Modernize Your Infrastructure to Modernize Your Business

WHITE PAPER

Chapter 1: **Introduction**

Business and IT leaders across all industries are facing mounting pressure to embrace digital transformation and bring new applications and services to market quickly to ensure business success and gain competitive advantages.

Complex, traditional data centers slow the delivery of IT services and applications, resulting in high operational costs. Due to these extended delivery times and the added strain on IT departments, lines of business are bypassing IT to move critical applications to public cloud services.

IT is at a tipping point: Refresh its infrastructure strategy to deliver the speed, agility and cost efficiency its clients demand; or continually fight against unsafe, noncompliant shadow IT.

In order to avoid the latter, organizations are turning to hyper-converged infrastructure (HCI) to take back control of IT and exponentially increase their responsiveness to business requests. HCI helps by eliminating the complexities of traditional silos and delivering an agile, software-defined platform across compute, storage and networking.

HCI is a flexible, efficient way to accomplish two critical IT initiatives. First, it helps bring key IT functions together, breaking down silos and processes. Second, HCI helps reduce the strain on IT budgets with high performance at a low cost, offering a transformative yet simple approach to data center architecture.

This white paper examines the reasons why forward-looking IT and business decision-makers are turning to HCI to modernize their infrastructures. It also explains how VMware, the leader in HCI, delivers the foundation to a modern data center with VMware® vSAN®, which powers cost-effective, proven HCI solutions.

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Chapter 2: **The state of the market**

Companies need to modernize IT to adapt to an increasingly digital world. By 2019, digital transformation initiatives will drive nearly 75% of all IT spending, according to IDC, thus "reshaping the global economy."[1] This fundamental shift in business priorities is creating an urgency for IT leaders to adjust quickly and resourcefully in order to:

- **Meet changing business requirements:** As businesses become more digital, IT teams are taking on additional projects and embracing a services-focused delivery model. IT is increasingly concentrating on empowering business decision-makers while enabling DevOps to accelerate cycles and improve quality assurance.
- **Improve efficiencies:** Higher demands for speed, agility, availability and reliability come at a time when data is growing exponentially and IT budgets are relatively static. IT teams must be efficient with every dollar spent, leveraging evolutionary technologies that support existing investments while charting a clear path to the future.
- **Increase agility:** Modern IT needs to be an enabler of change. This means leveraging capabilities such as automation and orchestration to simplify operations—while using solutions that support initiatives such as cloud, containers, microservices, big data analytics, mobile apps, the internet of things (IoT) and others that may be just over the horizon.

Chapter 3: **Why hyper-converged infrastructure; why now?**

Given this set of challenges, IT leaders are turning to HCI in record numbers. Hyper-converged infrastructure systems represent one of the industry's hottest segments, expected to grow at a compound annual rate of more than 48% a year through 2022.[2] HCI enables organizations to:

- **Easily increase agility and flexibility** by using integrated platforms that support digital transformation.
- **Eliminate separate proprietary storage** and storage networking hardware, thereby reducing legacy infrastructure costs by 40% to 60%. With a single management console, organizations can reduce operational costs by an additional 50%.
- **Leverage existing skill sets** to move seamlessly to HCI without risk—while enabling choice and protecting current investments in equipment and knowledge.

The capabilities enabled by HCI mesh perfectly with some of the most critical challenges IT departments face, particularly as they attempt to manage through digital transformation and shift to a services-oriented delivery model.

The combination of x86 hardware; cost-effective flash storage for performance; proven, feature-rich software; and a rich ecosystem is delivering an ideal solution to key customer challenges. This rare alignment of technology and customer needs cannot—and should not—be ignored.

Chapter 4: **The advantages of HCI powered by VMware vSAN**

VMware customers can most easily achieve all of the benefits described above by extending virtualization to storage with VMware vSAN. vSAN represents an evolutionary approach to IT modernization that does not require a forklift upgrade.

With vSAN, organizations can leverage their existing investments in and experience with vSphere and vCenter. Because vSAN is an extension of vSphere, partner ecosystem solutions such as data protection, file services and disaster recovery work seamlessly with it.

In addition, vSAN enables customers to use their preferred x86 hardware vendors without the risk of introducing a new platform, which often entails new support processes and procurement approvals. With x86 servers, IT teams can move from expensive purpose-built hardware to industry-standard hardware. Storage

1 "IDC Sees the Dawn of the DX Economy and the Rise of the Digital-Native Enterprise," IDC, Nov. 1, 2016

2 "Hyper-Converged Infrastructure (HCI) – Global Market Outlook (2016-2022)," Stratistics, Nov. 2016

companies make 60% margins and server companies make about 15%—the latter is much more competitive and better for buyers. Another benefit of leveraging industry-standard hardware is in resource optimization: IT teams can leverage vSAN to achieve a 10x improvement in storage utilization, with dramatically lower storage costs. Other key benefits of vSAN include:

- **Decreasing risk through native security:** Organizations can easily protect business-critical data with the industry's first native HCI encryption solution.
- **Increasing agility through simple scalability:** Organizations can use a grow-as-you-go scalable infrastructure to support capacity and performance in parallel or independently.
- **Reducing complexity:** Operational simplicity means no more dedicated storage, network and compute silos that require separate hardware, software and management tools.

Chapter 5: **Leverage HCI to lead your organization through digital transformation**

When is the right time to embrace HCI? The simple answer is: "Now." According to exclusive TechTarget[3] research, companies already using HCI made the move at these junctures:

- **44% at a normal refresh point**
- **33% event driven for a specific application or use case**
- **18% event driven to increase capacity**

HCI is a powerful tool for the modern data center, and 2017 server refreshes are an exciting opportunity to realize the capital savings and operational efficiencies from this new architecture. By modernizing now, organizations can save time and money on data construction, reducing TCO by 50% or more by consolidating core data center functions on industry-standard hardware. In addition, IT teams can modernize their infrastructure easily and cost efficiently without having to go through the time and expense of purchasing additional storage arrays. They can also easily extend the lifecycle of existing storage investments.

Every IT organization should be looking to reduce costs, increase agility, simplify IT and leverage IT infrastructure for the cloud era—all major benefits of HCI as delivered by VMware. In doing your own analysis, some additional factors to consider are:

- **Improving availability and limiting downtime:** Downtime is anathema to digital transformation, so IT teams must focus on improving availability. vSAN delivers better resiliency through an always-on, highly available multicloud data center.
- **Limiting vulnerability in hiring/retaining IT resources:** Organizations of all sizes are facing a shortage of skilled IT personnel. Hyper-converged infrastructure limits the need for IT specialists and simplifies operations for all IT administrators.
- **Supporting the cloud:** Whether private, hybrid or public, cloud services are an increasingly important part of the IT portfolio, no matter what size your business or what industry you are in. vSAN supports multicloud environments with seamless integration from on-premises infrastructure to any cloud environment.

Chapter 6: **Conclusion**

Data center modernization is critical for companies to remain competitive at a time when digital transformation is driving all business activities. Hyper-converged infrastructure is the quickest path to data center modernization, and VMware vSAN is the fastest, safest and most cost-effective route to hyper-converged infrastructure.

With vSAN, existing VMware customers can evolve their data center with a modern, software-defined architecture that reduces costs, accelerates time to value and scales to the cloud. How do you get there from here? You can start by visiting VMware at https://www.vmware.com/products/vsan.html.

3 "TechTarget Research, Momentum Index, Data Center Market Landscape Study," June 2016