Dispelling the Common Myths
Surrounding Cloud Computing

"Cloud computing continues to grow and evolve at an impressive pace."

The IT industry as a whole has seen cloud computing grow and evolve at an impressive pace, and at NEF we are frequently asked about whether virtualization is a passing fad or a legitimate strategy for established enterprises and fast growing SMBs. These specific queries from IT decision makers all seem to cluster around the same set of ideas, and in some cases, misconceptions, about the cloud. From dissecting security concerns to discussing budgetary issues and even answering questions on how to embark on such a change over to a cloud environment, NEF consults with companies that are researching and/or implementing a virtualization strategy. With the help of some of the industry's leading cloud providers such as Hosted Solutions, NEF is working to demystify the cloud.

Overview | Getting to the Bottom of the Cloud

The model for cloud computing is attractive to businesses because it requires very little internal infrastructure and capital outlay as all necessary applications and files are stored on large, centralized servers/computers in data centers. End-users benefit from the dynamic and responsive nature of virtualized environments because they can be modified on-the-fly and without time-consuming updates.

"The cloud is great because it gives you a lower cost of entry into a highly available, scalable environment," says Mike Lee, Northeast Regional Manager at Hosted Solutions. Hosted Solutions provides enterprise-ready cloud solutions as part of their colocation and managed services suite and has taken a leadership position in the infrastructure as a service (IaaS) space.

Seems like only blue sky – but as with any emerging technology that gets a lot of buzz, cloud computing is also surrounded by many misconceptions. It is helpful to deconstruct and dispel these myths to better determine if harnessing the cloud is the best fit for you and your business.

Common discussions surrounding virtualization include the following four areas:

1. Reliability – cloud computing solutions are less available than traditional dedicated hosting and data center solutions.
2. Pricing – pricing for virtualization seems to raise questions. What's the bottom line?
3. Migration – Moving from a physical to virtual environment is a hassle. Is it worth it?
4. Security – virtualization is not as secure as traditional solutions.

Reliability | Separating the Enterprise Cloud from Its Development Reputation

Some CIOs and IT pros disqualify cloud computing out of hand because of their notions of its unreliability or fear of their applications not being as available and accessible as their dedicated environment. Interestingly enough, virtualization has matured in the areas of reliability and uptime to the point where naysayers should reconsider. In addition, decision makers can now distinguish between development cloud resources and enterprise-level cloud computing, which offers guaranteed uptime, enhanced security, reliability and customer support. These enhanced benefits of enterprise virtualization options make it an increasingly popular choice for businesses that are seeking the dynamic and fluid benefits of the cloud without suffering from unplanned downtime or the dreaded outages.

"Big box" cloud players such as Amazon and Google seem to straddle the fence somewhere in between—their cloud environments are highly elastic, and while they offer some level of reliability, they can also suffer from surprising downtime, which makes them more fitting for the dev environment versus enterprise usage.

"Not all cloud environments are like Google and Amazon," commented Lee. "They can be very elastic, which works well for test, dev and QA environments, but availability is not guaranteed which is an issue for enterprises that can't have mission critical applications and data going offline."

Because enterprise customers need assurances on uptime and reliability, Hosted Solutions and other top virtualization players guarantee availability, plus factor in burstability to account for and accommodate sudden increases in activity.

Before companies consider the enticing offers of the big box "developer cloud" they need to reconcile what happens when the data servers that store your applications have major technical snafus, experience physical trauma or lose power entirely. Despite redundancies and precautionary measures, the data centers that host major sites such as Authorize.net and DailyMotion experienced significant downtime this past July. Even after the promise of 99.9% uptime in October 2008, the Google App Engine had performance issues in July 2009 that resulted in high latency and, in some cases, data loss.

The takeaway is that all cloud solutions are not created equal. A true enterprise solution will offer a 99.99% SLA and make the necessary provisions for reliable, available computing.

Pricing | Do Your Homework On Cost-Effectiveness

Another source of confusion with cloud computing can be its pricing. Many supporters of the cloud point to its price as the ultimate incentive. Truly, the cost/benefit analysis of utilizing cloud computing depends on your current investment in IT infrastructure (which is fixed and cannot be recovered). The value of cloud computing through efficiencies and cost reductions is compelling though.

Yoon-Sung Lee, chief technology officer of Avenade Americas, states, "If you just look at the cost of the hardware and cost of the software versus the monthly charge for SaaS, it [cloud computing] doesn't look that attractive…" However, as Avenade Americas' careful cost benefit analysis proves out, Lee continues, "But if you look deeper and take more factors into consideration, it starts to look fairly attractive." (Source: OBM, "Is Cloud Computing Really Cheaper for Corporations, 8/08/09)

Just as important as examining the cost of moving to the cloud versus dedicated servers is your choice of cloud provider. While large-scale cloud providers such as Google and Amazon offer very attractive pricing models, it is important to remember the old adage "you get what you pay for." Many of these lower-priced providers have built clouds using legacy infrastructure and fail to offer the dedicated customer support or flexible solutions that ensure your cloud solution is up and running 100% of the time. Some providers also require you to re-write your application to fit their specifications. This can increase cost and delay your implementation substantially. Additionally, security is a sizable consideration when reviewing an offering from these types of providers. Researching cloud providers and clearly defining your requirements are the keys to ensuring your needs are met—and at a fair price. "Flexibility of your cloud provider is key," said Lee. "We're able to work with clients to find the right fit and levels of service so they're not paying for bells and whistles they don't need."

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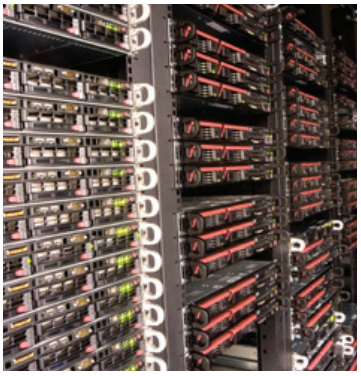
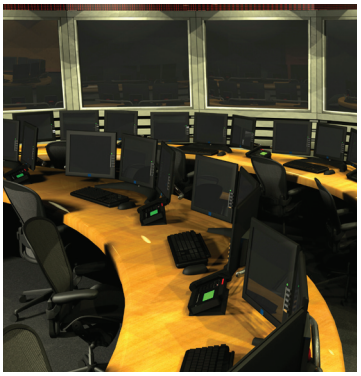


Migration| Providers Can Help With Physical to Virtual Switch

The difficulty of transitioning any traditional dedicated infrastructure to the cloud has been cited as a concern by many organizations. While it is true that any data and systems migration does require a certain amount of preparation and work, the benefits of being on the cloud often make this investment worthwhile.

Sound planning goes a long way to dispelling the cloud transition fears. It is important to roadmap what applications will be migrated to the cloud and in what order. For example, if



"I don't believe this risk should be a deal-breaker for cloud computing."

two programs are largely dependent on one another, it is crucial to move both or neither in order to avoid major pains. In addition, selecting a platform agnostic virtualization option makes it much simpler and more efficient to make a move to the cloud. It goes without saying that carefully evaluating the data center that will be hosting your cloud environment is important. Because the reliability of your cloud depends ultimately on that of the data center, this step cannot be overemphasized.

Finally, enlisting the help of experts is an excellent tactic for successful migration. Proactive support and on-point customer service not only provides you with sound advice during the physical to virtual transition, but it also ensures important items such as backup and disaster recovery as well as monitoring applications will be considered.

Security | Enterprise Cloud Environments Are Safer Than You Think

Questions surrounding the security of cloud computing are probably the most widely discussed and relevant among those asked about the cloud. Supporters of virtualization believe many cloud implementations are more secure than their on-premise counterparts because cloud service providers tend to have thorough security plans in place that use more advanced technology and higher standards.

In the broadest sense, cloud computing exists online and applications are stored in data centers across the US (or globe), so it is prudent to consider security and any potential vulnerability in your virtualization strategy. Security attacks on major players such as Google's Gmail and Twitter have contributed to negative perceptions of cloud security. David Linthicum of PC World examined the Twitter attack in a recent article and he concluded, "I'm sure we'll hear about a few of these [attacks] as cloud computing becomes more popular, but I don't believe this risk should be a deal-breaker for cloud computing." (Source: PC World, "Does the Twitter Attack Give the Cloud a Black Eye?" 8/12/09)

Continuing the Discussion | Is the Cloud Right for Your Company?

While there are certainly legitimate considerations surrounding the reliability, migration, pricing and security of enterprise cloud computing, companies specializing in hosting and virtualization, such as Hosted Solutions, have successfully addressed the possible pitfalls and provide many viable cloud options for IT decision makers.

With regard to reliability, providers should be able to offer at least 99.99% uptime with headroom to accommodate high-bandwidth burst transmissions. To deal with security concerns, cloud companies including Hosted Solutions dedicate areas for each customer, including their own SAN area, and not comingle data. If compliance requirements such as PCI are an issue and you need to have your database kept outside the cloud, the provider should connect the infrastructure that resides outside the cloud in a dedicated data center environment which enables you to pass audits and regulatory measures and give you peace of mind.

NEF partners with virtualization specialists who offer all of the above… as well as other benefits enterprises are leveraging as well. Specifically, when Hosted Solutions recognized early on that cloud computing was becoming important to businesses of all sizes, they pinpointed solutions to the challenges of security and uptime. By partnering with market leaders VMware, and choosing best-in-class providers such as Sun, EMC, Cisco, F5 and Juniper, they were able to develop Stratus Trusted Cloud™ (STC). STC is one of the market-leading enterprise cloud solutions because it was built on a scalable, fully redundant architecture, boasting stellar performance with "four 9s" SLAs on availability. The Hosted Solutions cloud is a "trusted" environment – located in a clearly identified data center, unlike some other cloud solutions which are housed in multiple foreign facilities. Furthermore, its security is rock solid with each client hosted in a dedicated environment on its own blade within a blade environment.

Worth More Discussion| Talk to a Virtualization Specialist

Many of the myths surrounding cloud computing are rooted in truth. However, forward-thinking virtualization companies like Hosted Solutions are working with best in class providers to make the benefits of embracing the cloud a safe and effective endeavor for today's fast growing business. Learn more about enterprise virtualization strategies, the differences between development and enterprise cloud environments and how to create a secure cloud computing solution for your company.

To find out if a virtualization strategy is right for you and to discuss your connectivity requirements, talk with the team at NEF today.

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