

Get Ready:

Readying your IT Infrastructure for the Next Wave of Health Care Innovation

Introduction

Innovation in Health Care Information Technology applications continues to outpace the typical IT organization's ability to adapt. Business unit leaders and care providers are continually presented with potentially game-changing opportunities to improve patient care and are often slowed in their efforts by the current state of the IT infrastructure.

This technology roadblock is leading to turf wars between chief information officers and business unit leaders around who is in charge of selecting systems and managing data. Not only are business unit leaders adopting more software-as-a-service (SaaS)-based applications, but they are also looking to bypass IT for public cloud infrastructure as a service (IaaS) capabilities to support their planned innovation.

In this report we highlight the need to build a new operating model for your IT Infrastructure. Today's health care innovations are not going to run on yesterday's technologies. Continuing to patch the dike in an attempt to leverage existing investments and skill sets is delaying the inevitable. Not only will inaction and resistance cost your organization money, but they will ultimately inhibit your ability to take advantage of the innovations that promise to drive significant patient-care improvements.

Innovations are Driving the Need to Change

Vendor Neutral Archive (VNA) solutions, Connected Care, Population Health Management, Predictive Analytics, and Health Care Internet of Things (IoT) solutions are all being built in the cloud and will require cloud-scale infrastructure and access. At the same time, end users are no longer sitting at a workstation or PC where they create and access data. The last several years have seen a dramatic shift to native and cloud-based applications for mobile devices instead of just PCs.

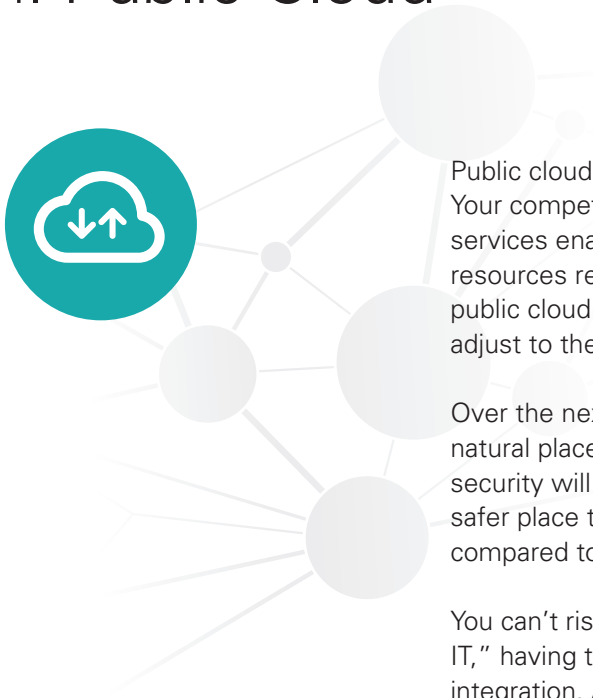
The idea that IT is the keeper of the PCs, servers and data center storage must change. IT needs to transform itself into a strategic provider of the organization's technology foundation, which now extends outside of the data center and traditional data center services.

Five Key Initiatives for your IT Roadmap

The following five key initiatives should be on the critical path of your IT infrastructure roadmap. The sooner you execute on the initiatives, the sooner you can enable the next wave of innovative applications and services.

- 1. Public Cloud**
- 2. Hybrid Cloud – Built on Automated Hyper-Converged Infrastructure**
- 3. End User Device & Access Management**
- 4. Single Sign-On – Identity Management**
- 5. Application Dependency Mapping**

1. Public Cloud



Public cloud is where the next wave of innovation is being delivered. Your competitors know this. Fundamentally, public cloud infrastructure services enable on-demand access to the large computing and data storage resources required for the next wave of health care applications. Having public cloud services as part of your IT offering is the fastest way for IT to adjust to the needs of the business.

Over the next several years, public cloud will become the dominant and natural place to host applications. In fact, today's concerns about cloud security will be reversed in a decade. The cloud will be considered the safer place to store data, including Protected Health Information (PHI) data, compared to hosting it yourself.

You can't risk your organization's public cloud being born in "shadow IT," having to later assume responsibility for security, compliance and integration. Also, spot and one-off public cloud solutions driven by the applications vendor are not the answer because incompatibilities and integration can be insurmountable.

IT needs to aggressively pursue opportunities to provide secure, compliant, effective public cloud services. Don't wait for your business unit leaders to do it on their own:

Aggressively pursue opportunities to provide these services to your business users.

Dedicate resources to the effort.

Develop a comprehensive understanding of the services that are offered by the leaders in the space: Microsoft Azure and Amazon Web Services.

Know what your competitors are doing.

Establish IT-governed and brokered public cloud services.

Adopt a reference-architecture-based approach. Don't make the same mistakes as the pioneers. There are established right ways to do it. Pick one.

Seek opportunities to improve services and reduce costs of managing existing workloads, such as backup, archive, testing and development.

2. Hybrid Cloud – Built on Automated Hyper-Converged Infrastructure

Not all applications and workloads will be appropriate for the public cloud — at least not for the next few years — but IT can still realize many of the benefits of cloud for on-premise computing and storage needs by building a private/hybrid cloud. The benefits can be dramatic, particularly if your hybrid cloud is built on a hyper-converged infrastructure (HCI). HCI solutions are software-centric and tightly integrate compute, storage, network and virtualization resources into a commodity-hardware-based appliance. HCI is not the “next big thing,” but it is becoming the new standard. It is how cloud providers deliver dynamic service offerings at costs that have transformed the IT industry.

Building a private or hybrid cloud out of your traditional server and storage silos is difficult at best. HCI can expedite your deployment of private clouds to a fraction of the time. Everything is built into the individual appliances, including centralized management, data efficiency, replication and the ability to scale in incremental units. HCI solutions enable significant consolidation of the data center footprint, simplify recoverability and dramatically reduce time to provision and manage services.

What you should do:

Stop scaling traditional data center server, storage and network silos.

Rationalize spending on traditional data center capabilities and capacity against this alternative.

Build your Private cloud on HCI.

Consolidate the footprint in your data center.

Move your end user computing environment to HCI for immediate performance improvements.

Improve recoverability and its cost by using HCI solutions to consolidate your disaster recovery solutions.



3. End User Device & Access Management



It's time to adapt your end user services to deliver on the demands of today's user community. The days of dictating which device end users will use to do their jobs have past. The last several years have seen a dramatic shift to native and cloud-based applications for mobile devices instead of just PCs. Smartphones, tablets, anywhere/any-device access to data and applications are essential for people entering the workforce today.

Ignoring the problem and continuing to enforce stringent corporate policies that handcuff productivity in the name of compliance or security are exacerbating the situation. Preventing users from working the way they think is best will force them to work around your rules, putting your company data at risk.

IT needs to lead the shift and provide the mechanisms to ensure that end users have the capabilities they need and are at the same time secure and compliant:

Recognize that although the PC will continue to play a critical role, it is no longer the preferred device for accessing information and communicating electronically.

Deploy a mobile device management solution that allows IT to secure and manage end user devices and their access to the organization's application and data.

Institute a BYOD policy. Users will bring in and use their own devices. Having the policies and mechanisms in place to ensure security and compliance are your responsibility. A policy that forbids BYOD will likely put your organization at risk.

Deploy a secure Electronic File Share and Sync (EFFS) solution.

For laptop and PC users – Deploy one of the current VDI solutions that provides end users with the ability to securely access your organization's applications without allowing data to live on the device. This method of providing access to apps via a PC is by far the most secure, flexible, cost effective and easiest to manage solution and is critical for BYOD.

Ensure your identity management solution provides single sign-on from any device.

4. Single Sign-On – Identity Management

The ability of an organization to centrally manage user access to IT services is essential to security and compliance. As the numbers of cloud-based applications and services grow, so does the complexity of managing authorization and authentication.

Leaving the security in the hands of the end users or solely relying on vendor access and authorization processes does not meet compliance requirements and puts the organization at risk. Additionally, controlling how your employees access company resources is becoming more difficult as mobile devices take a strong hold on application delivery. Gone are the days of user PCs being locked down and secured in an internal directory service. Mobile devices have the ability to access and store passwords for your IT service.

A proper single sign-on and identity management solution gives your organization the ability to control access to all on-premise and public cloud IT services, enabling users to access company resources securely from any device.



If you are only using a single sign-on for a few of your applications and services, you are missing the point and accomplishing little. To be effective, SSO is really an all-or-nothing proposal.

Integration with Security Assertion Markup Language (SAML)- based directory services is critical for work with multiple cloud service providers and integration with internal systems.

The right single sign-on solution will enable your users to log on once to access all of their applications from any of their devices.

Require your application developers and public cloud providers to integrate with your SSO solution — do not allow independent security authentications to access company data.

Your single sign-on solution must work with desktop and application virtualization technologies.

5. Application Dependency Mapping



Cloud computing, the move to HCI for your on premise private cloud, and opportunities to consolidate will depend on you having a detailed, accurate and current understanding of your existing applications and the application's infrastructure dependencies. Knowledge of your applications is always a critical path item when trying to contemplate and execute on any data center initiative, but the introduction of cloud computing adds a new level of complexity when you are considering moving an application and its supporting infrastructure outside of the data center.

For the past several years, many organizations have relied on configuration management databases (CMDBs) as the tool of choice to complete capture and manage this information, but they have fallen short on expectations. CMDBs have been very difficult to deploy and even more difficult to maintain. This difficulty, combined with the dynamic nature of today's virtualization technologies, has made CMDBs incapable of providing the necessary level of application dependency mapping to make informed decisions about your IT infrastructure needs.

The new generation of application dependency discovery and mapping tools can provide you with an automated, dynamic view into your application dependencies. The investment in these dynamic tools will easily pay for itself in any infrastructure consolidation, migration or disaster recovery planning effort, and it will save you significant time and money when it comes to migrating applications to the cloud.

Procure an application dependency mapping tool that automates the discovery and presentation of the following:

Performance Modeling – Helps IT teams improve workload modeling using physical and virtual server performance data.

Network Impact Analysis – Captures and presents the potential impact on the network before moving a workload.

Complete network traffic profiles between dependent workloads in your existing network infrastructure.

Advanced application dependency visualization so you can clearly see the impact of moving a specific workload to the cloud.

Summary

The opinions presented in this insight report are no longer controversial. Many of our customers are well on their way down this path. Unfortunately, many of our health care IT customers are holding on tightly to the status quo and using HIPPA compliance as a reason for delay. Don't fall into this trap. With BreakFree Solutions, a LaSalle Solutions Company, the focus is on helping IT organizations accelerate the transformation of their IT infrastructures to better enable the innovation they need to compete in a dynamic marketplace.

The Authors

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For over 30 years Mitch Northcutt has been a trailblazer in the development and implementation of business and health care technology strategies. Considered a pioneer by his peers and customers alike, Mitch excels at identifying the best possible solution for complex technology challenges. His passion for innovation serves him well as the President of BreakFree Solutions. Prior to joining BreakFree Solutions, Mitch led or participated in building multiple health care-focused technology services businesses. At BreakFree, Mitch develops and leads the delivery of forward-thinking IT solutions and service offerings.

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For over 20 years Robert Wilson has worked within enterprises to improve data center infrastructure and technology services. Rob was at the forefront of the server virtualization revolution and a leader in accelerating its adoption throughout many organizations. His passion and expertise in problem-solving drives Rob and he thrives on constructing alternatives that improve technology. At BreakFree Solutions Rob is the Services Director for Data Centers and is instrumental in developing solutions that will continue to transform IT.



To learn more about BreakFree Solutions, contact your local representative.

