INTEGRATE PUBLIC CLOUDS INTO HEALTHCARE IT

Increase agility, capacity, and resilience

Cloud is becoming a critical element of healthcare modernization strategies. Recent CHIME and Becker's Hospital Review focus groups revealed more than 63 percent of healthcare organizations already have adopted one or more clouds. These healthcare leaders cited economic and technical reasons for steadily increasing adoption.[1]

With healthcare information technology (HIT) staff being asked to help solve business agility, growth, and patient care delivery challenges, it's no surprise that they are seeking to modernize and extend their IT environments quickly through public clouds. VMware enables healthcare organizations to integrate public clouds in every manner, at every stage of the digital transformation journey to boost innovation, agility, and cost savings.

Top Healthcare IT Drivers for Integrating Public Clouds

Healthcare business leaders are seeking better alignment with their technical teams as they evaluate go-to-market strategies and important decisions such as mergers and acquisitions. They want modern digital strategies and environments that help them accelerate innovation and agility, so they can better compete with new services and applications. At the same time, IT organizations are expected to help keep costs in line.

Healthcare is embracing public cloud to address increasing expectations, but there are still some reservations:

- 40 percent of healthcare leadership say improving agility is the primary reason to move to the cloud.
- 48 percent cite disaster recovery and application resiliency as the most important cloud use case.
- 40 percent report security and compliance as their top worry when moving to the cloud.

The move to replace on-premises infrastructure with cloud-based infrastructure is also supporting healthcare cost-efficiency goals by reducing data center footprints. According to a Gartner research director, "Growth of public cloud is supported by the fact that organizations are saving 14 percent of their budgets as an outcome of public cloud adoption."[2]

> "A second data center would not be readily affordable to a hospital of our size. But we also can't afford downtime. We wanted cloud-based disaster recovery, and we needed it to be secure in order to meet our compliance requirements."
>
> CHRISTOPHER FRENZ
> DIRECTOR OF IT INFRASTRUCTURE
> **INTERFAITH MEDICAL CENTER**

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[1] CHIME and Becker's Hospital Review Focus Groups, Conducted for VMware, Spring 2017.

[2] Gartner. "Gartner Says Worldwide Public Cloud Services Market to Grow 17% in 2016," September 15, 2016, http://www.gartner.com/newsroom/id/3443517

Hybrid Solutions Overcome Challenges

Healthcare organizations recognize the value of public cloud flexibility and agility, but still must address key challenges to integrating public cloud solutions into their operations. They are seeking to reduce inefficiencies that come from managing multiple cloud silos and transitioning existing workloads to public cloud.

Multiple clouds can create more complex, siloed environments because typically they lack common management tools and enterprise-class security across infrastructure. When IT teams build, staff, and operate different silos, they reduce efficiency and drive up costs. As HIT teams look for ways to take advantage of the flexibility and agility that public and hybrid clouds offer, they also recognize mission-critical and data-sensitive apps may have special needs. HIT teams need to consider how they can migrate applications running on-premises or in a private cloud to the public cloud, while leveraging their existing VMware investments, including the re-use of application architectures, lifecycle management processes, and security best practices.

Modern, Strategic Cloud Foundations Begin with VMware

VMware is a leader in helping healthcare organizations succeed at digital transformation by becoming software-defined. VMware delivers the solutions that enable HIT staff to confidently integrate public clouds to scale and extend their businesses. That's because VMware's industry-leading cloud technologies help enterprises fully leverage hybrid clouds, and connect and manage multiple clouds for increased agility, capacity, and resilience.

For example, at **Interfaith Medical Center (IMC)**, a 287-bed teaching hospital and network of ambulatory care clinics treating more than 250,000 patients in New York every year, technology is playing an ever-increasing role. IMC have doctors access electronic health records from mobile devices. To ensure uninterrupted delivery of care, critical systems must always be available, even in the case of a local disaster. To enhance business continuity while avoiding the cost of a secondary data center, the hospital virtualized its on-premises server environment with VMware vSphere® several years ago—then recently looked to the cloud to modernize disaster recovery. Now fast recovery for critical healthcare systems is enabled by VMware cloud technologies, improving RTO while meeting security requirements for patient data.

Other healthcare organizations are developing new applications on cloud services, employing cloud-native technologies that are available on different platforms. But they may have difficulty integrating these applications with the rest of their IT operations. At the same time, they need to decide what to do with their existing applications—leave them on-premises; move them into the cloud as they are; modernize these applications with cloud services; or replace them with cloud-native applications.

VMware solutions give organizations the freedom to innovate across clouds without added cost and complexity. With VMware, HIT teams can quickly spin up or down development environments to speed time to delivery. A combination of award-winning VMware compute, storage, and networking technologies, VMware Cloud™ Infrastructure provides compatibility and interoperability between cloud environments to provide the choice to match the best infrastructure to app requirements from the data center to the cloud.

By avoiding cloud silos and establishing a more modern IT environment, organizations teaming with VMware establish a strategic foundation for faster delivery of future applications and digital business processes. VMware's unique architecture and partnerships with hundreds of cloud providers give HIT organizations broad choice and flexibility in how to build, run, manage, and secure any cloud.

Leverage VMware Hybrid Clouds

A VMware hybrid cloud promises an easier on-ramp from internal data centers into public clouds. By extending the data center to the public cloud they choose, HIT organizations can quickly scale, consolidate, and migrate infrastructure, while taking advantage of existing tools, processes, and skill sets. They can extend their on-premises infrastructure to boost regional capacity or support disaster recovery. They can support data center consolidation and application migration, or improve dynamic capacity capabilities for new application development. However, a successful transition to hybrid cloud requires HIT to modernize their own on-premises infrastructure, too.

Organizations seeking to reduce CapEx investment can replace on-premises data center infrastructure with VMware Cloud Foundation™, a complete Software-Defined Data Center (SDDC) infrastructure platform, delivered as a service. VMware also provides solutions for healthcare organizations to leverage hybrid cloud by seamlessly extending a best-in-class VMware vSphere-based private cloud. VMware supports business agility, resilience, scale, and choice by extending data centers to the public cloud with VMware Cloud Provider™ partners operating public clouds in more than 100 countries, IBM SoftLayer, and VMware Cloud™ on Amazon Web Services (AWS). With VMware, HIT teams can run any application anywhere, with complete workload portability—between on-premises and the cloud. They can maintain operational consistency by employing a common management experience and networking constructs to maximize use of existing skillsets and tools.

Creative Solutions in Healthcare, based in Fort Worth, Texas, provides nursing and assisted living facilities throughout the state. The company decided to migrate from its co-located physical environment to the cloud to save costs, improve application availability, and update its core infrastructure to comply with HIPAA requirements. After an early pilot with Microsoft Azure failed, the company turned to VMware to migrate quickly to a more robust infrastructure, gaining the technology and control to achieve HIPAA certification and improve application availability while reducing the IT budget by one-third. The company has been able to extend its capabilities to the cloud and implemented a sophisticated electronic health record system, including electronic prescriptions and online physician orders, to improve staff agility and patient care.

Manage Multiple Clouds

HIT leaders want to institutionalize the use of public clouds to drive agility up and costs down. They want to be able to choose the right public cloud for the right workload, in a way that prevents the emergence of disparate clouds. They also want to manage multiple clouds holistically, with the insight they need for lifecycle and cost management—without compromising security and compliance.

Healthcare organizations are also seeking advanced management and automation for cloud brokering and integrating DevOps practices across multiple clouds. As needs change, they need an easy exit strategy for moving applications and workloads from any public cloud at any point—without vendor lock-in. VMware helps HIT teams securely connect and manage multiple clouds with on-premises solutions or SaaS-based services.

Healthcare IT organizations can take advantage of VMware's enterprise-ready cloud management platform—VMware vRealize® Suite together with advanced networking capabilities from VMware NSX®—to manage multiple private and public clouds. They can build and run applications on, and migrate them to multiple clouds, securely connecting all clouds and managing all workloads across networks. Advanced operations management capabilities provide a unified view of the health, performance, and capacity management of workloads across clouds plus policy-based governance. Because healthcare is highly regulated, VMware helps ensure compliance by monitoring the status of workloads, detecting drift, and automating remediation. With cost an ever-growing issue, HIT teams can deploy VMware solutions to gain visibility into, and control of, the cost of public cloud services.

Teaming with VMware to Integrate Public Clouds

In a multi-cloud world, it takes an integrated approach to meet digital transformation objectives. Teaming with VMware and standardizing on SDDC solutions that support both private and public clouds increases HIT flexibility, security, and choice—while rapidly reducing cost and risk.

VMware solutions enable healthcare organizations to confidently integrate public clouds—providing capabilities for leveraging VMware hybrid cloud and managing multiple clouds—to scale and extend businesses. With a cloud strategy enabled by VMware, HIT organizations can confidently build a best-in-class private cloud that easily extends to compatible public clouds so any application can ultimately be run, managed, connected to, and secured on any cloud. Only VMware—a global leader in cloud infrastructure and business mobility—offers a comprehensive IT portfolio in support of cloud strategies that couple freedom with control.

Learn more at https://www.vmware.com/go/healthcare.

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