

EXECUTIVE SUMMARY: AN OVERVIEW OF THE CLOUD MARKET VENDOR LANDSCAPE

AUGUST 2011



In this paper, Taneja Group presents an evaluation of the cloud solution market. Our objective was to evaluate cloud infrastructure and management, application platform, and service provider solutions from leading vendors, to enable senior business and technology leaders to decide which vendors in the market offer the best cloud solutions.

We evaluated ten of the leading cloud solution vendors, and scored their offerings in two categories: cloud infrastructure-as-a-service (IaaS) and management capabilities, and cloud platform-as-a-service (PaaS) solutions from the five vendors with the most advanced offerings. All vendors were required to have solutions in one or both categories that were generally available as of June, 2011. To assess the offerings in each of these categories, we looked at six differentiating factors, one of which was specifically on the requirements of the hybrid cloud. In our minds, the hybrid cloud is the ultimate “end game” of cloud computing, since it can help users achieve the best of both worlds: agility and compelling economics. As a final step, we reviewed the vendors’ products, solutions, and overall cloud strategy, and – using the leading vendor as the baseline – explored how competitive solutions compare favorably and unfavorably against that vendor’s solutions.

The Cloud Market: Ranking the Solutions (4 = Highest Score)

Roll-Up Scores	VMW	MSFT	AMZN	IBM	HP	CA	RAX	BMC	RHT	ORCL
IaaS + Mgmt.	3.6	2.6	2.4	2.4	2.4	2.4	2.3	2.2	1.8	1.0
PaaS	3.7	3.1	2.4						2.2	1.7

To assess each vendor’s IaaS and Management solutions, we evaluated virtualization platform, service delivery and consumption, resource and performance management, security and compliance, hybrid cloud capabilities, and partner ecosystem. To rate each of the five PaaS offerings, we evaluated runtime language support, developer tools, application services, data management support, application performance management, and application portability for hybrid cloud deployments.

Taneja Group Opinion

Overall, VMware stands out as the cloud leader – and in particular, a leader in enterprise hybrid cloud solutions – due to the reach and maturity of its on-premise and off-premise offerings: IaaS solutions, its broad service provider ecosystem for IaaS, the industry-leading vFabric PaaS suite, Cloud Foundry for open standards-based PaaS, a broad portfolio of virtualization and cloud management solutions, and aggressive development of cross-cloud enabling tools and interfaces to bring them all together.

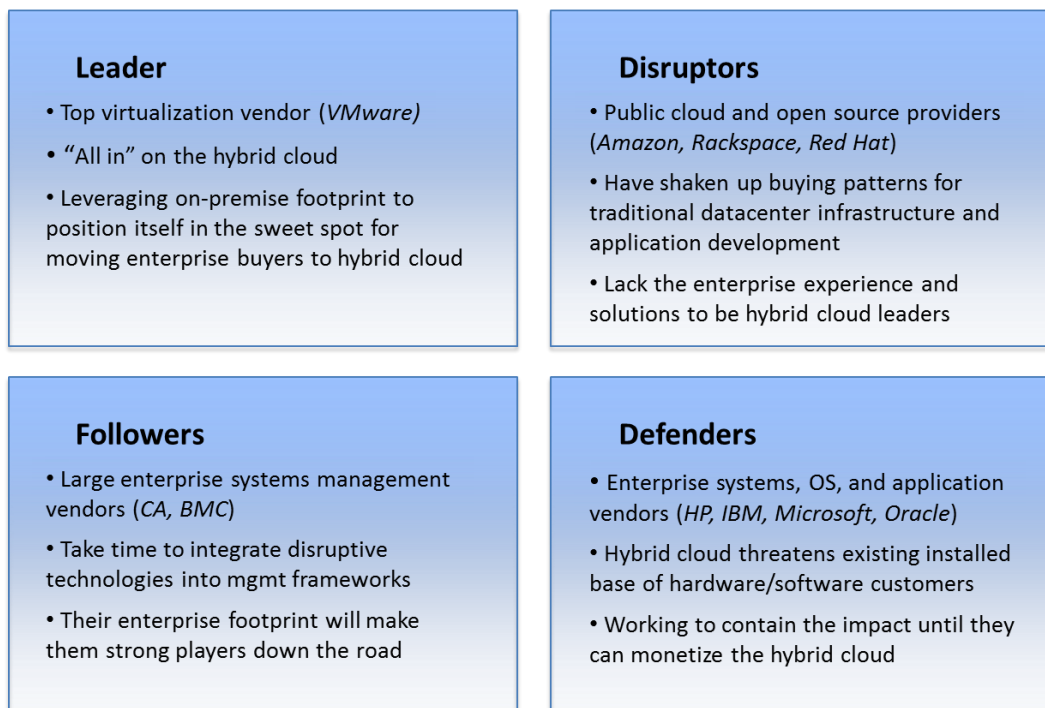
No other vendor reviewed in our assessment is yet executing as effectively and simultaneously along all of these hybrid cloud dimensions.

Despite significant “cloud-washing” of existing solutions, tangible cloud offerings do exist, though it can be difficult to tell them apart. All vendors in this study (except Oracle) have a cloud strategy; the differences emerge when it comes to execution. In our view, the competitive landscape is made up of four primary categories:

- **Leader:** The top virtualization vendor (VMware)
- **Disruptors:** Public cloud and open-source providers (Amazon, Rackspace, Red Hat)
- **Defenders:** Enterprise systems, OS and application vendors (HP, IBM, Microsoft, Oracle)
- **Followers:** Large enterprise systems management vendors (CA, BMC)

We have shown (in Figure 1) how these four categories of vendors are positioned to address hybrid cloud opportunities.

Figure 1: The Cloud Market Vendor Landscape



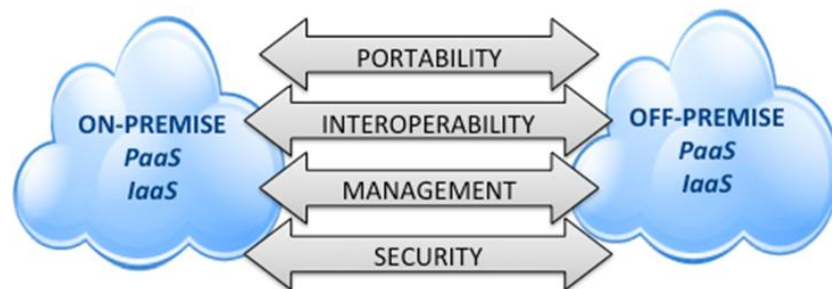
SOURCE: TANEJA GROUP

Key Takeaways for IT and Business Leaders

- **In evaluating cloud solutions, go beyond just “kicking the tires”.** The cloud market is still emerging, and hype is well out in front of reality. As a buyer, you must check out whether the various offerings perform as advertised. We recommend hands-on, proof-of-concept engagements that put the offerings through their paces, and test and exercise key capabilities.
- **Plan for the best of both worlds.** The most effective cloud solutions will marry the security, quality of service and control of an on-premise cloud, with the agility and compelling economics of an off-premise solution. As you evaluate solutions, focus on vendors that provide the enterprise-class security, cross-cloud management, standards-based workload portability and interoperability required to bridge on- and off-premise deployments.

- **Start with a private cloud.** We believe the fastest and surest route to a robust, highly capable hybrid cloud deployment is to build a private cloud first. The best cloud IaaS offerings will enable you to build a highly secure, enterprise-capable private cloud. From this deployment, you will have laid 70+% of the foundation required for a successful enterprise hybrid cloud.
- **Insist on virtual security.** Enterprise-grade security is one of the most critical requirements for an enterprise hybrid cloud. When evaluating hybrid cloud offerings, look for solutions that offer *virtual* security, versus approaches that graft existing physical infrastructure security solutions into a virtualized environment. Work with the vendor to understand the security framework, and validate that this framework addresses each layer of the cloud IaaS stack.
- **Look for management that's optimized for virtualization and cloud.** Dynamic cloud environments require a new approach to management – one that is as agile and flexible as the underlying virtual infrastructure. Platform vendors have an edge here as they are able to build in and tightly integrate management into their cloud platforms. Prioritize solutions that have high levels of automation and policy-based service assurance.
- **Demand the freedom to choose cloud service providers.** Your cloud vendor must provide you with the freedom of choice to move from one off-premise provider to another. To make this a reality, look for vendors that are building an ecosystem of *compatible* cloud providers.
- **Make sure your PaaS options are wide open.** Now promised by many vendors, the ability to abstract application runtime, middleware and data services from the underlying infrastructure is extremely compelling. But your PaaS solution should also support a broad range of languages, application services and data technologies to maximize flexibility, and provide a choice of deployment options to avoid lock-in. In particular, your choice of PaaS should allow you to switch providers and to run all or a portion of the platform behind your firewall.

Figure 2: Enterprise hybrid cloud marries IaaS & PaaS, both on- and off-premise, with bridging tools & technologies



SOURCE: TANEJA GROUP

Why VMware?

The most successful enterprise hybrid clouds will be built on the foundation of an enterprise-grade virtualization platform. Of the vendors we have evaluated, only VMware can offer the combination of industry-leading virtualization and the management solutions required for an on-premise, private cloud, *plus* the enterprise-class enablers needed to bridge the private cloud with one or more off-premise, public clouds (see Figure 2).

VMware's hybrid cloud offering provides the performance, availability, security and compliance demanded in large-scale deployments. And of critical importance, VMware also offers an ecosystem of compatible cloud providers to eliminate lock-in and allow you to move easily from one off-premise provider to another.

ENDNOTE

We excluded SaaS from this study in order to focus our efforts on the infrastructure and application platform aspects of hybrid cloud. There is a mature SaaS marketplace, with most solutions delivered via off-premise commodity (public) clouds. In addition, many enterprises provide users with shared access to applications via terminal services or desktop virtualization—a delivery model that can be construed as a form of private SaaS—but the drivers for a hybrid SaaS model are less clear at this point. Also, there are few if any SaaS solutions marketed as “hybrid.”

THIS REPORT WAS SPONSORED BY VMWARE

ABOUT TANEJA GROUP

Taneja Group’s mission is to deliver best-in-class technology analysis and consulting for the storage, server, virtualization and cloud markets to enable our clients to convert technology into business. We are a boutique firm of operational experts with both broad and deep expertise in storage systems and technologies, server and desktop hardware and software, virtualization platforms and appliances, cloud software and services, and physical and virtual infrastructure management solutions.

For more information, please visit www.tanejagroup.com.

NOTICE: THE INFORMATION CONTAINED HEREIN HAS BEEN OBTAINED FROM SOURCES BELIEVED TO BE ACCURATE AND RELIABLE, AND INCLUDES PERSONAL OPINIONS THAT ARE SUBJECT TO CHANGE WITHOUT NOTICE. TANEJA GROUP DISCLAIMS ALL WARRANTIES AS TO THE ACCURACY OF SUCH INFORMATION AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ERRORS OR FOR YOUR USE OF, OR RELIANCE UPON, SUCH INFORMATION. COMPANY, BRAND AND PRODUCT NAMES REFERENCED HEREIN MAY BE TRADEMARKS OF THEIR RESPECTIVE OWNERS.