vmware®

A Guide to Public Cloud

An inside-out approach
for extending your
data center to the cloud

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INTRODUCTION

Create a Flexible IT Environment with Public Cloud

> 63% of businesses surveyed expect to use cloud solutions to run their applications within the next 12-18 months, compared to 49% today[1]

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 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® Air™, a family of cloud services built on the trusted foundation of VMware vSphere®. Full compatibility with your on-premises vSphere data center enables you to seamlessly extend your data center to the cloud leveraging the same infrastructure, network, security, management and skills you already use with your onsite environment.

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.

[1] IDG Research Services, Public Cloud Adoption, 2015

Common Business Drivers

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 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.

Public cloud allows you to augment your internal data center resources, providing a flexible and cost-effective solution to meet a variety of business issues, including:

• On-premises capacity limitations
• Limited IT staff and budget
• Lack of in-house IT cloud experience
• Seasonal or unpredictable usage patterns
• Rapid new application development requirements
• Additional geographical locations

TOP 3 DRIVERS OF PUBLIC CLOUD ADOPTION[2]

64%
IMPROVE COST EFFICIENCIES

62%
REDUCE IT OVERHEAD EXPENSES

50%
SPEED APPLICATION DEPLOYMENT FOR FASTER TIME TO MARKET
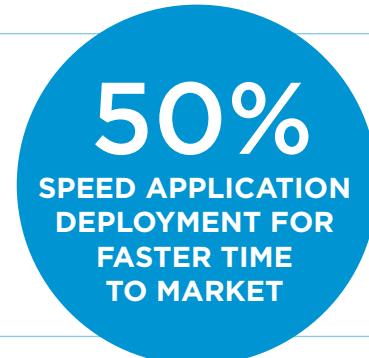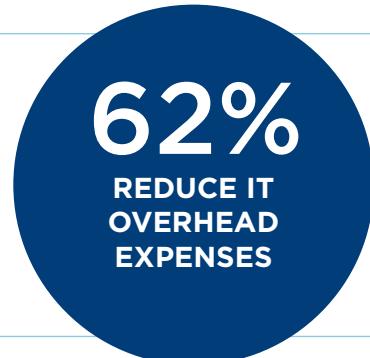
[2] Public Cloud Computing: From the Margins to the Mainstream of IT Practice, 2015

Questions to Ask

Q: Will my existing applications be able to run in public cloud without changes or reconfigurations?

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 provider platform. 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 Air is different. Because it's built on 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. vCloud Air supports more than 5,000 applications and over 90 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.

VMware vSphere
and vCloud Suite

Your Data Center

Existing & New Apps

Seamless Networking

Common Management

One Support Call

VMware
vCloud Air

Software-Defined
Data Center
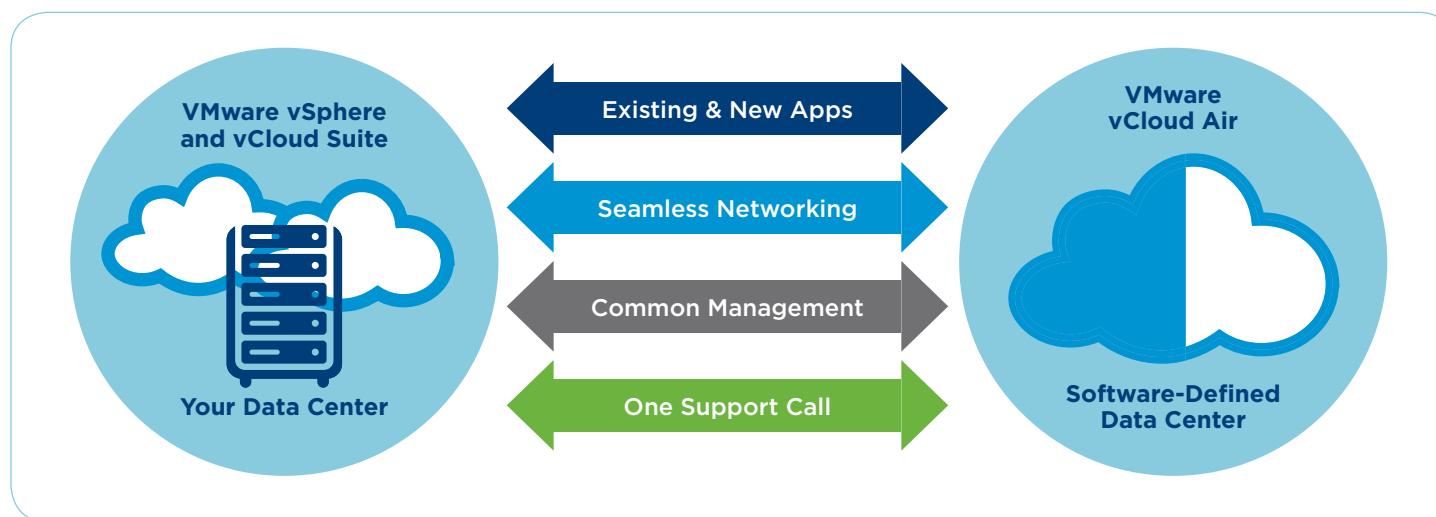
Questions to Ask

Q: Will my applications be as reliable and available when deployed in public 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 Air is built on infrastructure that is architected for High Availability leveraging proven vSphere High Availability (HA), vSphere vMotion, and the Distributed Resource Scheduler™ (DRS). These technologies enable the ability to migrate live workloads and/or automatically restart virtual machines in the event of host maintenance or unexpected issues, as well as maintaining a consistent level of high performance across hosts when applications from multiple tenants get busy.

Watch the video:
Overview of vCloud Air High Availability

Questions to Ask

Q: How can I ensure my network will meet my application and security requirements?

**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 Air is built on the trusted vSphere foundation with a virtualized network topology, encompassed in the Edge Gateway. The Edge Gateway provides critical networking capabilities, as well as the ability to customize network settings to support your application and security needs. The Edge Gateway also provides a connection to the Internet, offering speeds of up to 1Gbps (for Dedicated Cloud service). The Edge Gateway allows you to:

• Mirror on-premises policies to avoid the need to reconfigure applications

• Safeguard security with included edge firewall, Network Address Translation (NAT), DHCP, DNS, load balancing, site-to-site IPsec VPN, and static routing

• Ensure network uptime with built-in high availability

vCloud Air also offers Advanced Networking Services built on VMware NSX™ technology, providing zero-trust security in the cloud.
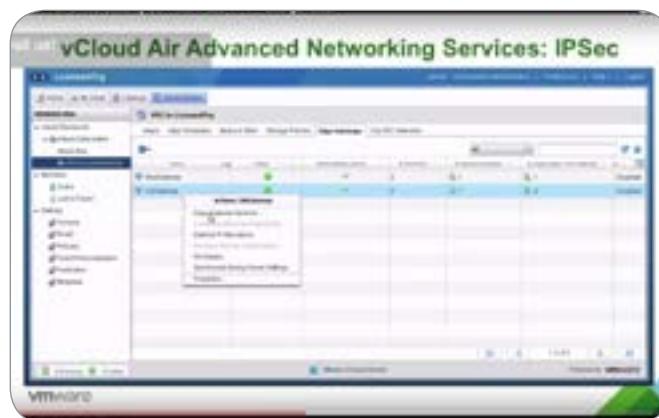
Watch the video:
Introduction to Advanced Networking Services

INTRODUCTION
COMMON BUSINESS DRIVERS
QUESTIONS TO ASK
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TOP 5 CONSIDERATIONS
ABOUT VCLOUD AIR
GET STARTED

Use Cases

A Market Pulse survey by IDG Research Services found that nearly 16% of global IT budgets are dedicated to the public cloud today. **That figure is expected to double to 33% over the next two years.**[3] Early cloud adopters have found success in developing and testing applications in 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 getting started with public cloud. Depending on your requirements, consider the following types of workloads.

[3] Market Pulse Survey, IDG Research Services, October 2015

INTRODUCTION   COMMON
                  BUSINESS DRIVERS   QUESTIONS
                                            TO ASK   USE
                                                            CASES   TOP 5
                                                                      CONSIDERATIONS   ABOUT
                                                                                          VCLOUD AIR   GET
                                                                                                          STARTED

Use Cases

46% of businesses surveyed consider replication of
test environments to production standards a key attribute for
developing and testing applications in the cloud.[4]

DEVELOP AND TEST APPLICATIONS

Take a low-risk first step and develop and test applications
in the cloud to free up valuable on-premises capacity. You
can then choose to deploy into production either on-or
off-premises.

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

- Eliminate inconsistencies across development, testing,
  and production.

- Reduce overprovisioning an onsite infrastructure that
  may sit underutilized.

CUSTOM WINDOW SYSTEMS
is able to rapidly increase capacity
for application testing and deployment
and empower its users to provision
their own resources.

Watch the video

[4] Market Pulse Survey, IDG Research Services, October 2015

Use Cases

More than 59% of businesses surveyed plan to move email/ collaboration software first to public cloud.[5]

ENTERPRISE APPLICATIONS

Run existing applications and free up onsite IT resources

- 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 free up existing resources and staff for more value-added projects.

- Gain scalability to expand capacity while avoiding associated capital expenses.

VIF INTERNATIONAL EDUCATION
is running its global online learning center in the cloud, providing the ability to double its user base and handle sudden spikes in traffic while reducing maintenance requirements.
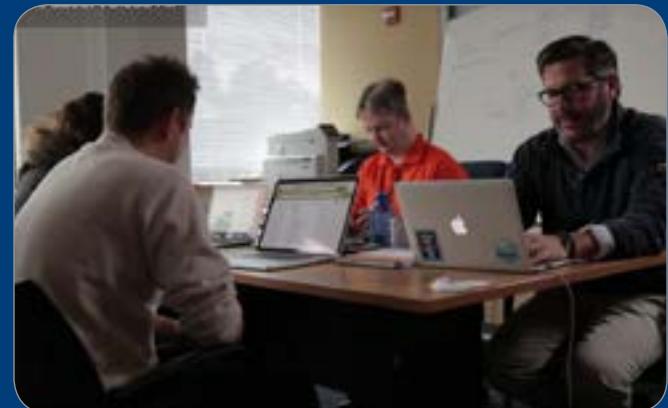
Watch the video

[5] Market Pulse Survey, IDG Research Services, October 2015

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Use Cases

Ease of deployment and management is the top driver for cloud-based DR for 75% of businesses surveyed.[6]

DISASTER RECOVERY

Implement flexible, affordable disaster recovery

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

- Replace or enhance traditional disaster recovery solutions.

- Extend disaster recovery protection to include satellite offices, remote offices, or geographic locations.

CITY OF AVONDALE

is protecting critical business applications, databases, and Web servers with cloud-based disaster recovery, reducing capital expenses and simplifying deployment and management.

Watch the video

[6] Market Pulse Survey, IDG Research Services, March 2015

Top 5 Considerations

Businesses are embracing public cloud because it promises increased agility and scalability. But it can also introduce complexity, interoperability, and security concerns. Public cloud with hybrid cloud capabilities is a way to mitigate those concerns by providing the right combination of internal controls with the ability to securely scale to meet business demand for IT resources.

As you evaluate moving various pre-production and production workloads—and your mission-critical and sensitive data—to the 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 public cloud for your workloads:

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 THE CLOUD

About vCloud Air

THE READY-TO-RUN CLOUD

When you combine the benefits of your existing vSphere environment with vCloud Air, you have a true hybrid cloud that is scalable, portable, and agile enough to meet your growing business needs. You can support your existing workloads and third-party applications as well as new application development.

The service provides virtualized networking that spans between your existing and new cloud capacity, common management and security, the same reliability and performance you expect from your internal data center, plus one support number to call.

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

SECURE	Runs on the vSphere infrastructure you already know and trust, supported by an ISO/IEC 27001 certification
COMPATIBLE	Manage both onsite and offsite environments the same way, no changes required to your applications, tools, or processes
VERSATILE	Supports more than 5,000 applications and over 90 operating systems certified to run on vSphere
RELIABLE	Get built-in high availability and the same level of performance from the platform you know and trust
WORLD-CLASS SUPPORT	Only one place to call for business essential support—VMware

Get Started

CLOUD SERVICES TO FIT YOUR NEEDS

The vCloud Air portfolio includes infrastructure and disaster recovery cloud services that enable you to expand into the cloud at your own pace. These services can be deployed individually or in combination, giving you the flexibility and scalability you need to meet your organization's specific requirements. In addition to the core services, additional features include Object Storage, Advanced Networking Services, Data Protection, and Direct Connect.

	Dedicated Cloud Physically Isolated	**Virtual Private Cloud** Logically Isolated	**Disaster Recovery** Logically Isolated
COMPUTE	**Base Resources** • 240GB vRAM • 35GHz vCPU	**Base Resources** • 20GB vRAM • 10GHz vCPU	**Base Resources** • 20GB vRAM • 10GHz vCPU
STORAGE	**Starts at** • 6 TB	**Starts at** • 2 TB	**Starts at** • 1 TB
NETWORK	• 50 Mbps allocated • 1 Gbps burstable • 3 Public IPs	• 10 Mbps allocated • 50 Mbps burstable • 2 Public IPs	• 10 Mbps allocated • 50 Mbps burstable • 2 Public IPs

Learn more about vCloud Air

Visit vcloud.vmware.com

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