vmware®

Hybrid Cloud Executive Buyer's Guide

Chart your path to successful hybrid cloud with a five-step approach

Executive Summary

Adopting hybrid cloud is a powerful IT modernization strategy for achieving your organization's goals:

- Short term – Application modernization and business resiliency objectives during tumultuous times, for example economic downturns and remote working
- Long term – Digital demands and the need to keep IT strategy ahead of business investments through economic recovery

The process to pick the best-fit hybrid cloud platform for your organization should begin with an internal assessment. What are your goals? Identifying your needs—both current and future use cases—will help you better evaluate the private and public cloud capabilities as well as the hybrid cloud operations you will need to serve all of your workload types and deployment locations.

For example, if your organization will need to extend workloads to multiple clouds, you will want to choose a hybrid cloud such as VMware Cloud Foundation™ that unifies operations and seamlessly supports multi-cloud.

This Executive Buyer's Guide features a five-step approach with checklists that will help you and your IT team chart a successful journey to hybrid cloud. Use it to document your needs as you shift to a cloud operating model for automated and optimized delivery of all of your IT services that support any application on any cloud.

- Future Ready Cloud
- Assess Needs
- Evaluate Operations
- Consider Private Cloud
- Examine Public Cloud
- Get Started

Future Ready

Evidence that IT is a strategic asset has never been more apparent than during the pandemic. IT teams moved quickly to respond, sustaining operations and meeting immediate employee and customer needs. Yet continued economic uncertainty paradoxically requires more investment in technology to adapt business operations and fuel innovation.

An agile digital transformation strategy provides the best chance for your organization to adapt quickly now while also emerging from this and other challenging periods stronger and faster than your competitors. In fact, the ability to align technology investments with business goals is now a strategic imperative because future ready organizations have an advantage. They respond quickly to a crisis, adapt to a new reality, and accelerate innovation.

OPPORTUNITY

Increase business resiliency now AND ensure IT long-term strategic capability

Future Ready Cloud

A hybrid cloud delivers the flexibility your organization needs to address both short- and long-term digital transformation goals. These include scaling infrastructure, modernizing your application portfolio, and taking advantage of more efficient and consistent IT operations.

But inconsistent architectures between existing infrastructure and cloud providers have hindered these efforts. So have rigid infrastructures, tethering employees to a suite of legacy applications with high built-in costs and limited flexibility to scale up or down as demand fluctuates.

It's time to find a more efficient and cost-effective pathway to modernize with minimum risk—and fast. But how? The answer is a future ready hybrid and multi-cloud model empowering your organization to overcome these challenges while unlocking the power of cloud to rapidly migrate apps, scale resources up or down based on demand, deliver resources for distributed work initiatives, and drive app modernization strategies.

A future ready hybrid or multi-cloud solution gives you all the flexibility you need while optimizing cloud spend and strengthening security across all cloud environments. It's finally a cloud operating model for multiple environments that also lets you both modernize data center service delivery and tap public cloud scale and cloud-native services to meet both business and technical needs.

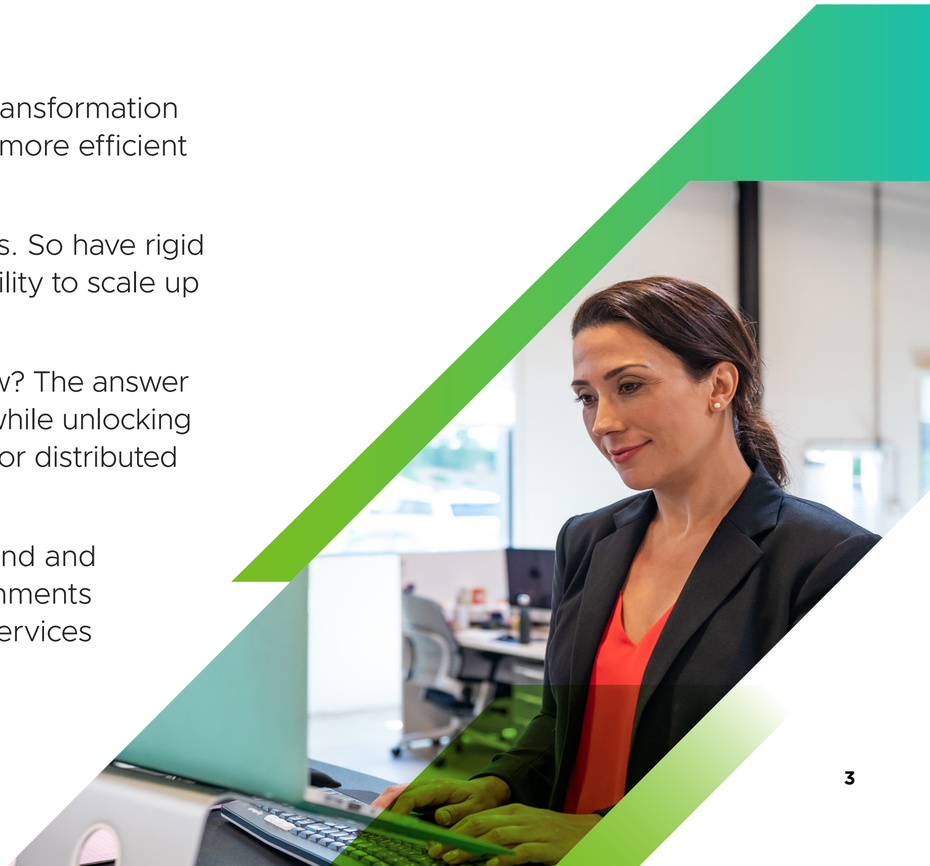


Chart Your Path to Successful Hybrid Cloud

Cloud strategy conversations typically start with “why” and “what” discussions, followed by “who,” “how,” and “when” debate. Because of this, setting cloud strategy based only on the number of workloads moved to the cloud may fail to help your organization truly focus on critical needs and what’s best for your digital business. A new five-step process not only changes the conversation, it accelerates your decision making.

Step 1 helps your organization identify how you will use your hybrid cloud now and in the future. In Step 2, you evaluate the services that you will offer as well as their impacts on your people, processes, and governance. Steps 3 and 4 examine key considerations for technology platforms. And Step 5 illustrates how to get started, simplifying your hybrid cloud journey with VMware Cloud Foundation and moving forward with VMware.

1 Assess Your Needs: Identify Key Use Cases

What does your organization need from a hybrid cloud? Before evaluating solutions, think about both your current and anticipated future needs.

Table 1 outlines hybrid cloud use cases related to today's needs and tomorrow's visions. If more than 4 of the 16 use cases fit your organization's plans, consider a hybrid cloud solution that delivers consistent infrastructure and consistent operations as well as a cloud operating model for new and traditional workloads wherever you deploy them.

Hybrid Cloud Use Cases	Current Need	Future Need
Application Modernization – Support the spectrum of application changes		
• **Rehost applications –** Support "as is" workload migration to a cloud environment without changing architecture or code		
• **Replatform applications –** Containerize traditional workloads to increase agility and standardize automated development and deployment tool chains, wherever apps are deployed		
• **Refactor applications –** Utilize cloud-native and microservice architectures by rewriting or writing new code		
Data Center Modernization – Drive greater IT efficiency and effectiveness		
• **Reduce CapEx –** Use full-stack, software-defined technology on industry-standard hardware, with workload placement and density optimization, to reduce infrastructure costs		
• **Reduce OpEx –** Optimize platform lifecycle management, standardize and streamline service delivery and consumption, and simplify migration of workloads to reduce operating costs		

Hybrid Cloud Use Cases	Current Need	Future Need
Developer-Ready Infrastructure – Allow on-demand infrastructure service consumption		
• **Programmatic –** Enable API-driven infrastructure services, integrated with development and release tools		
• **Consistent –** Standardize infrastructure services independent of location, with option to use unique cloud-native services		
• **Diverse –** Support a mix of both virtual machine (VM) and container application types		
Unified Management – Enable a cloud operating model with IT skills, policy, and process portability		
• **Automated –** Enable on-demand service delivery across current infrastructure and new public cloud environments		
• **Optimized –** Use the same tools, processes, and people to optimize performance, workload placement, infrastructure utilization, monitoring and tracing, as well as incident response and service support		
Workload Placement – Enjoy workload portability and avoid lock-in with flexible deployment and migration options		
• **Deploy –** Automate workload placement based on best fit according to business and technical needs		
• **Migrate –** Gain workload portability without the time and cost of refactoring code		
• **Repatriate –** Migrate workloads back to data centers or other clouds as business or technical needs change		
Scale and Disaster Recovery – Eliminate the need for secondary data centers		
• **Minimize unplanned downtime –** Use a cloud-based recovery solution that provides optimal availability		
• **Consolidate data center(s) –** Modernize infrastructure resources for flexible scaling of performance and capacity		
• **Digital workspace flexibility –** Choose where and when to host desktop and application services		

TABLE 1: Hybrid Cloud Use Cases

2 Evaluate Hybrid Operations

Cloud capability conversations typically start with “what” and “who,” and then cover “how” and “when.” No matter where your cloud conversation begins, it should address key services and skills questions such as these: What standardized services will your IT organization deliver? How should you organize your people into teams? What roles do you need to have in place to successfully deliver services on-premises and operate across cloud environments? How will your IT organization integrate and automate DevOps concepts and Agile methods for developers while also applying those powerful concepts to IT initiatives?

Table 2 outlines how to evaluate critical hybrid operations capabilities you will need across hybrid cloud platforms with these as well as important cost, service quality, agility, and risk questions in mind.

Needed Capabilities	Priority? (Yes/No)
Cloud Services	
• **Infrastructure Services –** Standardized, blueprinted, and sourced from multiple environments including on-premises, hosted providers, and public clouds	
• **Automation Services –** A variety of services, such as a compliant and conformant Kubernetes API, PaaS and developer build and runtime frameworks, CI/CD workstream integration including tooling and automation services to support app developers	
• **Runtime Services –** Container and Kubernetes services that orchestrate platform updates, as well as patching and maintenance	
• **Digital Workspace Services –** Delivery of on-demand virtual desktops and user persona-aligned applications to any device from your choice of infrastructure environments	
• **Data Analytics Services –** A variety of services such as artificial intelligence/machine learning (AI/ML), data lakes, and business intelligence (BI) applications as well as monitoring and observability from on-premises or cloud environments	

Needed Capabilities	Priority? (Yes/No)
Process	
• **Placement –** One set of tools and processes for automated workload deployment across environments	
• **Migration –** Rehosting of workloads without cost and effort or refactoring code	
• **Load Balancing –** Automated cross-cluster and cross-cloud with service-mesh capabilities	
• **Performance –** Optimized based on full-stack monitoring, visibility, and traceability	
• **Automation –** Service delivery that is blueprinted and consumed via a service catalog or programmatically via an API	
• **Capacity –** Space extended to cloud and optimized through planning, modeling, forecasting, and predictive scheduling	
People	
• **Skills Reuse –** Extend and leverage existing admin skills and runbook process to new environments and workloads	
• **Skills Path –** Expand careers into higher value work with more programming and automation as well as Kubernetes, containers, and cloud expertise	
• **Cloud Operations –** Build a team focused on interoperability, service onboarding, user onboarding, and ongoing operations	
Governance	
• **Cloud Center of Excellence –** Elevate a team to focus on architecture, governance, usage, cost monitoring, and optimization	
• **Cost Optimization –** Monitor multi-cloud consumption and spend, modifying to optimize cost	
• **Access and Usage –** Control access, permissions, usage limits, and namespace programming constructs	
• **Disaster Recovery –** Automate and enable seamless response in a best-fit environment	

TABLE 2: Hybrid Operations Capabilities

3 Consider Private Cloud

Private cloud adoption is often an IT modernization first step, requiring infrastructure modernization and evolution—rather than revolution—of your existing IT environment.

These are some key questions to consider during private cloud evaluation: How will your private cloud accommodate and build on existing infrastructure and systems? How will it support aging applications? How will it integrate with existing IT operations stacks? How will your network extend to the perimeter, branch or edge, and beyond?

Because your organization likely doesn't have the luxury of starting from scratch, your private cloud must build on and enhance your current IT environment. Table 3 illustrates many of the private cloud capabilities that you need to form the foundation of a hybrid cloud solution.

Needed Capabilities	Priority? (Yes/No)
Modern Infrastructure	
• **Hyperconverged Infrastructure (HCI) –** Deploy and scale fully integrated compute, storage, network, and management	
• **Unified Management –** Seamless operations of heterogenous infrastructure delivering scale, performance, and availability	
• **Container Workloads –** Support for large-scale container and VM clusters with integrated Kubernetes runtime and compliant and conformant APIs	
Service Delivery	
• **Cloud IaaS –** On-demand, self-service, programmatic consumption of infrastructure services (similar to public cloud)	
• **Developer Productivity –** DevOps and CI/CD tool chain integration and programmatic service consumption	
• **Namespace –** Developer-focused constructs and enforcement of enterprise-class policies for capacity, resilience, quality of service, security, and access control	

Needed Capabilities	Priority? (Yes/No)
Security and Policies	
• **Intrinsic Security –** Built-in protection with network isolation and load balancing rules across diverse applications and multi-cloud environments for both container and VM-based services at scale	
• **Network –** Micro-segmentation and security tied to individual workloads where policies travel with workloads independent of network topology	
• **Storage –** Encryption of data at rest and in transit, as well as key management	
Networking and Perimeter (e.g., Branch/Edge)	
• **Cloud-Scale Networking –** Single pane of glass capabilities with enhanced constructs for data path multi-tenancy and service chaining	
• **Perimeter –** Firewall and load balancer capabilities with network virtualization, micro-segmentation, load balancing, and integrated security	
• **Remote Location –** Full-stack workload placement and processing closer to workloads and users using software-defined wide area network (SD-WAN) to optimize WAN links that connect edge and ROBO locations across distance	

TABLE 3: Private Cloud Capabilities

4 Examine Public Cloud

Public cloud adoption can be a game changer for your organization's scale and agility. Yet because every enterprise is different, and every cloud is different, you will need to determine which public cloud(s) and hosted provider(s) can best meet your needs.

Among the questions to consider are these: How will public cloud expand your IT service delivery options? How will it meet your app modernization needs? How will it make your developers more productive? How will it optimize IT budget and spending across CapEx and OpEx? How will you choose which, and how many, public cloud services to offer?

Table 4 outlines key public cloud capabilities for consideration.

Needed Capabilities	Priority? (Yes/No)
Services	
• **Infrastructure Services –** On-demand, at-scale services billed by usage	
• **Cloud-Native Services –** Unique offerings that go beyond basic infrastructure services (e.g., AI/ML, big data, etc.)	
• **Standard API –** An abstraction layer, such as Kubernetes, to create consistent infrastructure services consumed programmatically	
• **Service Catalog –** Templated infrastructure services available via self-service	
Security and Governance	
• **Attack Protection –** Defend IT environment against hackers and Distributed Denial of Service (DDoS) attacks	
• **Data Security –** Protect sensitive data with encryption, configuration, and tools that reduce unauthorized access and usage	
• **Availability –** Include traceability and monitoring, orchestration with scaling, as well as multi-availability zone and multi-cluster High Availability and Disaster Recovery (HA/DR)	
• **Reliability –** Service assurance with design principles that assume failures will occur, service mesh, and orchestration with failover	

Needed Capabilities	Priority? (Yes/No)
Architecture	
• **Consistent Infrastructure –** A software-defined and virtualized stack that is the same across public and private cloud environments	
• **Consistent Operations –** The same processes, runbook, and management tools across environments, for example, for monitoring, traceability, and incident management	
• **Optimization Tools –** AI/ML and other resources to automate workload placement, capability utilization, migration, and workload lifecycle management	
Multi-Cloud	
• **Single –** Plan to use just one public cloud IaaS service provider	
• **Dual –** Plan to use a single primary and single secondary public cloud IaaS service provider to avoid lock-in	
• **Multiple –** Plan to adopt a range of public cloud options—infrastructure and services—so IT service consumers have the ultimate flexibility to choose from a mix of providers for business, compliance, or specific technical reasons or application requirements	

TABLE 4: Public Cloud Capabilities

5 Get Started: Simplify with VMware Cloud Foundation

Although there are many considerations, making the move to hybrid cloud is a powerful IT modernization strategy. And VMware has the Future Ready Cloud™ to help you achieve your organization's short- and long-term goals.

VMware Cloud Foundation is the ubiquitous hybrid cloud platform delivering consistent infrastructure and consistent operations, and enabling a cloud operating model for new and traditional workloads wherever they are deployed.

VMware Cloud Foundation

Built on full-stack hyperconverged infrastructure, VMware Cloud Foundation gives your organization a complete set of secure, software-defined services for compute, and network, as well as intrinsic security, integrated Kubernetes, and cloud operations. The result is agile, reliable, and efficient cloud infrastructure, offering consistent infrastructure and operations across private and public clouds.

And VMware Cloud Foundation integrates Kubernetes to deliver infrastructure services for developers as well as cluster management and container workload orchestration for IT admins. Other solutions in the stack also now natively support Kubernetes. As a result, both VM and container workloads are treated as first-class citizens. That means developers have a compliant and conformant API interface while IT admins have trusted and familiar tools and operating processes for systems management.

LEARN MORE

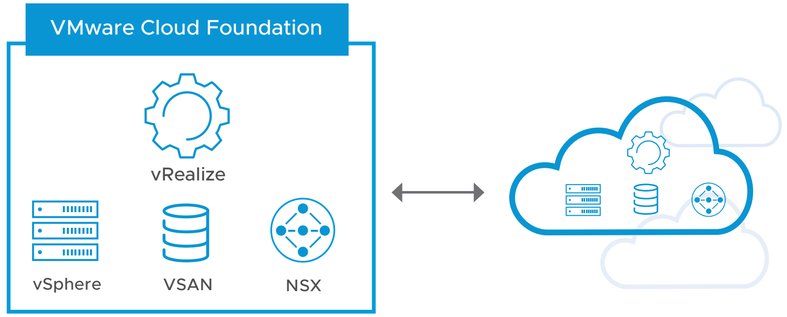
7 Reasons VMware Cloud Foundation is the Premier Hybrid Cloud Solution: An Executive Guide

Hybrid Cloud and Multi-Cloud

Because VMware has built some of the largest and most successful private and hybrid clouds in the world, we can help you with your hybrid cloud planning and execution—no matter which public cloud provider(s) you choose. The same VMware full-stack solution is available as VMware Cloud™ solutions, giving you seamless extension from your on-premises environment with:

- VMware Cloud™ on AWS
- Google Cloud VMware Engine
- IBM Cloud for VMware Solutions
- Microsoft Azure VMware solution
- Oracle Cloud VMware Solution
- **More than 200** VMware Cloud Provider Program (VCPP) partners offer VMware Cloud Verified services on the same VMware platform

Looking for a hybrid cloud platform that delivers enterprise agility, reliability, and efficiency? Look no further than VMware Cloud Foundation.



Move Forward with VMware

VMware understands that the process of adopting hybrid cloud doesn't stop with choosing a platform. That's why VMware also offers project execution, cloud migration, and business success guidance, including helping you and your team:

- Assess your application portfolio and identify expected changes
- Develop a cloud strategy that supports the spectrum of application modernization
- Assess and plan your IT operational readiness for an optimal cloud operating model
- Plan for a pilot-based launch and scale over time

Hybrid cloud adoption with its tremendous opportunities also can present some challenges. Team with VMware for a complete hybrid cloud solution—all the software products and services you need to gain the maximum benefit from the clouds you choose.

Start building a business case

Download the *VMware Cloud Foundation Business Case* to get estimated OpEx and CapEx savings across key industries and segments.

Realize the value of VMware Cloud Foundation today. Calculate your estimated cost savings and get a free *Total Cost of Ownership* comparison report for your organization in minutes.

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