MODERNIZE INFRASTRUCTURE

Support Digital Evolution in the Multi-Cloud Era

Agility and Innovation Are Top of Mind for IT

As digital transformation gains momentum, it's making every business initiative an IT project. Competition is fierce, and businesses across all industries need the highest levels of agility and innovation just to keep up. That means their IT organizations must deliver applications and services to their internal constituents faster, so their business can bring products and services to market more quickly and efficiently.

Yet many IT environments can't deliver the responsiveness that the business now demands. Traditional infrastructures are often siloed, burdened with purpose-built hardware and fragmented management tools that are slow and cumbersome. Managing disparate infrastructure is resource-intensive, forcing the best IT employees to waste time on operational problems instead of applying their knowledge to strategic projects. As a result, frustrated line-of-business stakeholders take matters into their own hands and move to public cloud services that bypass their own IT teams. This increases security and compliance risks, and can cost more than running systems on-premises.

Businesses must reinvent themselves to stay competitive, and IT is looking for better ways to develop and run modern applications to support this digital evolution. IT requires a modern infrastructure that frees them to shift resources to strategic initiatives and offers higher levels of agility to meet new demands. Their infrastructure must be future ready to support new applications, technologies, and the multi-cloud era.

CLOUD ADOPTION IS ACCELERATING

While the vast majority of workloads are still residing in the data center, by 2020, 50 percent of applications running in public cloud environments will be considered mission-critical by the organizations using them.[1]

Tectonic Shifts Enable the Modern Infrastructure

The invention of server virtualization, also known as compute virtualization, in 2001 was the first tectonic shift toward a modern data center infrastructure. Additional shifts occurred when flash storage costs dramatically dropped, and network virtualization emerged. These dramatic changes, combined with the increased capabilities of x86 processors and all-flash storage have led to the emergence of hyper-converged infrastructure (HCI).

HCI transforms industry-standard x86 servers with direct-attached storage into cost-effective, highly scalable building blocks with software-defined compute and storage that can be seamlessly extended with virtual networking. This software-defined approach paves the way for companies to easily increase agility and flexibility with integrated platforms that include powerful, easily deployable and unified management solutions truly capable of supporting digital transformation.

[1] "Software-Defined Storage and VMware's Virtual SAN Redefining Storage Operations", July 2014, Taneja Group

Cost and Complexity Create Challenges

Digital businesses face economic stress because of fundamental IT challenges that make it difficult to deploy and manage the infrastructure needed to meet dynamic business needs. They are grappling with operational complexity and stretched resources. Meeting enterprise service-level agreements (SLAs) is resource intensive and inefficient, and requires overprovisioning and guesswork.

Cost is always a concern. Organizations must contend with static, even shrinking IT budgets while traditional on-premises infrastructure requires large CapEx investments and is costly to maintain. Vendor lock-in limits flexibility and makes networks difficult to scale. At the same time, IT is under constant pressure to support the latest applications, hardware, and cloud technologies. Most infrastructure platforms are not designed for both traditional and modern applications. It's also difficult for IT teams to maintain security and compliance as applications are moved from on-premises infrastructure to the public cloud.

Empowering Businesses with a Software-Defined Approach

For businesses to remain competitive, IT needs a modern infrastructure that leverages the power and efficiency of virtualization across the data center—with the virtualization of compute, storage, and networking layers—and unified management.

VMware's approach to modern infrastructure is based on a hyper-converged architecture built from software-defined compute, storage, and networking that delivers enterprise-ready, high-performance infrastructure that is more flexible, agile, and cost effective.

VMware provides two paths to modernize infrastructure:

- Integrated cloud infrastructure platform – VMware Cloud Foundation™ delivers the complete cloud infrastructure stack in an integrated platform that combines VMware's compute, storage, and network virtualization with built-in automation and simplifies day zero to day two operations of the cloud stack from installation and configuration to infrastructure provisioning and patching. VMware Cloud Foundation provides a globally consistent software-defined infrastructure platform that sits below the most common application platforms, PaaS/container solutions, etc. This enables operational consistency no matter where an application may run. VMware Cloud Foundation can be coupled on-premises with a cloud management platform, such as VMware vRealize® Suite or VMware Integrated OpenStack, for private cloud deployment, or run as a service from the public cloud. This approach simplifies data center operations, and gives organizations the flexibility to deploy workloads to different cloud environments, while maintaining consistent centrally managed security, audit, and operations.
- Build your own modern infrastructure – As the IT landscape shifts to an SDDC model, VMware vSphere® customers can take an evolutionary approach to modernize their infrastructure by seamlessly extending virtualization to storage with vSphere's natively integrated solution, VMware vSAN®. Customers can naturally evolve to an HCI environment built on vSphere, the market leading hypervisor, and vSAN, the proven software-defined storage solution. They can move forward with their current infrastructure choices by leveraging VMware's large, proven ecosystem, which includes a broad choice of server vendors to eliminate hardware lock-in while also continuing to use their existing software solutions of choice. As their application SLA requirements become more demanding and the scale of their deployments grows, customers can layer VMware NSX® to achieve network elasticity and enhanced security through micro-segmentation.

Regardless of which path organizations choose to modernize their infrastructure, VMware management solutions, such as VMware vRealize Suite, help maximize ROI by providing a unified platform to automate infrastructure and application delivery, as well as effectively manage performance, availability, capacity, and the cost of IT services across heterogeneous and multi-cloud environments. Thus, IT is equipped with a modern infrastructure, forming the foundation to build upon for delivering modern applications, both on-premises and in the cloud.

Powering a More Advanced, Cost-Effective Infrastructure

VMware solutions enable organizations of all sizes to confidently operationalize and optimize their infrastructure with intelligent operations.

Evolve Without Risk

A truly modern infrastructure must be able to keep pace with change, while making the most of existing technology investments. VMware solutions enable organizations to evolve without risk by seamlessly extending compute virtualization to natively integrated storage and networking in a hyper-converged solution. VMware technologies include a unified platform for all apps, including traditional enterprise apps as well as cloud-native apps. With VMware solutions, IT can leverage existing skillsets and continue to use familiar tools and solutions—minimizing the need for new technologies, additional training costs, and disruption.

Lower Total Cost of Ownership

Cost of ownership is always a concern for budget-conscious organizations. VMware solutions enable organizations to take advantage of server-side economics, affordable flash technologies, and elastic scalability to reduce their total cost of ownership (TCO) to more than 50 percent.[2] IT enables more than 66 percent of OpEx[3] reduction through fully automated installation, configuration, provisioning, and lifecycle management for the entire Software-Defined Data Center (SDDC) stack. VMware's virtualized approach with intelligent operations management helps organizations optimize capacity management and forecasting while enforcing IT and configuration standards. It also delivers comprehensive performance, health monitoring, and troubleshooting across infrastructure and applications along with deep visibility into infrastructure and cloud costs to accelerate decision making.

Scale to Tomorrow

No matter where organizations start with their deployment, VMware solutions can help them progress forward on their digital journey. With VMware solutions, businesses can establish a common cloud infrastructure with a unified operational model across private and public clouds, and enjoy fast, flexible service deployment with virtualized storage and networking. VMware solutions give IT the flexibility to live-migrate workloads between private and public clouds. When business requirements change, organizations can scale out the architecture for the entire SDDC stack, on-premises and off-premises.

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[2] HCI for Healthcare: A Snapshot of Virtual SAN Customers. Feb 2016.

[3] Taneja Group. Software-Defined Storage and VMware's Virtual San Redefining Storage Operations. July 2014.

VMware Cloud Foundation study reveals lowest TCO: For Lowest TCO and Maximum Agility Choose the VMware Cloud Foundation Hybrid SDDC Platform.[4]

The VMware Portfolio of Solutions: Built for the Cloud

VMware offers solutions that enable organizations to modernize infrastructure that spans heterogeneous, multi-cloud environments.

VMware Cloud Foundation

VMware Cloud Foundation delivers a natively integrated SDDC stack of compute, storage, and network virtualization, through vSphere, vSAN, and NSX. It also automates the deployment and lifecycle management of these components to further simplify management with the included VMware SDDC Manager.

- vSphere, the industry-leading virtualization platform, provides a powerful, flexible, and secure foundation for business agility. It enables a next-generation infrastructure for next-generation applications.
- vSAN is a software-defined storage solution, powering VMware's industry-leading HCI systems. vSAN is unique in its ability to provide vSphere-embedded storage and choices from a broad ecosystem of hardware and software solutions. The solution is an ideal first step for organizations wanting to naturally evolve without risk to HCI and to shift resources to strategic projects. Studies show that vSAN reduces OpEx up to 60percent through data center footprint, labor, power, and cooling savings.
- VMware NSX® is the leading platform for network virtualization. It reproduces the entire network model in software, enabling any network topology—from simple to complex multitier networks—to be created and provisioned in seconds.
- SDDC Manager provides unique lifecycle management capabilities that automate critical day zero to day two operations, including installation, configuration and patching for the cloud infrastructure stack. It helps organizations achieve faster time to market, increased productivity, and reduced risk.

VMware Cloud Foundation provides flexible choice of qualified hardware and public cloud partners, while supporting a unified and consistent architecture across all deployment options—both on-premises or running as a service from public clouds.

Organizations can increase operational efficiency by 20 percent and reduce unplanned downtime by 75 percent with intelligent operations powered by vRealize Suite.[5]

vRealize Suite

To realize the full return on their investment, organizations need intelligent, effective management that spans every part of their infrastructure. vRealize Suite, VMware's Cloud Management Platform, automates infrastructure and application delivery. It provides operations management capabilities to help IT teams effectively manage the performance, availability, capacity, and cost of IT services across heterogeneous and multi-cloud environments. With support for native integration with vSphere, vSAN and NSX, plus extensibility to wide range of third party solutions, vRealize is the best platform to manage modern infrastructure.

- VMware vRealize® Operations™ enables IT to take advantage of intelligent operations management from infrastructure to applications across multiple cloud environments. It correlates data from compute, storage, network and applications in a unified solution that's easy to use. With vRealize Operations, IT teams can enjoy full control over performance, capacity, and configuration, with predictive analytics driving proactive action and policy-based automation.
- VMware vRealize® Log Insight™, when integrated with vRealize Operations, provides insights into both structured and unstructured data for faster troubleshooting.

[4] "Software-Defined Storage and VMware's Virtual SAN Redefining Storage Operations", July 2014, Taneja Group

[5] The Total Economic Impact™ Of vRealize Intelligent Operations-Cost Savings and Business Benefits Enabled By VMware's Cloud Management Platform, Forrester, Dec. 2016

- VMware vRealize® Business™ for Cloud is a a solution that provides costing details about private and public clouds use. It combines business insights with operational views to help organizations make faster, better decisions.
- VMware vRealize® Network Insight™ optimizes network performance and availability by providing visibility and analytics across virtual and physical networks. The solution includes planning and recommendations for implementing micro-segmentation security, plus operational views to quickly and confidently manage and scale an NSX deployment.

LEARN MORE

Learn more about additional IT priorities and IT initiatives at vmware.com/it-priorities/modernize-data-centers.

Modernize Enterprise Infrastructure with Confidence

With VMware data center solutions, organizations can empower their businesses with the agility, innovation, and efficiency needed to stay competitive in a digital world. VMware solutions help modernize digital businesses with an integrated software-defined platform built on hyper-converged infrastructure. This advanced virtualized approach enables organizations to minimize risks, lower costs, and increase IT agility and responsiveness.

With VMware solutions, businesses can eliminate traditional challenges that take valuable time and resources away from IT staff. They can improve flexibility by bringing together proven compute, storage, and network virtualization technology into a natively integrated platform across private and public clouds. Organizations can extend their existing skillsets and choices with software-defined storage and networking, and enjoy the broadest choice of hardware and public cloud partners. At the same time, they can deliver a unified, consistent operational experience across every deployment. VMware lets businesses move forward with confidence on their digital transformation journey, setting the stage for continued success in the years to come.

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