VMWARE CLOUD FOUNDATION
Integrated Hybrid Cloud Platform

AT A GLANCE
VMware Cloud Foundation™ is the industry’s most advanced hybrid cloud platform. It provides a complete set of software-defined services for compute, storage, networking, security and cloud management to run enterprise apps—traditional or containerized—in private or public environments. Cloud Foundation drastically simplifies the path to the hybrid cloud by delivering a single integrated solution that is easy to operate, thanks to built-in automated lifecycle management.

KEY BENEFITS
VMware Cloud Foundation dramatically shortens the path to a true hybrid cloud, increasing admin productivity while reducing overall TCO. Customers who deploy VMware Cloud Foundation can achieve the following when compared to a legacy hardware-defined data center.

• Accelerate time to market: Achieve up to 15x faster time to market by eliminating complex processes around system design, testing, bring-up, configuration, and provisioning
• De-risk deployment: Enable quick, repeatable, secure deployments based on a standardized, VMware Validated Design™
• Lower TCO: Reduce overall TCO of private cloud deployments when deployed with vRealize Suite by up to 30-40%*
• Future proof infrastructure: Run any app, both traditional and cloud-native containerized

*Data based on internal VMware analysis and testing

Figure 1: VMware Cloud Foundation Software Stack

What is VMware Cloud Foundation
VMware Cloud Foundation is the next generation VMware hybrid cloud platform. It evolves the VMware market leading server virtualization, VMware vSphere®, by extending the core hypervisor with integrated software-defined storage, networking and security capabilities that can be consumed flexibly on premises or as a service in the public cloud (VMware Cloud™ on AWS or VMware Cloud Providers™). Now with the integrated cloud management capabilities, the end result is a hybrid cloud platform that can span private and public environments, offering a consistent operational model based on well-known vSphere tools and processes, and freedom to run applications anywhere without the complexity of application re-writing.

What is Unique
Integrated Stack: Cloud Foundation is an engineered solution that integrates the entire VMware software-defined stack with guaranteed interoperability, freeing organizations from dealing with complex interoperability matrixes.

Standardized Architecture: Built on a standard VMware Validated Design architecture, it ensures quick, repeatable deployments while eliminating risk of mis-configurations.

Automated Lifecycle Management: Includes unique lifecycle management services that automate day 0 to day 2 operations, from bring up to configuration, resources provisioning and patching/upgrades.
Simple Path to Hybrid Cloud: Dramatically simplifies the path to the hybrid cloud by delivering a common platform for private and public clouds, enabling a consistent operational experience that leverages the existing tools, processes and people.

Broad Ecosystem: Can be flexibly deployed on premises on certified hardware from major OEM vendors or run it as a service from VMware’s own VMware Cloud on AWS or from a select number of VMware Cloud Providers.

Key Features and Capabilities

Natively Integrated Software-defined Stack: Cloud Foundation provides a complete set of software-defined services for compute, storage, networking, security and cloud management to run enterprise applications – traditional or containerized – in private or public environments. Cloud Foundation simplifies the path to the hybrid cloud by delivering a natively integrated solution that is easy to deploy and operate thanks to unique, built-in automated lifecycle management capabilities.

Enterprise-grade Services: Cloud Foundation is based on market-leading VMware technologies: vSphere (compute), VMware vSAN™ (storage), VMware NSX® (networking and security), and vRealize Suite (cloud management), delivering enterprise ready services for both traditional and containerized apps.

Storage Elasticity and High Performance: Cloud Foundation supports the latest version of VMware vSAN 6.6 with all flash performance and enterprise-class storage services, including deduplication, compression and erasure coding. VMware vSAN implements a hyper-converged storage architecture, delivering elastic storage and drastically simplifying storage management.

Intelligent Operations: Cloud Foundation delivers intelligent operations (VMware vRealize® Operations, vRealize Log Insight™) from applications to infrastructure to help organizations plan, manage and scale their SDDC. Users can perform application-aware monitoring and troubleshooting along with automated proactive workloads management, balancing and remediation.

IT Automation: Cloud Foundation delivers automation of IT service provisioning and day 2 operational capabilities across a hybrid cloud, integrating vRealize Automation. Customers can model a complete infrastructure stack in the form of blueprints (templates) that include compute, storage, networking and security resources along with all the relationships that bind them together. The blueprints embed both automation and policy, and when executed will automatically orchestrate the provisioning and lifecycle of all the components in the blueprint, and enforce access and security.

End to End Security: Cloud Foundation delivers end to end security for all applications by delivering network-level micro-segmentation, distributed firewalls, and VPN, compute-level encryption for VM, hypervisor, and vMotion® and storage-level encryption for data at rest and clusters.

Automated Lifecycle Management: Cloud Foundation includes VMware SDDC Manager™, a management software that automates day 0 to day 2 operations of the software platform.

• Rapid deployment: Cloud Foundation automates the bring-up process of the entire software platform, including deployment of infrastructure VMs, creation of the management cluster, configuration of VLANs, storage, physical network, and cluster creation and provisioning.

• Simplified patching and upgrades: Cloud Foundation enables a simplified patching/upgrading process of the software platform (including vCenter Server). Cloud admins have the flexibility to choose the timing and scope of the updates.
• **Policy-based provisioning:** Cloud Foundation simplifies resource allocation to individual workloads by automating cluster creation through policy.

**Use Cases**

**Cloud Infrastructure:** Leverage the high performance, availability, and scalability of VMware SDDC to run any mission critical application such as database, Web apps, VDI, etc.

**IT Automation:** Automate infrastructure and application delivery with self-service capabilities.

**Virtual Desktop Infrastructure:** Provides a complete solution for VDI deployment at scale. It simplifies the planning and design with standardized and tested solution fully optimized for VDI workloads.

**Hybrid Cloud:** Build a true hybrid cloud with common infrastructure and consistent operational model, connecting your on- and off-premise data center that is compatible, stretched and distributed.

**Deployment Options**

VMware Cloud Foundation software can be consumed in three ways:

• **Software deployment** – on certified vSAN ReadyNodes and networking switches. To learn more, visit VMware Compatibility Guide.

• **Integrated System** – Cloud Foundation software pre-installed at the factory, available from these OEM vendors: Dell EMC, Fujitsu, Hitachi Vantara, HPE and QCT.

• **As a Service from the Public Cloud** – VMware Cloud on AWS or VMware Cloud Providers: IBM Cloud, OVH, Rackspace, and CenturyLink.