



How to Execute a Successful Cloud Strategy

INDUSTRY WHITE PAPER

Cloudbursting: How to Execute a Successful Cloud Strategy in 2012

Cloud computing, by its very nature, mandates that an IT group relinquish a certain degree of control, which is an uncomfortable and unnatural act for an IT department. So, why the unrelenting push towards cloud computing? One major contributor is that, unlike most new technologies associated with IT, cloud buzz is coming from, among other sources, the C-Level executives. At this level, corporate efficiency czars have realized the potential for the cloud to reduce costs, including labor costs. As evidenced by this chart, the cloud computing market is vast and ever-expanding.

The method of successfully applying cloud-level technologies to an organization is as unique as the company to which it is being applied. The cloud solution that best fits a data-centric analysis firm is quite different than a cloud solution that would fit a social networking communications company. However, there are fundamental tenets that can be applied to any company's strategy to manage expectations and to actually improve control as costs are driven down by the application of cloud technology.

These fundamental tenets revolve around the evolution of the technology, the application of the technology and the evolution of business needs in order to choose the best cloud provider for today and for the long run.

Reduced Cost is the Big Attraction: Loss of Control is the Real Price

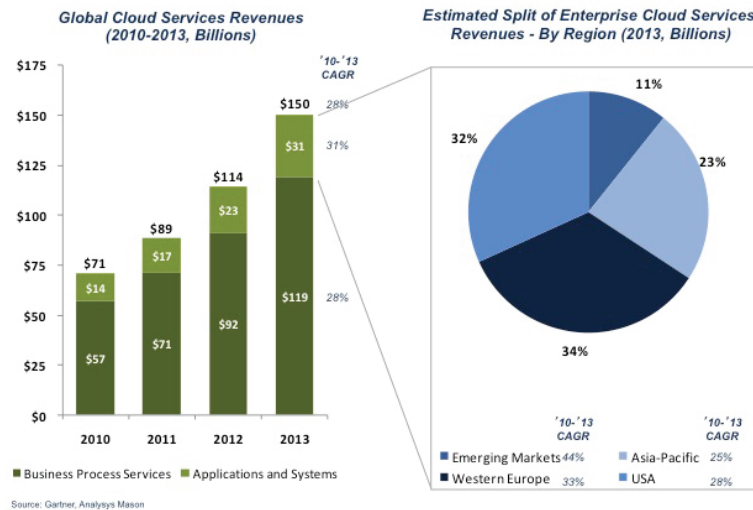
Cloud computing is gaining traction as companies discover the benefits of tapping into the cloud's multi-tenant, shared resources economic model. In an Infrastructure as a Service (IaaS) cloud, processor, memory, storage and networking is securely shared between multiple users, allowing affordable access to predictable cost structures and rapidly scalable enterprise-class solutions which were previously

unattainable for many smaller firms. As the refrain goes, resources can be elastically provisioned, affording scalability and reducing Operating Expense (OpEx). The official "cloud mantra," drives those that pay the bills inextricably towards the light. That same

mantra, however, leaves that sinking feeling in the pit of the stomachs of the employees of the IT organization, as they realize they don't know what their servers are, in whose data centers they reside, and the fact that the network fabric is out of their hands. Oh, and that same IT staff remains responsible for all of it working, or they lose their jobs. Left unbalanced, the undeniable outcome for any company would be to simply go out and obtain the least expensive cloud computing resources available. Such is the Utopian cloud hype.

Cloud Computing Market Size

Worldwide revenues from cloud services are expected to reach \$150B by 2013; although the more narrow definition of cloud applications and systems will be ~\$31B



Source: Gartner, Analysis Mason

AltmanVilandrie & Company



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Reality Bytes: DNA Matters

Standing in the way of the Utopian cloud (“you’ll need fewer bodies, we’ve reduced your costs and now your company will be happy” nirvana) is the reality that cloud computing is not a one-size-fits-all corporate wonder drug. Aside from the fact that different companies do different things, different companies have different DNA.

At the extremes are the cloud users who roll-up their sleeves “Give me open source. Let me contribute, share and keep costs low” while, at the other end of the spectrum are the “Don’t be foolish, our core competency is XYZ. We’ll pay for a ready-made solution” type of cloud users. Given that dichotomy of attitudes, making the assumption that a single choice of cloud technology can be successfully applied to both (let alone, either) types of organizations is a sure fire way to create havoc in your cloud strategy.

The Hypervisor Connection: Why Not All Clouds are Alike

Details matter. Bare metal necessities and virtualization opportunity strategies may be at opposite ends of the spectrum, but they might be (and quite probably are) both necessary for an optimal solution in any company. Traversing the path from bare metal to in-house virtualization, to outsourced private cloud and eventually to multi-tenant cloud may be a conceptually trivial maturity model progression, but there can be significant unintended consequences if some simple items are not addressed. Aside from choosing the right out-sourced cloud provider from a customer service perspective, the hypervisor technologies a vendor can provide play an integral (and often unconsidered) part in meeting the challenges you face as you move along the cloud maturity model.

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-Jim Thompson, VP Product Management, ViaWest

Hypervisor technologies drive peripheral requirements such as reporting requirements. While it may not be a primary concern up front, reporting can be a significant factor once it comes to light that the reporting infrastructure and support offered by one technology set is wholly inadequate.

Other factors, such as the speed between nodes, the definition (granularity) of VLAN control and whether users are forced to use a particular set of APIs should be weighed as much as price in the decision-making process. Selecting a vendor that pigeon-holes users

or only provides a single source hypervisor technology is simply a mistake.

Avoid the Rainstorm: Start With the End in Mind

Because different hypervisors offer different benefits, it is important that users have well-defined goals before selecting a cloud service provider. Ideally, your cloud provider has invested in the technology to provide you the option to select a technology to fit the business problem, rather than the other way around. The one-size-fits-all and “it’s all about the price” mentality is truly a technology “1.0” sales pitch. Avoid falling for it.

For example, if the primary cloud use case is the need to simulate high load conditions and spin up 100 virtual machines in a test/dev environment, or otherwise highly burst-oriented application, the need for reporting may be somewhat muted. (Prior to the cloud, it was too cost prohibitive to do this, due to the capital-intensive nature- so it’s a great application for cloud technology.) Now, with the test/dev applications in the cloud, companies can do higher load testing simulations without the associated CapEx.



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However, the reality of the situation is that businesses rarely keep to a single use case. As the cloud and IT departments mature, there will inevitably be movement along the maturity model to include more production-based environments. It would be best to use the same cloud provider for all uses.

Cloud Integration: No Cloud Exists in a Vacuum

In addition to selecting the appropriate hypervisor and the appropriate vendor, the ease with which a cloud solution can be integrated into a businesses' overall IT strategy is another important consideration. For instance, potential cloud customers must determine how they will implement and manage new corporate needs. Using the same service provider for colocation or complex hosting and cloud services is an effective way to streamline the cloud integration process.

Hybrid clouds provide the IT organization with the ability to control the appropriate application of technology onto the correct area of the business while reducing costs. Selecting a cloud provider that can offer a blended solution of colocation for bare metal or dedicated security appliances, in combination with the scalable flexibility of the cloud helps businesses avoid the "if all I have is a nail everything looks like a hammer" approach to the cloud.

By blending cloud services with existing data center services, users also benefit from the familiarity that their data center provider has with their business needs and infrastructure. More important, however, is the fact that there are security-, architectural- and cost-related advantages to using the same vendor for colocation and managed hosting services. One of the most significant advantages is the added security provided by the availability of a cross-connect, an actual

physical cable, between a user's cloud environment and colocation or complex hosting environment when there is a need to transfer data between the two environments. This produces a well-known and understood network diagram that is simply not possible with a remote cloud provider. Using a cross-connect eliminates the need to transfer data through the Internet, ensuring data integrity, low latency, and predictable performance. Additionally, best-of-breed data centers provide a highly available, secure environment within the firewalled perimeter of the data center.

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Users gain other advantages by using the same service provider for both colocation or complex hosting and cloud services, including:

- » Assurance that the cloud service platform was built using current generation servers and storage, not cobbled together with excess equipment
- » Single Customer Service SLA's and familiarity with the escalation path
- » Cross-connects allow for the application of security appliances, dedicated equipment or other compliance mandated processes to be successfully deployed
- » Awareness of data center locations, guarantee of data center integrity, security and audit levels
- » Ability to layer managed services upon generic cloud computing services
- » Your vendor's portal can be a one-stop system for control and fast issue resolution.

The Cardinal Rule: Process, Process, Process

The key component to have under control before moving to the cloud is the definition and understanding of your process. Security in the cloud is mainly driven by process, not technology. The best technology, when poorly applied, can produce a mess. Security and compliance, usually cited as being the cloud's Achilles heel, can be successfully managed by the process control and flexibility of your cloud vendor.



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The integrity of any cloud solution has to be flexible enough in its design to accommodate a full disclosure of the architecture of the cloud in use. Selecting a cloud vendor that is not capable of outlining the cloud networking diagrams, the inability to incorporate cross-connects to mandated legacy processes and devices or the inability of the cloud vendor to provide a dedicated engineering staff to supply best-of-breed solutions to your cloud solution may actually cost you money rather than save you money. It may also lead to a disaster.

Start with the process and apply the technology. If the potential cloud vendor cannot accommodate your process, your policy and your preferred technology DNA, then find one that will.

Cloud Tenets Round Up

- 1) Your corporate needs of today are not the needs of tomorrow. Select a vendor with a choice of technology.
- 2) Don't force yourself into using a vendor's technology that doesn't fit your corporate DNA. Find the vendor with the tools to address your problems, not just a low price.
- 3) For some, the cloud is defined by the API's that are accessible. Understand what they are. Understand your needs can change and a differing set of API's may also be necessary.
- 4) For some, the cloud is defined by the portal. Understand what you need to accomplish from the supplied portal. Having a single vendor portal reduces confusion and increases issue resolution speed.
- 5) The business environment is a hybrid world of legacy applications, equipment and technology. Find a vendor that can support this hybrid environment and understands the needs of its customers.
- 6) Don't let cost be the single driving factor; IT control and options will ultimately be the accelerator to cost savings.
- 7) Depending upon your use cases, the hypervisor you choose can make all the difference. Weigh the pros and cons of an open-source vs. a "walled garden" approach.
- 8) To make your cloud strategy a success, nail the processes that will control, apply and leverage the cloud first, then move to a cloud solution.
- 9) Architecture is not a dirty word. Knowing what your network diagram actually looks like (even within your vendor's cloud) is mandatory in order to create a highly reliable, secure, understood and manageable network/cloud solution.
- 10) Your cloud vendor should provide the flexibility to support your particular business needs, especially your processes. Define it, apply it and make sure your cloud vendor supports it.

About Jim Thompson



Jim Thompson received his Computer Science degree in Ottawa, Canada and started programming in C in the early days of IBM PCs, producing software for the retail channel and the Coast Guard. Jim joined the aerospace industry with Orbital Sciences in Virginia working with JPL as leader of the Ground Segment Control for the NASA SeaStar satellite program. The growth of the Internet saw Jim provide COO and CTO direction for a database firm before joining Mitel as their United States CTO. Jim's broad technology experience of managing software development, embedded firmware, DSP programmers, DB systems designers and product roadmap and strategic product management over 25 years led him to ViaWest where he is VP of Product Management.

ABOUT VIAWEST

ViaWest is one of the largest privately held data center service providers in North America. They provide colocation, complex hosting, cloud and managed services to businesses of all sizes nationwide. ViaWest owns and operates 22 enterprise-class data center facilities in Colorado, Texas, Oregon, Utah, and Nevada, delivering high quality, flexible solutions designed to support customers' unique business needs. For additional information on ViaWest, please visit www.viawest.com or call 1-877-448-9378.