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White Paper

Cloud Based Infrastructure Services vs. In House Server Hosting Services- A Comparison

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Overview:

Cloud the most prominent mode of IT infrastructure provisioning arena as of now, be it computing power, storage, orany other services–gaining access to a suite of elastic IT infrastructure services is the simplest through cloud. With cloud businesses have the flexibility to choose whichever development platform or programming model makes the most sense for the applications to be deployed. Businesses pay only for what they use, with no up-front expenses, making cloud services the most cost-effective way to deliver the application to the customers and clients.

Having said the above, the cloud based infra provisioning is constantly compared with traditional in-house server based application hosting approach. This is mostly done in smaller application provisioning cases and the main reason/ objective would be to reduce the Opex, which the cloud based infra, would impose on the business.

This paper compares the two, mainly for internet based online applications with a mission critical business need.

Comparing of Cloud vs. In House Server Infrastructure

Parameter	Cloud Infrastructure	In House Infrastructure
ILS Services Offering	If the application is provisioned on ILS-Amazon cloud the following services will be offered by ILS: 1. A virtualised server instance of any configuration with SAN and Operating System License. 2. Unlimited capacity internet link with 24x 7 availability and monitoring. 3. On-going system hardware capacity planning including load quantification, processing requirements, storage needs, and memory requirement and so on and provision them on real time basis. 4. Requisite server environment installation, configuration & on-going management. 5. Security management – Configuring Firewall policy, OS patch management, virus control, Account policy, Access rights, etc. 6. 24 X 7 monitoring software running on the server. 7. A SLA of 99.5% availability.	On the in-house server the services provided by ILS will not be available, and 1. There will be a constant need of keeping the server up and running by client's in-house staff (24X7 monitoring). 2. Security – firewall, OS patch management, virus control, and physical and logical security has to be managed by in-house staff of client which must have that in-house expertise. 3. Internet link to be provisioned for all external users to use the application and that also have to up and running and monitored 24X7. 4. No uptime guarantee can be taken by client on this.
Cost-Effective	Pay only for what you use, as you use it,	Upfront investment may be required for

	with no up-front cost of buying hardware, software or bandwidth or storages. As the business transactions grows the cloud grows, the operations, management and hardware costs will shrink, and savings will be passed onto client.	provisioning a data center/server room, UPS, Air conditioning of data center/server room. Installation of firewall, IDS, antivirus etc.
Dependability	Client can utilize a battle-tested, web-scale infrastructure that handles whatever is thrown at it. The ILS-Amazon cloud is distributed, secure and resilient, giving client reliability and massive scale.	A single physical server with no redundancies and no backend hardware SLA's. No resilient network infrastructure – internet connectivity may break. No resilient security infrastructure.
Flexible	If the user base of acceptability and usage of the application suddenly increases going forward, client can control the server resources they consume and fit them into the application need as and when required. The cloud offers inherent flexibility of scale-up or scale down. Service on demand and the ability to scale up or down as needed, instantly. Access to services and applications from almost any end point	If the user base increases new servers/ resources needs to be bought and deployed, which is neither agile nor cost effective.
Information Security	Cloud uses multiple layers of operational and physical security to ensure the integrity and safety of your data. Physical Security is fully maintained at the data centers. Environmental Safeguards are taken care of such as Fire Detection and Suppression, redundant power, Climate and Temperature control. Network security is fully managed against may security attacks. Policies and procedures around information security.	At client's in-house server location the physical security may not be appropriate compared to cloud infrastructure. No data center level environment safeguards can be taken care of. Network security is week; just firewall is present which cannot deal with all the security attacks. Since client is not a data center or information security centric origination, there may not be any policies and procedures defined or implemented at client site.
Service Level Agreements	The hosting services provided by ILS is a SLA bound and ILS makes sure that the server, application and network all are	In this case ILS is able to provide only the application related SLA. No hardware, network, internet other local

	available more than 99.5% of the time. Failing which ILS can take a hit on the billing, the contract will have an SLA in terms of: Uptime: Availability of application to users. Response Time: Time required by ILS to respond to a problem or complain. Resolution Time: Time required by ILS to resolve a problem.	infrastructure can be covered in the SLA posing the risk of downtimes to the application

Conclusion

There is not a single pro for having an infrastructure in-house if it is compared with the cloud infrastructure apart from the fact that client can save some Opex by doing so. This can be managed through working out a TCO but assigning value to cloud services can be a complex process because there are a number of options available, with many factors that determine whether they are viable or not for your particular business needs. Some cloud options make a lot of sense for busy enterprises, while others may not deliver measurable value. That said, there are still metrics and considerations that can help determine cloud TCO versus a traditional in-house option.

The clear advantages of cloud hosting services include the following:

1) Service on demand and the ability to scale up or down as needed, instantly.
2) Access to services and applications from almost any end point.
Infrastructure abstraction: Applications are not locked into devices or locations.

3) Virtually infinite performance and capacity, regardless of scale.
4) Consistent service-level characteristics, regardless of client load.
5) Pay-as-you-go usage model: You pay for only what you use, without any up-front investment costs.

Each of these elements offers a measurable value when compared with traditional data center-based solutions. The ability to scale, the reduction of up-front costs and the pay-as-you-go model reduce TCO significantly and offer a fast return on investment, simply because the initial investment is minimal.

With ILS Amazon partnership, client can take advantage of Amazon.com's global computing infrastructure that is the backbone of Amazon.com's multi-billion retail business and transactional enterprise that's scalable, reliable, and secure distributed computing infrastructure has been honed for over a decade.