EMA Radar™ for Private Cloud Platforms: Q1 2013

Citrix Profile

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**Introduction**

Based on Apache CloudStack, the Citrix cloud vision embraces a “world of many clouds,” where customers create application environments on premise, and in one of many mega clouds (Amazon, Microsoft, Google) or service provider clouds (Rackspace, Savvis, AT&T). Citrix provides the infrastructure – compute, network, storage, security, and management – to enable customers, such as Korea Telecom, NTT/Verio, British Telecom, SoftLayer, and Datapipe, to implement this vision, by offering an open platform that can leverage most hypervisors, such as KVM, VMware, XenServer, and Oracle VM. This flexibility enables customers to place application environments where they can run in the most cost efficient and SLA-compliant manner.
The Citrix portfolio of cloud products is part of the company’s much larger vision of offering end-to-end IT services: social collaboration (Podio), data sharing (ShareFile), enterprise mobility (CloudGateway), Windows-as-a-Service (XenDesktop and XenApp), and cloud networking (NetScaler). CloudPlatform constitutes the commercial distribution of CloudStack that comes with enterprise-grade maintenance and support agreements, while CloudPortal Business Manager resides on top of CloudPlatform, providing a business and operational support layer that simplifies administrator and end-user cloud usage, offering advanced capabilities, such as account management, pricing and billing, account management, and a custom self-service catalog.

**Deployment and Administration**

CloudPlatform customers reported rapid deployments, and almost as importantly, easy version upgrades with minimal or no downtime. CloudPlatform targets traditional application workloads, requiring reliable hardware and traditional backup and restore processes, and modern distributed applications that were written to withstand infrastructure failure (see Figure A). This flexibility to manage both traditional and distributed workloads allows customers to gradually transition to the cloud, without leaving numerous essential legacy systems behind to be managed separately.

**Functionality**

The Citrix portfolio of cloud products focuses much more on scalability, extensibility, and simplicity than on offering every imaginable feature. CloudPlatform provides a simple and elegant user interface, offering wizards for resource provisioning and clean real-time views into network, compute, and storage pools. While CloudPlatform does not offer the widest array of features, the software’s API makes it easy to integrate with external systems for advanced capabilities such as capacity planning, SLA management, predictive analytics, operating system lifecycle management, application provisioning,
application lifecycle management, continuous delivery, and network and storage automation. Therefore, many Citrix customers manage their CloudPlatform deployments through systems and business service management products by CA Technologies, BMC, IBM, or HP.

CloudPortal Business Manager offers excellent showback and chargeback capabilities, providing the enterprise and service providers with the flexibility required to make customers accountable for the hardware and software resources they consume.

**Architecture and Integration**

EMA interviewed multiple corporate end customers, with massive CloudPlatform deployments of tens of thousands of hosts, across multiple datacenters. These deployment sizes are evidence of the impressive scalability of the Citrix product. The CloudPlatform architecture is inherently redundant, without any single points of failure, making the product ready to host business critical workloads.

Integration with Nicira NVP for software defined networking, the Cisco Nexus series switches, as well as the Cisco Open Network Environment (ONE), the Cisco Unified Computing System (UCS), NetApp storage for self-service storage provisioning, and OpenStack’s Swift and Quantum components were contributed by the CloudStack community. While these features are not immediately supported by Citrix, they are typically robust and production ready. The growing momentum of CloudStack suggests that there will be an increasing number of new features and product integrations available in the near future.

CloudPlatform is a truly extensible system that can integrate with almost any type of datacenter hardware and software. Integration with Citrix NetScaler and CloudBridge enables the easy creation and management of hybrid cloud environments (see Figure A).

**Cost Advantage**

CloudPlatform and CloudPortal Business Manager are licensed by the number of CPU sockets that are managed. The Citrix-driven cloud can be based on a low-cost hypervisor such as Citrix XenServer or KVM, enabling customers to enjoy significant cost savings in this area. The easy deployment, as well as the simple upgrade process and massive scalability, lead to additional cost savings. The capability of CloudPlatform to offer a home for traditional multi-tier software, as well as for modern distributed applications, enables customers to consolidate and therefore centrally manage their current datacenter environment. Finally, as CloudPlatform is based on open source code (CloudStack), customers can benefit from freely available capabilities, such as deeper support for different types of network, storage, and compute resources. All in all, the Citrix cloud offers excellent value at an attractive price point.

**Vendor Strength**

With 150 paying cloud customers in 2012, many of which are managing tens of thousands of physical hosts, Citrix is a strong competitor in the cloud marketplace. The scale and business criticality of Citrix CloudPlatform-driven solutions, such as Zynga’s cloud, is evidence of the maturity of the Citrix cloud portfolio.

With a market capitalization of over $13 billion, annual revenue of $2.5 billion, and about 7,000 employees, Citrix is one of the larger and financially stable competitors in this field. Customer satisfaction with Citrix products and services is generally high and while Citrix’ cloud revenue by itself may not be large, the company uses its cloud technologies as a vehicle to deliver a comprehensive range of workplace products to its customers.
The Citrix vision of “any-ness,” where customers can freely compose enterprise IT solutions from multiple vendors, constitutes a refreshing contrast compared to the lock-in strategies organizations are accustomed to today. EMA commends Citrix for the credible implementation of this vision.

With more than 100,000 downloads of the CloudStack in 2012, over 250 developers privileged to commit code to the Apache open source project, and a growing number of high profile corporate supporters, such as BT, Puppet Labs, Opscode, Zenoss, Vyatta, RightScale, Intel, Juniper Networks, SunGard, and Hortonworks, the CloudStack community is strong. CloudStack may not currently enjoy the marketing buzz of OpenStack; however, the actual CloudStack product is mature and battle tested, compared to the OpenStack code, which is mostly used in non-mission critical development environments.

Strengths and Limitations

Strengths

• **Greenfield and brownfield:** CloudPlatform is suitable for greenfield and brownfield workloads.

• **Extensibility:** The Citrix pluggable infrastructure enables hardware vendors and customers to write custom connectors for any hardware or software component.

• **Easy upgrades:** Customers reported “amazingly seamless” upgrades, without any service disruptions.

• **Integration with NetScaler:** The integration of CloudPlatform with Citrix NetScaler provides customers with advanced network control.

• **Openness:** Citrix recommends the use of the customer’s existing BMC, CA or IBM systems management tools for managing cloud services.

• **Proven scalability:** Citrix owns the largest reference deployments of any contender in this study. Customers mentioned deployment sizes of 50,000 and more hosts.

• **Momentum:** Contributors outside of Citrix, such as SunGard, SolidFire, BigSwitch, InkTank, and CloudSoft are actively contributing to the code base.

• **Simple:** CloudPlatform offers an easy way of building EC2 like cloud, based on commodity infrastructure

• **Host segmentation:** There are no VLANs needed to segment, isolate and connect multiple datacenters.

Limitations

• **Application awareness:** Application patterns are not offered and there are no plugins for application performance or user experience management. In a future release, customers will have the ability to deploy multiple VMs as one business service.

• **Monitoring:** Monitoring is strictly infrastructure based and not policy or SLA aware. However, Citrix has been working with Nimsoft for advanced integration of Nimsoft monitoring.

• **No capacity planning capabilities:** VMTurbo and CiRBA are recommended solutions for capacity planning.

• **No physical server provisioning:** Currently, CloudPlatform users are not able to provision physical servers. This feature is announced for the first half of 2013.

• **No server automation capabilities:** Customers mentioned a lack of server automation capabilities, where it required manual labor to consistently manage host servers.
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