vmware®

Buyer's Guide to Future Ready Hybrid Cloud Management

Five steps to get started

Get Started

CIOs are under more pressure than ever to look forward even as immediate challenges demand the attention of IT teams today. From managing in the new normal created by a global pandemic to accelerating digital transformation efforts, there's no shortage of initiatives vying for time, attention and budget. Although the near-term impact of the pandemic – including the need to support remote teams, foster greater collaboration, and ensure services are delivered seamlessly and consistently – creates an uncertain business environment, organizations still need to look ahead to drive innovation that ensures a competitive advantage in the future.

The days of a public cloud versus on-premises data center debate are over. Companies are embracing a hybrid of public and private cloud services to strike the right balance between public cloud services and owned IT infrastructure. In addition to speeding the delivery of IT resources, increasing flexibility, enabling scalability, improving resource utilization, and strengthen disaster recovery capabilities, moving workloads and applications to a hybrid cloud environment takes advantage of infrastructure elasticity and efficiency benefits of the public cloud without sacrificing existing investments in applications, operations, and infrastructure.

For CIOs and IT teams, the bar continues to be raised, however, as businesses demand more efficient management of certain tasks. This is accelerating the adoption of Artificial Intelligence (AI) and Machine Learning (ML) to drive daily operations, increase productivity and reduce operational costs. For organizations seeking both significant cost savings and greater business agility, while also taking advantage of operational efficiencies to drive digital transformation, hybrid cloud is the ideal solution.

But, not all hybrid cloud solutions are created equal.

Many benefits of a hybrid cloud strategy are realized by having consistent infrastructure and consistent operations across application deployment environments. Consistent operations allow organizations to use the same set of tools, workflows, configurations and policies to operate infrastructure and applications across the data center, cloud and edge. Moving to a hybrid cloud model requires a new service-driven approach that is more efficient, automated and capable of moving at the speed of innovation.

Future Ready Starts Right Now

With dramatic change comes opportunity. Now is the time for business leaders to leverage technology's ability impact all aspects of organizations by enhancing productivity, improving user experience, innovating products and services, and, ultimately, driving growth.

Are you ready to start but don't know where to start? The most comprehensive evaluations begin by taking a closer look at your people and organization to uncover and address any potential cultural or organizational gaps in skill sets. Next, take a look at processes and identify any existing shortcomings that need to be addressed. Finally, it is important for you to look at the technology options and assess the capabilities of your current tools, as well as learning about modern operations models and technologies, before embarking on new digital transformation initiatives.

Chart your roadmap to successful hybrid cloud transformation

Now, more than ever, you need to chart your roadmap to successful IT transformation by focusing on people, processes, and technology to help make the organization more flexible, resilient, and agile to adapt to the future. In five steps, you can narrow your choices and discover both what's possible and what's best for your digital business. In Steps 1 and 2 you will evaluate your staff skills and internal processes using complementary guidance from industry leaders, while steps 3-5 help you assess and compare technology capabilities.

Chart your roadmap to future ready Hybrid Cloud Management with our five-step approach

Step 1: Identify your team's skills and address any gaps

Your organization is unique, so your evaluation of skills and skill-set gaps will be, too. The following recommendations from industry leaders will help you get started:

Educate existing teams.

When organizations need to obtain new skill sets it can be tempting to look externally for talent. But recruiting, onboarding and training new resources can be costly. As the pace of change accelerates, organizations that value and invest in continuous learning for existing teams can truly impact a business while reducing talent acquisition costs. Ask: How can we build on the talent we already have? What skills do we need to develop to remain competitive? What programs can we put in place to ensure talent stays current?

In many cases, continuous learning and the education of your existing IT teams can close the skills gap in a cost-effective and timely manner by building on existing talent.

Upskill for transformation.

Tomorrow's organizations will be digital organizations driven by AI, machine learning, big data, analytics and next gen technologies. Future ready teams must be able to keep up with the pace of digital change by building the skills necessary to perform in this environment. A commitment to upskilling teams and building talent will enable using existing data center technology and expanding those skills into the cloud.

ADDITIONAL RESOURCES

Continuous Learning the Key to IT Skills Gap

What are you going to do about IT skills gap?

Adopting the Cloud Model: Running Data Centers Like Clouds

Innovation Mindset: 4 Keys to Building a Culture of Innovation (June 2018)

How to Close the IT Skills Gap

Focus on driving innovation.

In the past, organizations focused time and resources on managing, fixing and monitoring IT infrastructure. But infrastructure alone doesn't differentiate a business, and customers don't see infrastructure – they see applications. Developers are key to ensuring successful application modernization efforts and IT must support their efforts by enabling increased agility. NAs cloud redefines how data centers are run, automation and operational efficiency free up IT resources to focus on innovation. Cloud creates an opportunity to shift the role of IT and the skills that the team can bring to the business. By shifting IT to focus on higher value projects organizations can create competitive differentiation and market advantage.

Recognize IT Ops as organizational heros.

IT teams don't simply support business continuity, they help drive business growth. Invest in developing IT Ops skills and offering opportunities for growth by recognizing and encouraging their contribution to the business.

Actively seek new perspectives and ideas.

Nothing galvanizes and energizes an organization like getting behind something big – a grand agenda, a major breakthrough or an idea that changes the world. Encouraging everyone to contribute to a common purpose, and valuing diverse voices, removes bias and motivates everyone – regardless of role – to work together toward a common goal. In fact, *recent research from McKinsey & Company* demonstrates a positive correlation between diversity and financial performance.

Cultivate your organization's next wave of leaders.

It's often easy to take a short-term view when looking at organizational leadership – asking what do we need to meet our goals today rather than what will we need tomorrow? *Active mentoring contributes to long-term organizational success*, succession planning and skills enhancement, positioning an organization for success in the long-term. The exchange of knowledge, culture and values not only guides the personal growth and development of team members, it also enables them to take ownership of their career paths. Making mentorship both an individual and corporate responsibility in an environment where IT skills are rapidly evolving, and resources are scarce, is a smart business move.

Step 2: Analyze your current processes to adopt new technology

Just like your culture and staff skills, your processes are also unique. The following recommendations from industry leaders may help you evaluate processes as you adopt new technology:

Familiarize yourself with the cloud model.

Whether data is stored on-premises or in the cloud, understanding the implications of moving to a hybrid model is vital to ensuring success. In addition to identifying roadblocks to driving the business forward, when you appreciate the impact moving to cloud has on your operations you can then develop a well-designed, cloud-based process to ensure positive change.

The easiest way to get started with cloud is VMware Cloud Foundation™ with the VMware vRealize® Cloud Management, our hybrid cloud solution for extending on-premises environments to the cloud and edge for consistent operations. Because it leverages the same interface and workflows as existing on-premises VMware infrastructure, IT can get acclimated to the experience and prove out use cases. They can then extend it back on–premises with this new cloud model, minimizing investments in new tools and training.

2 out of 3

respondents want to extend their management and operations tools and processes from the data center to the public cloud, rather than bring cloud operations tools to the data center.

VMware Research Snapshot: The State of Application Modernization and Hybrid Cloud Computing, Management Insight Technologies, January 2020, n=1206.

ADDITIONAL RESOURCES

Adopting the Cloud Model: Running Data Centers Like Cloud

Take the Shortcut to Hybrid Cloud— From Anywhere on Earth

ADDITIONAL RESOURCES

Here's Why AI May Be the Fastest Paradigm Shift in Tech History

Improving processes with the cloud

Identify where to streamline business processes.

Moving to the cloud fosters improved organizational collaboration because it no longer matters where teams reside – everyone has access to the data and files necessary to seamlessly work together. In addition to improving collaboration, cloud can also improve inefficient processes that hinder an organization's ability to rapidly respond to market changes, such as expense reporting, time tracking, and human resources tools. The move to cloud compels an organization to review and evaluate existing processes to identify opportunities for improvement and how cloud can support process changes.

Gain confidence in security and compliance in the cloud.

Security has long been one of the biggest concerns holding back organizations from moving to the cloud, but today security and compliance requirements no longer hold back IT from operating in the public cloud. While not all cloud services meet industry regulations and certifications, such as FedRAMP, SOC and HIPAA, and some also fail to guarantee the security and high availability of sensitive data and traditional applications, *hybrid cloud is one way security-conscious organizations move to the cloud without losing visibility and control*.

VMware Cloud Foundation VMware with vRealize Cloud Management provides a compliant environment for PCI workloads, enabling an enterprise-grade, self-service experience with a shared responsibility model where security and compliance are shared between VMware and the customer. VMware continuously monitors existing and emerging security standards and requirements and integrates applicable requirements into our cloud service compliance programs.

Step 3: Assess current IT operations management solution challenges

Before shopping around, it's important to understand the limitations of your current approach. Take a minute to review the table below, which outlines the most common IT operations challenges in hybrid cloud. If you answer yes to three or more issues, consider reviewing options for replacing your existing IT operations tools so your organization can ensure performance while optimizing for business impact. There are solutions available now that modernize and transform the way you manage and operate on-premises, cloud and edge environments.

BUSINESS ISSUES	PRESENT IN YOUR ENVIRONMENT?
Multiple, fragmented and patchwork products and user interfaces Integrated management of private, public, hybrid and multiple clouds isn't possible or is limited	Yes / No
New IT paradigms and skills New initiatives (e.g., cloud first, Kubernetes, DevOps) pressure IT to become more agile but existing tools are complex and require continuous manual intervention	Yes / No
Shrinking budgets and cost cutting efforts to support business challenges and increasing demands Tools are incomplete for providing governance, visibility, monitoring and troubleshooting across on-premises data centers and public clouds, challenging your IT team to deliver on service- level agreements (SLAs) and increase efficiency	Yes / No

TECHNICAL ISSUES	
Siloed infrastructure Clouds are becoming your next silos without one solution to manage all of them	Yes / No
Uncontrolled automation The consequences of automation are only available after an action has occurred, which puts your team in a difficult position	Yes / No
Legacy planning challenges	Yes / No
Unacceptable downtime, disruptive maintenance and difficulty assessing root cause Existing tools make it hard to deliver just-in-time resources to assure application performance	Yes / No

Step 4: Evaluate criteria for a modern IT hybrid cloud management solution

It was inevitable that the impact of recent global events would change the role of IT. As a result, how you evaluate IT hybrid cloud management solutions has to change as well. Silos of products, services and responsibilities are no longer acceptable. Organizations that simply focus on "keeping the lights on" rather than proactively preparing for the future will be at a disadvantage. And businesses that expand the role of IT as a true business partner, create new professional growth opportunities for IT teams, and encourage IT's contribution to organizational strategy will realize long-term benefits.

Self-driving operations is a powerful strategy for automating and simplifying operations management.

Self-driving operations incorporates artificial intelligence (AI) and machine learning (ML) to help your IT team be more proactive and agile. As your data center grows in scale and complexity, your team can confidently work hands-off and hassle-free, from apps to infrastructure, whether your workloads run on-premises in a software-defined data center (SDDC) or in a multi-cloud environment. When evaluating an IT hybrid cloud operations solution, look for the following four critical categories of capabilities.

A. Continuous performance optimization to reduce downtime

Optimal application performance should come at minimal cost—yet be driven by operational and business intent. Real-time, ML-driven predictive analytics should perform actions to automatically balance workloads and proactively avoid contention.

CAPABILITIES	INCLUDED IN SOLUTION
Automated workload balancing, including cross-cluster workload balancing	Yes / No
Continuous and automated workload placement throughout the virtual machine (VM) lifecycle	Yes / No
Automated host-based workload placement driven by business and/or operational intent	Yes / No
Hyperconverged infrastructure performance optimization	Yes / No
Predictive distributed resource scheduling	Yes / No

B. Efficient capacity and cost management to reduce costs

Real-time, ML-powered capacity analytics should deliver optimal utilization, cost savings and consolidation along with proactive planning and procurement.

CAPABILITIES	INCLUDED IN SOLUTION
Capacity reclamation and right-sizing	Yes / No
Correlate capacity and cost insights	Yes / No
Capacity planning, including capacity modeling and forecasting	Yes / No
Additional features that reduce mean time to resolution: • Performance recommendations • Capacity recommendations • Compliance and security recommendations • Hardware and system fault recommendations • Policy-based automation	Yes / No

C. Intelligent remediation to speed time to value

You should be able to predict, prevent and troubleshoot faster using actionable insights by correlating metrics and logs while gaining unified observability from applications to infrastructure. You should have centralized IT operations management with native SDDC integrations and federated views in a highly scalable and extensible platform.

CAPABILITIES	INCLUDED IN SOLUTION
AI and predictive analytics-based anomaly detection across hybrid clouds	Yes / No
Unified infrastructure observability	Yes / No
360-degree monitoring and troubleshooting VM and container-based workloads	Yes / No
Native SDDC integrations (with SDDC storage and SDDC network management, for example)	Yes / No
Global operations view within a unified management console	Yes / No
Common packaged applications and operating systems native monitoring	Yes / No
Open and extensible platform	Yes / No

CAPABILITIES	INCLUDED IN SOLUTION
Multi-symptom alerting	**Yes / No**
Custom dashboards and heat maps	**Yes / No**
Comprehensive log analysis	**Yes / No**
Insight into application dependencies	**Yes / No**
Data center as well as hybrid and multi-cloud support: • Extensibility to other private and public clouds • Extensibility to supporting infrastructure (compute, storage & network components) • Extensibility to leverage existing operations tools	**Yes / No**

D. Integrated compliance to improve risk management

Integrated compliance and automated remediation should be part of any modern IT operations solution, to reduce risk and enforce IT and regulatory standards.

CAPABILITIES	INCLUDED IN SOLUTION
Hybrid configuration and compliance for VMware vSphere©, VMware NSX-T™, VMware vSAN™ and VMware Cloud™ on AWS	**Yes / No**
Out-of-the-box or custom configuration templates	**Yes / No**
Automated configuration management	**Yes / No**
Automated drift remediation	**Yes / No**

E: Licensing and proactive support

Recent events have reinforced the importance of choosing solutions that will flex and stretch to meet evolving needs as you grow or migrate workloads between on-premises and the cloud. You need to be able to proactively address issues before they impact business performance to increase team productivity and the overall reliability of your environments.

CAPABILITIES	INCLUDED IN SOLUTION
Proactive support to identify issues before they occur	**Yes / No**

# Step 5: Prepare questions for vendors while comparing solutions

To ensure you're comparing solutions effectively, establish a list of questions to ask all vendors delivering a hybrid cloud operations solution. These sample questions can jump-start your efforts.

Performance

- How does the solution reduce downtime?

- How does the solution support VMs and container-based workloads?

- Does the solution provide comprehensive data and policy-based control across the entire infrastructure, wherever we choose to run our workloads?

- What capabilities help us easily, and in an automated way, manage both on-premises data centers and public cloud deployments?

- How does the solution make it easier and faster to select cloud services, migrate workloads on-premises and to clouds, and track usage?

- How does the solution help me manage and optimize cloud services?

- Can the solution support traditional and cloud-native apps with the security, agility, reliability and governance our enterprise demands?

Capacity and efficiency

- How will the solution allow us to expand beyond CapEX vs. OpEx?

- How does the solution help us reduce costs?

- How does the product help ensure we aren't needlessly wasting money on infrastructure, guessing, over-provisioning or counting on legacy planning processes to meet SLAs and keep costs down?

- Can the solution support our business as it changes, such as addressing shrinking budgets while meeting faster time-to-market and demands from new lines of business?

- How does the solution integrate with our other SDDC components (e.g., virtual storage, networking, etc.)?

- How does the solution enable everyone on our team to show business value, and how does it support our team being constantly evaluated?

- Does the solution use advanced analytics with AI and predictive analytics intelligence?
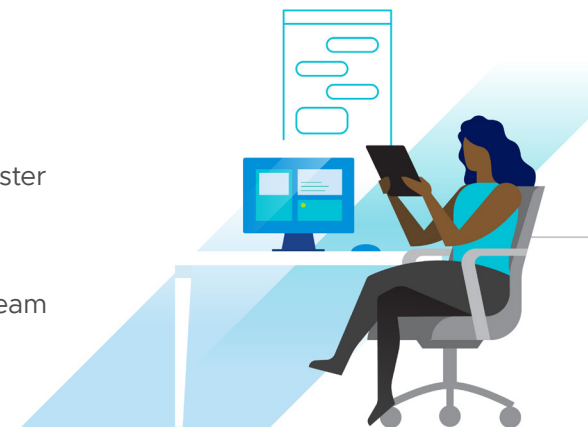
Remediation

- How does the solution speed time to value?

- Can we use the solution to optimize observable conditions against business key performance indicators (KPIs)?

- How does the solution give us more than a limited view of infrastructure silos?

- How does the solution monitor VMs and Kubernetes environments?

- What does the solution include that goes beyond reacting and manual troubleshooting?

- Can the solution correlate events and discover root-cause analysis easily and beyond a static understanding of relationships, and how will it support IT as we move to new, dynamic SDDC and cloud infrastructures?

- Why is this solution an easier way to correct problems?

- How does this product integrate services from many clouds and the legacy environment, so our IT staff can deliver even more innovative services?

Compliance management

- How does this solution reduce risk in our environment?

- What capabilities in this solution enable us to proactively and in real time and reliably optimize, remediate and enforce compliance?

- What capabilities in this solution support governance, visibility, monitoring and troubleshooting across on-premises data centers and public clouds for unified visibility, so we can deliver on SLAs and increase efficiency?

- What capabilities and customization does this solution offer that would allow us to confidently remain in control of automation decisions?

Support

- Is proactive intelligence included in this solution, or is it available at additional cost?

- Does this solution provide support and management integration, with proactive issue avoidance, troubleshooting and automated workflows in a unified experience?

- Does this solution speed support request time to resolution?

Licensing Options (vRealize Cloud Universal)

- Does this solution allow me to migrate to cloud at my own pace of adoption?

- Will this solution minimize rip and replace of management tools?
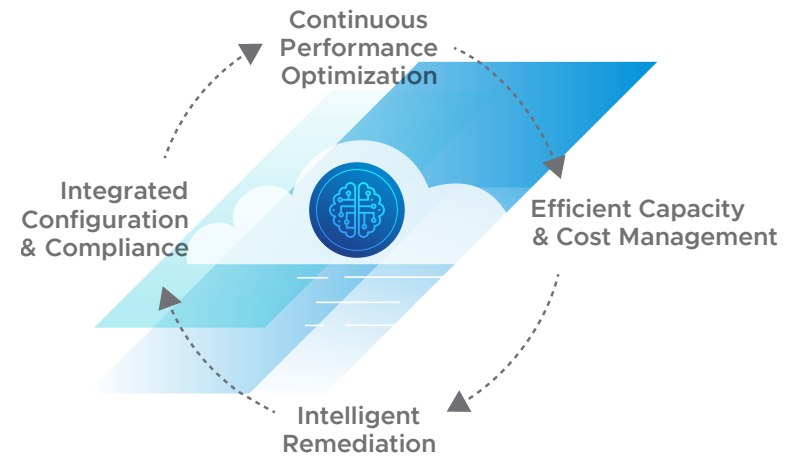
- What licensing options are available?
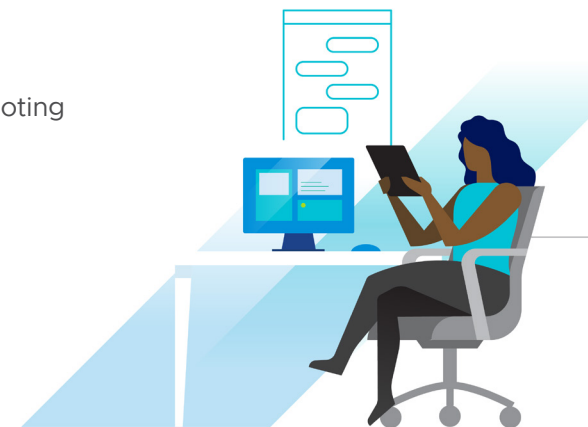
Discover self-driving operations from VMware

Software is disrupting industries, but it takes effective hybrid cloud operations management of your portfolio to optimize and sustain a competitive advantage. That's why your business needs software-defined IT with self-driving operations powered by AI and predictive analytics. Hands-off and hassle-free cloud management boosts agility and scalability while optimizing for performance, availability, compliance and cost.

VMware has a unique and powerful hybrid cloud solution—VMware Cloud Foundation with Tanzu ™, which provides virtualized and programmatic consistent infrastructure, as well as consistent operations and automation tools, that work everywhere you deploy and manage workloads. With consistent operations your IT teams are able to use the same set of tools, workflows, configurations, and policies to operate infrastructure and applications across the data center, cloud and edge environments.

VMware Cloud Foundation with VMware vRealize® Operations™ leverages AI and predictive analytics to enable you to manage both VMs and container-based workloads for deliver consistent Kubernetes management. VMware vRealize Operations is available on-premises or as a service (SaaS) and VMware offers a vRealize Cloud Universal licensing model that gives you the flexibility to combine both on-premises and SaaS subscription under one license for budget predictability and flexibility. Be sure to ask about vRealize Operations when you're evaluating IT hybrid cloud management solutions to help you optimize, plan, and manage your hybrid cloud.

Continuous Performance Optimization

Integrated Configuration & Compliance

Efficient Capacity & Cost Management

Intelligent Remediation

LEARN MORE
vmware.com/products/vrealize-operations
cloud.vmware.com/vrealize-operations-cloud