance with Intel® Xeon® processors
- VMware Software-Defined Data Center
- All-flash storage
- Servers

**Big Ideas; Big Tech:** Why VMware Cloud Foundation & Dell EMC VxRack SDDC

Bumrungrad International Hospital accelerates the delivery of personalized medical care for patients with a cohesive, robust infrastructure

With CI, HCI, all-flash and data protection solutions, you can get:

- 50% Faster storage backup
- 80% Lower TCO with all-flash
- 4.4x Faster application-development life cycle
Leveraging multi-cloud environments is quickly becoming the de facto model for new technology platforms in healthcare, helping to alleviate some of the previous challenges associated with the dramatic growth of health data, IT manpower, and the need to streamline infrastructure costs. Dell EMC offers an integrated portfolio that delivers ultimate cloud flexibility, balancing business and clinical workloads with software-defined, scalable offerings. We develop multi-cloud operating models to manage complexity across the organization (including legacy and SaaS applications). The Virtustream Healthcare Cloud is a critical component to the multi-cloud portfolio, featuring a HIPAA/HITECH-compliant cloud for mission-critical healthcare applications such as EHR and PACS systems.

**STEP 1B: MODERNIZE YOUR INFRASTRUCTURE**

Cut costs, complexity, and risks with the most comprehensive multi-cloud portfolio and industry-leading security solutions.

Leveraging multi-cloud environments is quickly becoming the de facto model for new technology platforms in healthcare, helping to alleviate some of the previous challenges associated with the dramatic growth of health data, IT manpower, and the need to streamline infrastructure costs. Dell EMC offers an integrated portfolio that delivers ultimate cloud flexibility, balancing business and clinical workloads with software-defined, scalable offerings. We develop multi-cloud operating models to manage complexity across the organization (including legacy and SaaS applications). The Virtustream Healthcare Cloud is a critical component to the multi-cloud portfolio, featuring a HIPAA/HITECH-compliant cloud for mission-critical healthcare applications such as EHR and PACS systems.

**Why Modernize?**

- Improved application performance and user experience
- Fewer interoperability and user support issues
- Greater stability and availability
- Simplified deployment, management, security, data protection and disaster recovery
- Seamless, predictable, modular scalability
- Elasticity through resource pooling and sharing

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**Data protection and security** are incorporated in the infrastructure to help enable HIPAA and GDPR compliance with SecureWorks Strategic Information Security Program and the industry-leading GRC framework with RSA Archer® and risk-management practice portfolio of services.

**Dell EMC Multi-Cloud Portfolio**

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<th>Mission-Critical Applications</th>
<th>General-Purpose Applications</th>
<th>Cloud-Native Applications</th>
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<td>Dell EMC Cloud for Microsoft Azure Stack</td>
<td>VMware-Powered Cloud</td>
<td>Pivotal-Powered Cloud</td>
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<tr>
<td>Virtustream Managed Services</td>
<td>Dell EMC Cloud Ecosystem Hub</td>
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**Modern infrastructure enables HIT to do more for less through advanced features and functions, standardization, virtualization, workload orchestration, and automated management tools.**
With a solid, modern infrastructure foundation, HIT can begin to automate IT service delivery using a cloud-consumption model. By standardizing and automating the end-to-end process of IT service definition, user request, and cloud-enabled provisioning, HIT can respond more quickly and efficiently to the clinical, business, and operational needs of the enterprise while maintaining oversight and control. Dell EMC enables IT automation through:

- **Clinical application optimization**: Drive higher efficiency, availability, and performance for critical applications like EHRs and PACS with all-flash-based technology, advanced replication and availability services, Pivotal’s cloud-native platform, and virtualization to drive a consistent set of tools across the healthcare application environment.

- **Interoperability solutions**: Consolidate, virtualize, and manage clinical and business applications simply and efficiently, improving clinical productivity and workflow for safer, collaborative healthcare decisions. Use Dell Boomi to create bridges between siloed applications and data towers to alleviate issues with data sharing across the enterprise.

- **Advanced medical imaging**: Dell EMC provides the technology to support PACS, VNA, pathology, cardiology, and other clinical imaging platforms while preparing for next-generation imaging analytics to deliver a patient-centric view of diagnostic images and unstructured content across the enterprise.

By modernizing its data center, **Scripps Health** is able to provide the critical care and comprehensive services patients need by making certain that physicians and staff always have access to key information.

"Epic and the XtremIO arrays represent a total transformation of the way our healthcare system is run...XtremIO is helping our clinical teams deliver exceptional care, thanks to its high performance, 100 percent availability, and ability to service multiple workloads with no bottlenecks."

— Hector Aguirre, Senior Systems Engineer, Scripps Health
STEP 3: TRANSFORM OPERATIONS
Align with strategic initiatives and become a proactive digital healthcare leader

Aligning IT services with health mission objectives and then effectively designing and deploying services require new kinds of metrics, organizational structures, governance models, and cross-functional skill sets. Instead of taking on one-off projects, HIT can work with Dell EMC Services to develop and then leverage repeatable, standardized, enabling services to achieve business, clinical, and operational goals. Our team of world-class healthcare consultants, solution architects, and delivery teams help HIT organizations develop strategies and then implement them across architectures to deploy technology and make the process and operating-model changes needed to accelerate HIT transformation.

Across industries:

- 98% of IT leaders who achieve successful IT transformation work strategically with lines of business (LOBs)

- 95% track IT service effectiveness

- 98% practice continuous improvement

Transforming the IT operating model makes HIT a strategic partner in digital healthcare innovation.
A ROBUST PARTNER ECOSYSTEM
One point of integration, service, and support

Dell EMC’s robust partner ecosystem of EMR and Advanced Medical Imaging partners, ISVs, resellers, system integrators, strategic outsourcers, and service providers is working side by side with healthcare providers and life sciences organizations to build and secure their modern HIT infrastructure.

We combine industry-leading capabilities, global expertise, and best practices to deliver jointly engineered, tested, certified, and pre-integrated solutions. In addition, we have dedicated healthcare iLab capabilities including the latest IT software and hardware, healthcare test data, dedicated tech staff, and partner applications to help our healthcare customers accelerate time to solution adoption with validated and certified workflows.

Armed with our partnerships, lab resources, services, and industry experts, Dell EMC is your leading strategic partner to help transform Health IT.
Altogether, the seven technology leaders that make up Dell Technologies compose one of the largest technology companies in the world today. Our size means we can support you just about anywhere in the world and not with just a phone call or an email but with an actual person who can visit you on premises and work directly with you to solve your challenges.

As a technology leader in healthcare, we have the expertise and experience dealing with the world’s leading integrated delivery networks (IDNs) to rural health clinics and life science organizations. Our leadership can be seen in some of the biggest and largest growth categories in the IT infrastructure business—including CI/HCI, storage, virtualized data centers, secure laptops/desktops, cloud infrastructure, and virtualization. So where technology is concerned, we’re clearly playing to win.

Why Dell EMC?

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<tr>
<th>Dell Technologies</th>
<th>140k employees</th>
<th>98% of Fortune 500 companies</th>
<th>180 countries globally</th>
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<td></td>
<td>+71% of US hospitals are Dell EMC customers</td>
<td>45% of US hospitals are using Dell EMC servers</td>
<td>58% of US hospitals are using Dell desktops or laptops</td>
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62% of storage infrastructure in US hospitals runs on Dell EMC

+6k hospitals worldwide work with Dell EMC

200B network security events processed daily by Dell SecureWorks

According to an IDG study, there is an 81% ROI for enterprises deploying Dell EMC data center modernization and migration services.

Partners Healthcare and Dell Technologies: using data to offer new hope to transforming health
It’s an exciting time to be in healthcare and life sciences. We are living in the ‘digital era’. Digital transformation is a top priority across all industries—and healthcare is no exception. Dell EMC is making your digital transformation real today—from point of care to the data center to the cloud. From the world’s leading integrated delivery networks (IDNs) to rural health clinics, we have transformative technology solutions that make the future of healthcare real today.

Learn more: DellEMC.com/healthcare
or contact your Dell EMC Healthcare Account Executive


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