vmware®

A Guide to Hybrid Cloud
An inside-out approach for extending your data center to the cloud

Inside

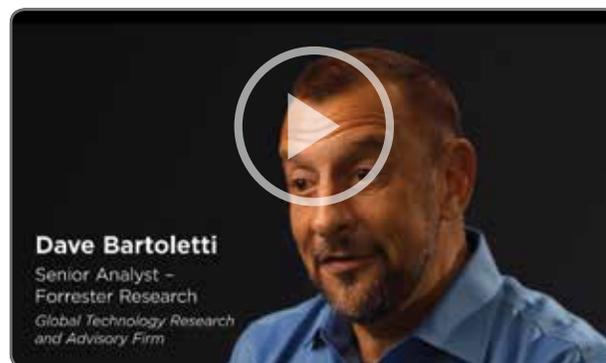# Create a Flexible IT Environment
With Hybrid Cloud

Businesses are looking for a more flexible IT framework that can adapt to today's rapidly changing and global environment.

Business teams striving to move quickly into new markets and launch new products and services are demanding more from IT organizations that have traditionally been focused on avoiding downtime, ensuring security and compliance and holding down costs. Cloud computing offers compelling benefits for IT and the business to gain on-demand access to IT resources for new application development, as well as for running existing applications.

However, developing new applications in the cloud may require learning to use new tools and processes, while moving existing applications often requires recoding for the cloud service provider's platform – a costly and time-consuming process.

VMware takes a new approach that starts inside your data center and extends out to support all applications – both those 'born in the cloud' as well as existing ones – with **VMware vCloud® Hybrid Service™**, a secure, dedicated infrastructure-as-a-service cloud, owned and operated by VMware.

vCloud Hybrid Service is built on the trusted foundation of VMware vSphere®, enabling you to seamlessly extend your data center to the cloud leveraging the same infrastructure, network, management and skills you already use with your internal VMware infrastructure. By extending the same platform and operations model you use in your onsite data center to the cloud, you can deploy and run your applications onsite, offsite or both – without compromise and with less risk.

Dave Bartoletti
Senior Analyst –
Forrester Research
Global Technology Research and Advisory Firm

Learn more about the benefits of hybrid cloud:
vmware.com/go/hybridbenefits

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Common Business Drivers
for Hybrid Cloud

The demand for IT resources is ever-changing. Special events or acquisitions can cause spikes in demand, requiring the business to ramp up resources and then reduce them. As your business grows, you must be able to provide the capacity to meet both predictable and unpredictable situations.

An IT strategy should consider all available options for onsite and offsite environments to meet the demand for IT resources. Being capped at the physical boundaries of the data center doesn't make sense when you have rich cloud options available that can be integrated into your overall IT strategy, to meet demand.

Hybrid cloud allows you to augment your internal data center resources, providing a flexible and cost-effective solution for a variety of use cases, including:
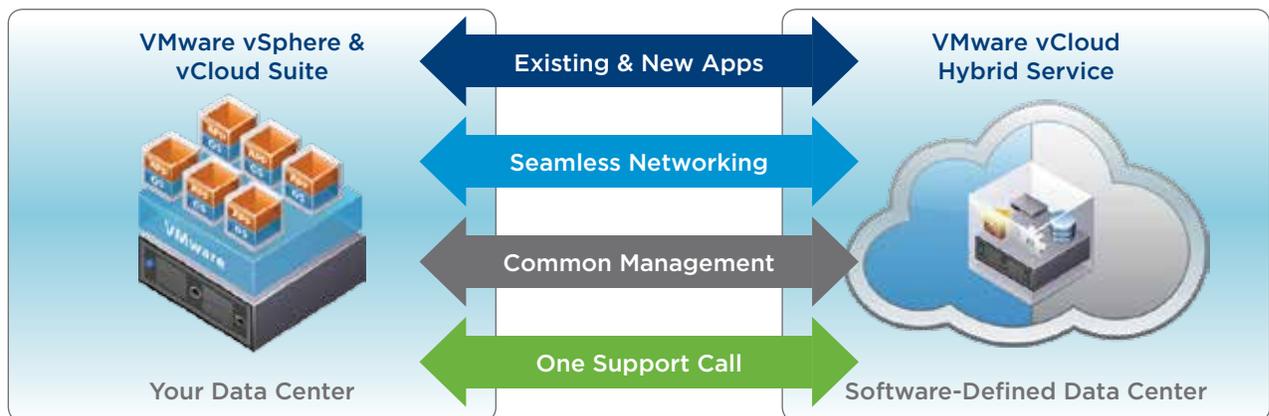
- On-premise capacity limitations

- Limited IT staff and budget

- Lack of in-house IT cloud experience

- Seasonal or unpredictable usage patterns

- Rapid new application development requirements

Questions to Ask
When Evaluating Hybrid Cloud

Q1 Will my existing applications be able to run in hybrid cloud without complex changes?

A: The first problem most businesses face when moving workloads to the cloud is that most public clouds are not designed to run both existing and new applications on a common platform. Existing applications often have to be rewritten for the specific cloud infrastructure. The problem is that the underlying constructs are often completely different. This has complex ramifications in how you can move and manage workloads among your onsite and offsite environments.

vCloud Hybrid Service is different. Because it's built on VMware vSphere, it provides a common platform across your data center to the cloud. The result is you can write, deploy and manage applications in the cloud in exactly the same way as you do today. The vCloud Hybrid Service supports thousands of applications and dozens of operating systems that are certified to run on vSphere, so no changes are required to run your existing applications in the cloud and there are no new tools or processes to learn for deploying new applications.

VMware vSphere & vCloud Suite

← **Existing & New Apps** →

← **Seamless Networking** →

← **Common Management** →

← **One Support Call** →

VMware vCloud Hybrid Service

Your Data Center

Software-Defined Data Center

Any Application... No Changes

Questions to Ask
When Evaluating Hybrid Cloud

Q2 Will my applications be as reliable and manageable when deployed in hybrid cloud?

A: Sometimes, when moving applications to the public cloud, performance and availability suffer. Some public cloud environments place the burden of achieving availability on the customer, requiring customers to redesign applications to be resilient on best effort platforms that often fail.

vCloud Hybrid Service offers automated replication, monitoring and high availability of applications, without requiring any code changes. Leveraging the same platform you already run internally, you can extend your management tools into the cloud, providing an integrated IT capability across your onsite data center and the cloud.

"What I'm looking for in a hybrid cloud is the ability to easily move workloads and view all clouds within a single management pane. vCloud Hybrid Service will provide me the ability to extend our private cloud out and utilize it for a secondary site."

Matt Mock, IT Manager, GreenPages

Read more »

Watch a whiteboard demonstration on high availability by design: **vmware.com/go/cloudavailability**

Questions to Ask
When Evaluating Hybrid Cloud

**Q3** Will my applications be as secure as those deployed in my onsite data center?

A: Public clouds are often multi-tenant environments with shared infrastructures. This 'sharing' and perceived lack of security concerns many businesses, especially for mission-critical data and applications, as well as for maintaining compliance.

vCloud Hybrid Service enables you to seamlessly stretch your Layer 2 or Layer 3 networks from your data center to the cloud without manual configuration changes. It provides a fully isolated virtualized network and firewall with role-based access controls linked to your LDAP directory. You can use your existing IT policies to meet all security, compliance and control requirements.

Q4 What are my application network dependencies?

A: Network bandwidth and reliability are often among the highest concerns when moving workloads to public cloud, with questions on user access, firewall rules and other system connection requirements.

vCloud Hybrid Service is built on a seamless virtualized network that is quickly customizable to support your application and security needs. Network virtualization allows you to configure your firewalls and network as if they were in your own data center, so your applications have all they need to operate. You also have common identity and access management across your onsite and offsite environments.
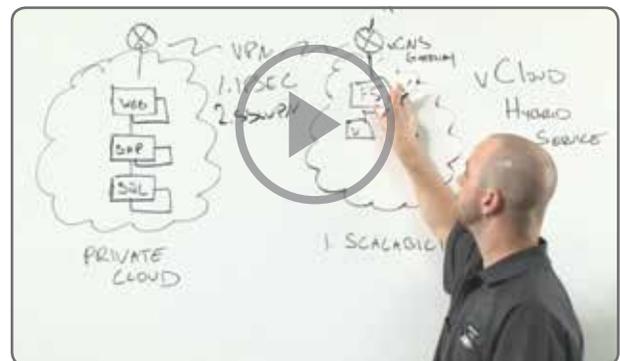
Watch a whiteboard demonstration on network connectivity:
vmware.com/go/cloudnetwork

Top 5
Use Cases for Hybrid Cloud

Early cloud adopters have found success in moving development and test workloads to the cloud. It's an easy, fast and cost-effective way to get on-demand capacity for a limited time. But other workloads are also good candidates for hybrid cloud computing. Depending on your requirements, consider moving the following types of workloads to hybrid cloud.

Test/QA/Development

Satisfy developers' need for an agile, dynamic environment to test and develop software applications.

Provide self-service provisioning by IT consumers, plus visibility, look-back and chargeback capabilities for accountable resource allocation.

Reduce test/QA environment cost to reflect its lower performance and availability requirements, while streamlining application portability between test and production environments.

Examples: New application development and pre-production testing

> "What I am looking for in a hybrid cloud is scalability, compatibility, integration and familiarity of management. vCloud Hybrid Service will provide a great up-to-date test environment that can easily be converted to production."
>
> Colby Cousens, System Administrator, City of Melrose **Read more »**

Top 5
Use Cases for Hybrid Cloud

Packaged Application Hosting

Migrate packaged applications to a hosted environment compatible with data center infrastructure, without having to re-architect and reconfigure the applications.

Offload the hosting of standard packaged applications, such as email and collaboration software, to a cloud service, to free up existing resources and staff for more value-added projects.

Examples: Email, Collaboration Software, Data Analytics and Business Intelligence

Backup/Archiving/Storage

Preclude service disruption in a single-site IT deployment.

Avoid the prohibitive expense of replicating a full production environment to a second site run by core IT.

Utilize a low-cost remote storage facility over a fully synchronized active/active site to be leveraged in the event of service disruption.

Examples: Secondary backup and archiving site

Top 5
Use Cases for Hybrid Cloud

Enterprise IT/Outsourced Data Center

Outsource data center functionality to a cloud service provider.

Transition from CAPEX to OPEX spend for IT services.

Support mission-critical applications in a cloud environment with high levels of security, compliance, performance and availability.

Example: On-demand data center expansion

> There are a variety of workloads that can take advantage of the flexibility and elasticity of hybrid cloud, from development and testing to pre-production to production workloads.

Web Hosting/e-commerce

Support web and e-commerce applications that have variable resource requirements.

Deploy applications in a cost-effective and scalable environment.

Distribute web and e-commerce applications geographically across data centers to decrease latency and improve the end-user experience.

Examples: 3-Tier Web Applications, Mobile Application Development and Content Delivery Solutions

Getting Started
Top 5 Considerations When Selecting a Hybrid Cloud Provider

With hybrid cloud you have the choice to deploy workloads in the location that offers the best security, performance and scalability for that particular application. It offers both the agility and convenience of public cloud with the freedom and confidence to run any application onsite, offsite or both. As you evaluate moving various pre-production and production workloads – and your mission-critical and sensitive data – to hybrid cloud, be sure to develop a strategic approach based on your business and IT objectives. Here are the top five considerations to keep in mind as you begin evaluating hybrid cloud:

1 Support for new and existing applications

2 Security policies and controls to meet your compliance requirements

3 Built-in high availability without recoding your existing applications

4 Seamless network integration without requiring manual configuration changes

5 Integrated management capability across your data center to hybrid cloud

vCloud Hybrid Service –
The Ready-to-Run Cloud

With vCloud Hybrid Service, you can support your existing workloads and third-party applications, as well as new application development, with unified networking that spans between your existing and new data center capacity, common management and security, the same reliability and performance you expect from your internal data center, plus one support number to call.

With VMware, you can move to hybrid cloud with confidence for a faster path to cloud success and return on investment, while minimizing risk.

No Surprises

• Runs on the infrastructure you already know and trust, supported by an ISO/IEC 27001 certified information security management system

Compatible

• Manage both onsite and offsite environments the same way and dynamically scale without sacrificing applications, processes or hardware

Versatile

• More than 3,700 certified applications run on VMware

Reliable

• Built-in high availability, complete redundancy and end-to-end security

Award-winning Support

• Only one place to call for business essential support – VMware

Which Offering is Best for You?
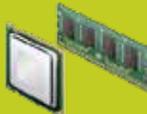
Dedicated Cloud or Virtual Private Cloud

vCloud Hybrid Service is available in two service options that can be deployed individually or in combination, giving you the flexibility and scalability you need to meet your organization's requirements.

Dedicated Cloud

Physically isolated infrastructure and maximum control over your resources.

Virtual Private Cloud

Logically isolated infrastructure with fully private networking and resource pools.

DEDICATED CLOUD	VIRTUAL PRIVATE CLOUD
Your own private cloud instance physically isolated	Fully private networking logically isolated
Minimum Size: 120GB vRAM 30GHz vCPU **Starts at:** 6TB 50 Mbps allocated 1 Gbps burstable 3 Public IPs	**Minimum Size:** 20GB vRAM 5GHz vCPU (burst to 10GHz) **Starts at:** 2TB 10 Mbps allocated 50 Gbps burstable 2 Public IPs

Learn more about vCloud Hybrid Service.
Visit: vmware.com/go/hybridservice
Contact: 1-877-486-9273