



THE STATE OF IT TRANSFORMATION FOR HEALTHCARE

An Analysis by Dell EMC and
VMware

Dell EMC® and VMware® are helping IT groups at healthcare organizations transform to business-focused service providers. The State of IT Transformation for Healthcare is an analysis of customer data provided by healthcare organizations who have assessed their current state and identified their biggest gaps. This report identifies only a handful of key drivers that we feel will help propel IT transformation within the healthcare industry over the next few years.

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Executive Summary

Information Technology for the healthcare industry is constantly being redefined. On the one hand, IT professionals may be strapped for resources, or forced to work with legacy systems that make it difficult to offer the type of strategic services that a modern healthcare organization demands. On the other hand, many of the technological advancements that are driving IT Transformation are originating from healthcare, pushing for greater flexibility, agility and scale.

Have you ever wondered how your plans for transforming your IT organization stack up against those of your healthcare industry peers? It is a natural part of the planning process for IT professionals and business unit leaders to seek best practices from similar companies. Understanding the IT transformation process, Dell EMC and VMware have compiled information from healthcare organizations to help provide a new view on where they are currently and, more importantly, where they want to be in the near future.

The State of IT Transformation in Healthcare is a companion report of a larger analysis conducted by Dell EMC and VMware. Data was collected from a variety of companies, including healthcare, that participated in an IT Transformation Workshop, which is specifically designed to help companies assess the gaps in their IT transformation, benchmark their current state against their peers, gain consensus among executives on prioritizing their goals and determine the immediate next steps in achieving those goals. For the purpose of the report, healthcare is comprised of healthcare providers, pharmaceutical, and other life sciences.

This report focuses only on the responses from the healthcare industry and provides key highlights and insights on trends that impact IT transformation for healthcare providers, pharmaceuticals, and life sciences. It will expand on the overall report by providing our view on three major drivers (applications, operating model, and infrastructure) for healthcare organizations looking to achieve IT transformation. The entire State of IT Transformation report, along with additional industry companion reports, is available on the [Dell EMC website](#).

Driver 1: Operating Model & Service Strategy

The ability to know what group is using IT services and either showback or chargeback will be a major step in justifying costs and resources, as well as help project the needs of different departments going forward.



Ninety-eight percent of respondents from the healthcare industry indicated that within two years they are targeting to have at least a partial automated metering system in place, if not fully automated, built in to a services catalog with a predictive capacity strategy in place.

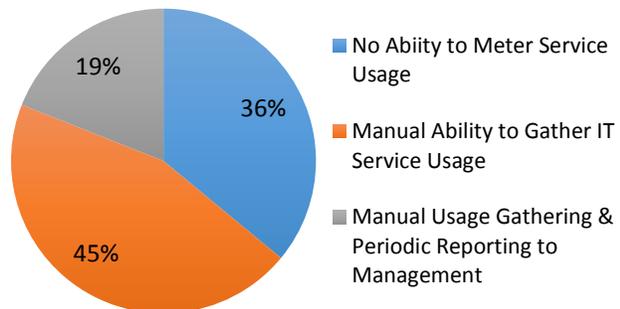
Whether it is cognitive computing, advanced medical imaging, or clinical research access and archives, the next wave of IT transformation will require ever increasing amounts of services. And while IT budgets are projected to increase slightly, in order to keep pace, new operating models that improve efficiency are needed.

The ability to offer IT as a Service is at the core of IT transformation. As the healthcare industry tries to keep up with the explosion of technology, all designed to put the patient at the center of care, IT must put its users at the center of their services. IT needs to provide the best possible experience to those users and provide transparency into usage and cost.

The development of a self-service portal and services catalog was cited as a capabilities gap experienced by healthcare respondents. More than half, **fifty-two percent**, of respondents cited that they only **have begun to explore creating a services catalog**, and while **thirty-seven percent** have a catalog, they **lack the self-service portal** necessary to deliver efficient and effective ITaaS model.

Less than ten percent of those surveyed have a service catalog and portal for testing, and none of the respondents indicated that they have a fully implemented self-service portal.

Metering for Service Consumption



If IT within healthcare organizations is going to offer IT as a Service, they require the ability to monitor service consumption at a level that few healthcare organizations are currently capable of. More than 1/3 of respondents indicated that they have no ability to

meter service usage. And while nearly half can manually measure service usage, they do not consistently report back to management.

Given the wide range of services being utilized and the need to scale out services intelligently, the ability to monitor, track, predict service usage, and ultimately chargeback to the areas that are utilizing IT services will allow you to provide a strategic service to the end users.



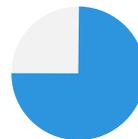
Fifty-nine percent of the healthcare IT professionals that responded to the survey indicated that no skills or readiness assessment has been undertaken to ensure that IT roles are prepared to meet the changing business requirements for cloud technology, business-facing service definitions, packaging and life cycle management.

According to IDC, the high demand for next-generation business and IT skills will be a key driver for 2016, as the number of worldwide healthcare organizations seeking IT talent will increase dramatically¹. For years, healthcare organizations have relied on a handful of vendors to provide innovative IT solutions and expertise, and while that trend will continue, we also see a desire for healthcare organizations to hire, develop, and retain IT professionals with these new business enabling skills to manage IT as a whole. In fact, **seventy-five percent** of the healthcare respondents indicated that within the next two years they are targeting to have **new IT roles being implemented, with associated retraining or hiring.**

¹IDC FutureScape: Worldwide Healthcare 2016 Predictions, November 2015

Driver 2: Applications

The very nature of the new healthcare network model is pushing application and End User Computing transformation. As healthcare organizations partner and create expansive networks of physicians and specialists, the number of services and data collection points has multiplied exponentially. Speed, agility and transparency will become paramount for IT transformation.



Seventy-five percent of respondents want the ability to add or remove services for end users within 24 hours or ideally dynamically.

In today's healthcare IT industry, the ability to provision employees and affiliates to have access to the services and information they need in a safe and reliable way is critical, particularly in today's complex healthcare networks. **Twenty-five percent** of the healthcare respondents indicated it takes **more than one month** to properly provision a desktop or end-user computing service. Another **forty-four percent** took between **one week and a month.**

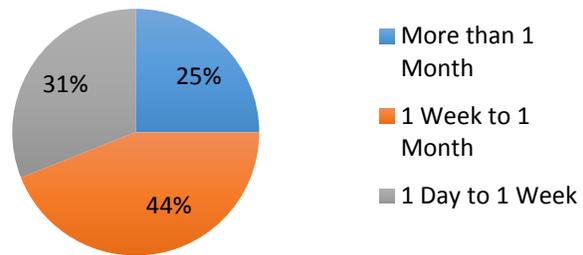
The large gap between the time when change is needed and enacted leaves the healthcare organization open to regulatory problems, especially if the user no longer has the rights to view information. In fact, the failure to remove access rights for

terminated employees promptly has been closely watched by regulators and can be costly from a compliance and reputational risk standpoint.

In addition to mitigating the risks that come from prolonged delays, the ability to add and remove services dynamically as a service, where business users can easily select the appropriate services from a catalog, and IT can ensure that those that should have access to information have access when it is needed most, improves patient care and helps further create an integrated healthcare network.

End User Computing Services

Time to provision desktop/end-user



Since a great many of the services that are vital to a healthcare organization are partner or third-party services, a seamless service portal should be designed for both internal and external services and include End-User Services like device procurement, application access, HR access, and security access to patient information, along with infrastructure services, such as network access, compute, storage and recovery.

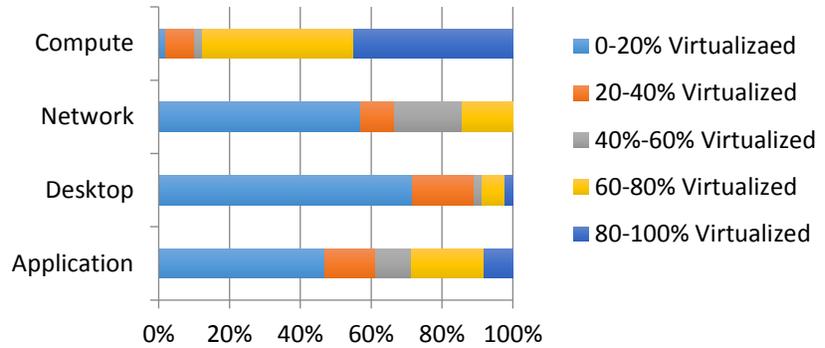
Affiliated doctors and other medical staff need to have access to the information needed to ensure that proper treatment and care is delivered, but other information needs to be protected.

This ability is greatly hindered by IT acceptance of the type of devices that can access information. Fifteen percent of the healthcare professionals surveyed indicated that their organization limits access to **only a desktop PC**. An additional **thirty-two percent** allow **laptops with no access outside of the network**. It is no wonder that **sixty percent** of healthcare respondents indicated that they would like to implement either **a Bring Your Own PC (BYOPC) capability or access from any device policy**, complete with a self-service authentication portal.

Driver 3: Infrastructure



Forty-five percent of healthcare participants categorized themselves as having achieved at least eighty percent virtualization of their compute platform (more than any other industry). However, **one hundred percent** of participants in the workshops indicated that they would like their organization to achieve this level of virtualization within the next two years. To do so, healthcare IT will need to rely more on public and hybrid clouds.



While compute virtualization is mature, many health care organizations still can find efficiencies and cost savings by virtualizing other areas of IT. Goals for network, desktop and application virtualization are modest. Nearly half of the respondents cited goals of increasing application and desktop virtualization to at least sixty percent over the next two years.

Industry View

Many industry experts believe that overall IT spending in the healthcare industry worldwide will grow slightly over the next few years, but while budgets may remain relatively the same, there will be a continued shift in the area where those dollars are spent, as most healthcare companies try to lessen their dependencies on hardware and other legacy IT models. In addition to the increased focus on patient care, the ability to use less hardware, less space, less energy (less capex), the more that space can be better allocated to more revenue producing ventures.

Increased virtualization (developed either internally or by trusted partners) will allow healthcare organizations to rapidly develop and test new patient offerings and attract practitioners to the network.

The ability to offer greater virtualization to a vast network will rely on an increased use of cloud-based infrastructure. Much like other highly regulated industries, healthcare has often opted for a private cloud infrastructure. However, **fifty-two percent** of those surveyed believe that more than **twenty percent of all applications** will be leveraging a well-engineered hybrid cloud architecture within the next two years.

Conclusion

When it comes to IT Transformation, healthcare is outpacing other industries in some areas, but lagging behind in others. The rationale for this can be found by examining the nature of the industry and some of the trends over the past five years. Healthcare has become almost singularly focused on providing improved individual care. The healthcare system rewards those that have implemented changes, and penalizes those institutions that do not (or at least puts them at a disadvantage). Five or ten years ago, healthcare would have been viewed as being slow to adopt technological progress, resulting in sluggishly coordinated patient care and long back-office processing time, but with changes in regulation and a renewed view on the business of healthcare, we see healthcare leading the way.

Healthcare providers and their partners are developing innovative uses for data collected from an abundance of new sources. Driving change within an organization's

infrastructure, operating models or IT service strategies can enable healthcare organizations to be more efficient, reducing time spent managing issues and allowing for more time meeting the needs of their patients.

About the IT Transformation Workshop

The IT Transformation Workshop can help IT organizations identify key transformational initiatives by measuring the readiness of their current environment. Organizations receive benchmarking data that shows where peers in their industry are in each area of transformation, and an analysis of the key gaps in their environment. At the end of the workshop, participants have a prioritized list of next steps to take, along with the estimated return on investment (ROI) that would be seen by closing the gaps in IT transformation that were identified in the workshop.

Appendix—Methodology

The organizations analyzed in this report began their transformation with an IT Transformation Workshop, which was specifically designed to help them assess the gaps in their IT transformation, benchmark their current state against their industry peers, determine their goals, and gain consensus among their executives on prioritizing the immediate next steps to take to achieve those goals. The CIO and his/her direct reports are the participants at these workshops.

This report is an analysis of the data collected from healthcare organizations during these workshops and is a barometer of where companies are in their IT transformation. This analysis therefore is not a random sample of research subjects, but an analysis of companies who are actually in the midst of an IT transformation.²

Prior to an IT Transformation Workshop, a company completes a questionnaire that is used to assess the company's current and desired state of transformation. There are 29 questions that cover various areas:

Operating Model and Service Strategy

- Packaging IT services – self-service enablement, financial transparency
- IT service automation – provisioning, metering, monitoring, reporting, and predictability

Applications

- Application modernization, development, and platforms
- End user computing

Cloud Infrastructure

- Hybrid cloud – workloads and architecture
- Virtualization – compute, storage, app, network, and desktop
- Business continuity and availability

Workshop participants answer each question in two ways – where they are today (their current state) and where they want to be within the next two years (their desired state). A gap analysis is performed and recommendations for closing those gaps are

presented to the CIO and team. The company also receives a benchmark analysis that compares their progress in IT transformation against industry and competitive peers.

² This report covers the 48 global companies who participated in workshops between 2014 through mid-2015

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