The VMware vCloud Solution

Enterprise-Class Cloud Computing for Any Application, Any Customer

CHARACTERISTICS OF CLOUD COMPUTING

- Resource on-demand
- Pay for what you use
- Accessible as a loosely-coupled service
- Scalable and elastic
- Improves economics due to shared infrastructure and elasticity

What Is Cloud Computing?

Cloud computing refers to the use of networked infrastructure software and the capacity to provide resources to users in an on-demand environment. With cloud computing, information is permanently stored in servers on the Internet and cached temporarily on desktop computers, notebooks, handhelds, or other client devices. In this model, often referred to as "utility computing," users can access common business applications online from virtually any end user device, on a pay-per-use basis.

By design, cloud computing is scalable and elastic, offering IT departments a way to increase capacity or add capabilities on demand, without investing in new infrastructure, training new personnel, or licensing new software.

Enterprises are beginning to leverage the cloud computing model to expand on-premise infrastructure and add capacity on demand. Additionally, SMBs or workgroups can use cloud computing to fully outsource their infrastructure. Unfortunately, many of today's solutions have serious issues: Proprietary application platforms require extensive redevelopment time to function off-premise, users are often unable to move to another provider if SLAs aren't met, and long lead times are required to move or set up new environments.

How to Choose the Right Cloud for Your Business

Many providers claim to offer "the platform" for cloud computing. However, more often than not, their proprietary platforms require you to recode your applications, limiting mobility and compatibility and therefore locking you into that platform. Despite potential downtime and poor SLAs, you then have no choice but to stay with these vendors. If applications are core to your business, reliability and mobility should be at the top of your critical requirements list.

The VMware® vCloud initiative, which is supported by over hundreds of service providers worldwide, delivers enterprise-class cloud computing platform and technologies, with broad support for existing and new applications, to enable federation between on- and off-premise clouds.

VMware vCloud is unique in that it enables this broad set of service providers to deliver VMware Infrastructure, rated by Redmond Magazine as number one in reliability. Additionally, VMware vCloud provides enhanced mobility and robust support for multiple operating systems and applications. It gives users the freedom to move their business applications where they want and when they want, on or off premise, without recoding.

With its open architecture, vCloud enables enterprise customers to leverage industry-leading service providers, software vendors and advanced VMware technology to build internal clouds and seamlessly deploy test labs, enable disaster recovery, and add flex capacity off-premise (on the cloud), as needed. For SMBs, vCloud delivers peace of mind in knowing the services they get from hosting/service providers for disaster recovery, test and development, and infrastructure on demand will be reliable and flexible.

With VMware vCloud, your organization benefits from the following unique characteristics:

- Choice: VMware has partnered with hundreds of hosting and cloud computing vendors to enable delivery on a common VMware platform, giving users a wide range of choices for deploying applications and simplifying transitions between providers.
- Mobility and technology: Leveraging key VMware technology advancements such as VMware VMotion™, VMware Storage VMotion, VMware Distributed Resource Scheduler (DRS) and VMware vCenter™, users can easily move virtual machines without downtime. This capability means that applications can be managed, moved and operated in the cloud as they are on-site.
- Application support: With support for almost 1,000 applications, VMware vCloud enables users to easily deploy the applications they need either to a cloud or on-premise. More importantly, the applications that run in the business today will work the same in the cloud, without recoding or rewriting them for a cloud-only platform, saving time and valuable development resources.

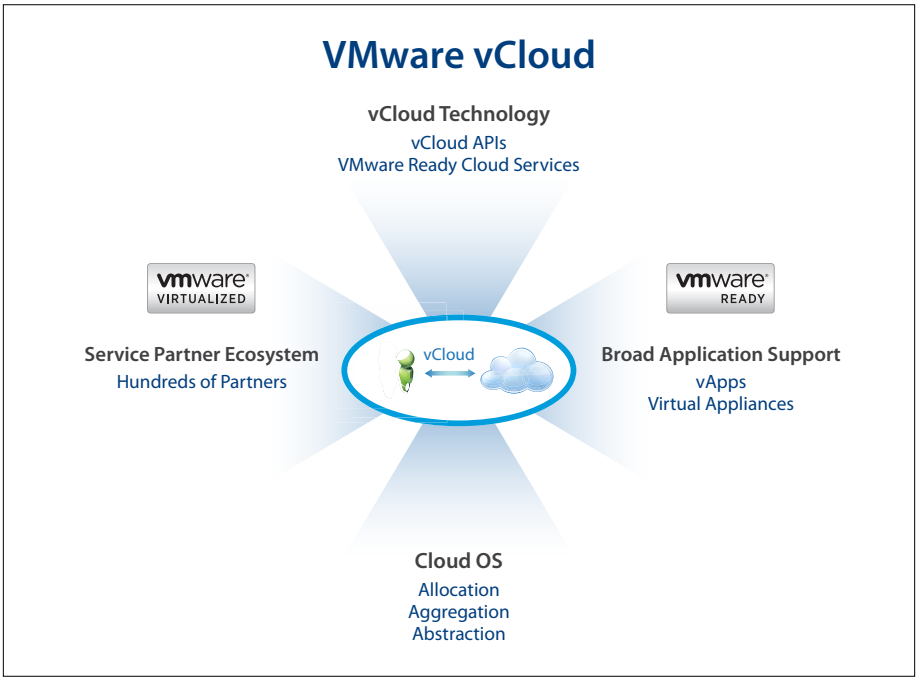

Figure 1. VMware vCloud offers any customer elastic, on-demand compute capacity for applications, both on- or off-premise.

Why Build Your Cloud on VMware?

A highly elastic, self-managing and self-healing platform is critical to enabling cloud computing, both in the enterprise and on the public Internet. The VMware comprehensive roadmap of groundbreaking new products expands its flagship VMware vSphere™ platform into a Virtual Datacenter OS. The Virtual Datacenter OS from VMware not only delivers powerful technologies, but also offers new services called Cloud vServices that enable the seamless federation of on- and off-premise clouds. There are four core pillars of the VMware Datacenter OS that support the delivery of vCloud:

- A best-in-class hypervisor that provides highest single server efficiency: VMware ESX™ and ESXi™ enable optimal use of every type of server resource while minimizing overhead. VMware has a patented approach to efficient memory, CPU and I/O virtualization that allows for the highest consolidation ratios and linear scaling, enabling increasing numbers of virtual machines to run on a single host without performance degradation.
- The ability to aggregate cost-effective x86 servers, storage and network infrastructure into a single platform to achieve the highest cluster efficiency: VMware aggregates compute resources from farms of physical servers, storage and the network, and transforms them into logical resource pools. These pools of virtualized resources are then allocated to applications based on business priorities and enable levels of resource efficiency previously not possible in the physical world.
- Highly scalable infrastructure management via fully automated datacenter: VMware vCenter™ includes a powerful orchestration engine, VMware vCenter Orchestrator, which enables the development of customized workflows that automate operational tasks through a simple drag and drop interface. This capability enables a far more extensible and robust automation framework than does scripting.
- Utility, pay-per-use model: VMware vCenter Chargeback enables automated tracking and chargeback of costs associated with cloud computing services, enabling the datacenter to function as a utility.

The Move to Cloud Computing

Until now, wholesale disruptive infrastructure and application changes have been high hurdles for companies attempting to leverage the benefits of cloud computing. VMware vCloud delivers a complete set of cloud computing platform technologies for enterprises and service providers with broad support for existing and new applications, eliminating those hurdles and opening the door for computing in the cloud. Unlike other compute clouds that require applications to be built specifically to a single cloud computing platform and require complete rewrites of existing applications, millions of existing applications currently running on VMware can run on vCloud services, without modification—giving you the flexibility to run applications where it makes the most sense for your business.

For more information on cloud computing and VMware vCloud, please visit www.vmware.com/vcloud or contact your VMware representative.

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