

Is Cloud Right for Me? – Navigating the IT Infrastructure Landscape

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As IT executives evaluate the myriad of infrastructure options available, they often fail to consider a number of factors that may sway their decision. Read on as Liberty explores our approach to evaluating infrastructure migration.

Overview

Advertising for cloud platforms has become ubiquitous in airports, on billboards, in magazines—just about anywhere technology leaders' eyes might wander. These ads pluck at the question of the moment for those in charge of a company's IT: should I be moving everything to the cloud?

But this is often the wrong question, IT leaders should really be asking, "What is/are the correct hosting options for my business?" Cloud platforms such as Amazon Web Services and Microsoft's Azure have gained millions of denizens for good reason, but they're often only part of the best solution for an enterprise.

As your organization contemplates an IT infrastructure migration, consider the following to make a more informed decision.

A Full Spectrum of Options

While "cloud" is often the answer many technology organizations settle on, there's a larger spectrum of infrastructure hosting options available, from

Amazon Web Services (AWS) and Azure, to Software as a Service (SaaS)-based solutions such as Salesforce and Workday.

To confuse things further still, the debate between public and private cloud adds another layer of complexity on how your hardware, applications, and data will be hosted.

The easiest way to understand the ever-increasing number of hosting options is to consider what you'd like to own and manage versus what the provider you're paying will own and manage. At the far left of the spectrum—the side where you take on all responsibilities—you are responsible for owning and managing everything from real estate to server hardware to fire suppression systems in a server room. On the other end of the spectrum, you pay a service fee for a provider to own and manage all aspects of the IT infrastructure (including the application) and you simply use the application as a service.

As you navigate your decision tree on this, consider the following:

- **Hardware** – If your organization is running mainframe or out-of-date hardware as a requirement for legacy software, it may preclude public cloud options altogether
- **Utilization** – How well your current infrastructure is utilized will often determine the amount of savings you may achieve by using a cloud option. Lower utilizations will translate to more benefits from public cloud infrastructure

- **Seasonality/Usage Spikes** – Organizations that have seasonal or erratic usage spikes on their platforms can leverage cloud autoscaling technology to pay only for what is used during those spikes, rather than bearing the costs of that upper limit year round
- **Custom vs. Packaged Software** – Packaged SaaS offers zero maintenance costs with virtually zero downtime. Custom software does not offer the same efficiencies, but can be a good candidate for Infrastructure or Platform as a Service (IaaS, PaaS) platforms
- **Business Continuity** – Often a good way to think about this is how much revenue would be lost given any downtime; the bigger the number, the more imperative a smooth solution be in place. Frame this in the context of how well prepared your organization is today versus how well it would be prepared with an outsourced solution
- **Capex vs. Opex** – How much Capex your IT organization has at its disposal is a factor when considering how far to the left your organization can go. Less Capex will push the decision making further to the right on the spectrum and also drive Opex upwards

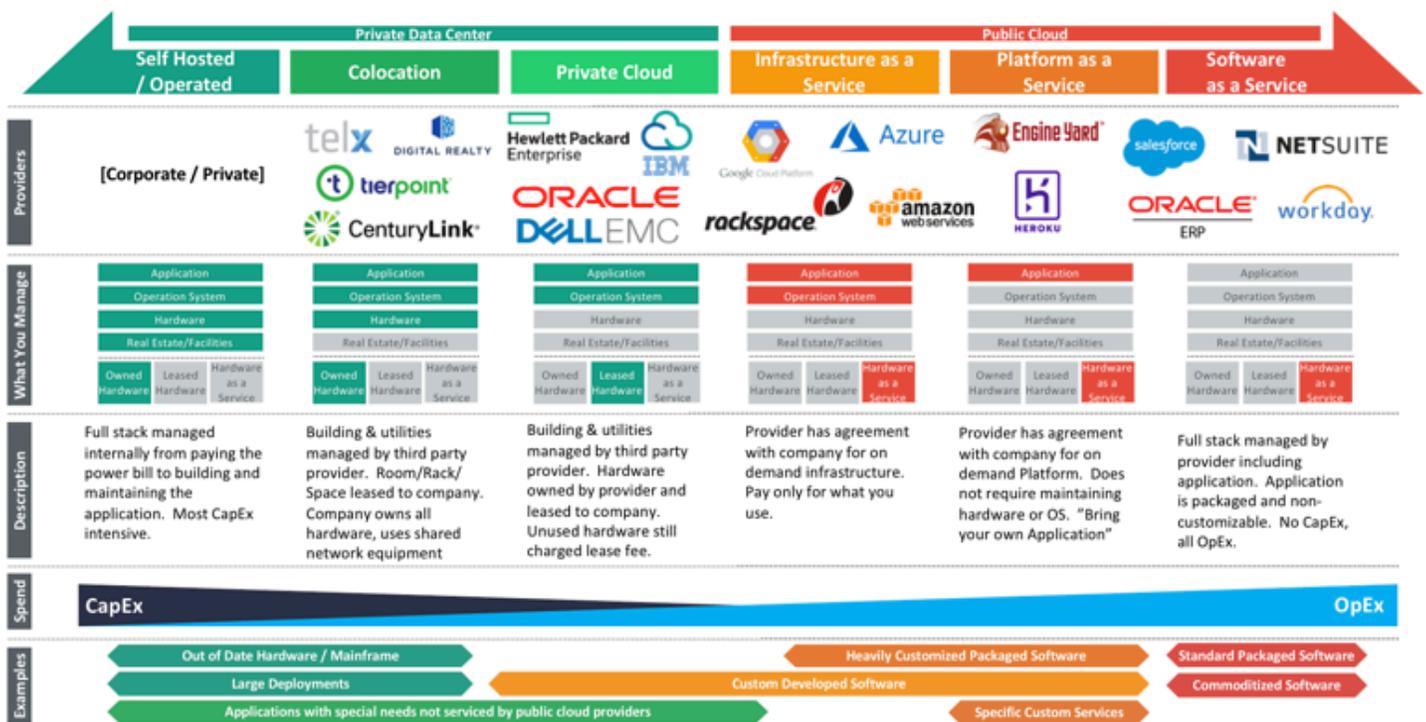
A Hybrid Approach is Usually Best

As organizations evaluate their options, most come to the realization that being at the extreme of either side isn't usually the best option as it will limit effectiveness and increase cost. A hybrid approach will usually yield a more robust array of applications and IT infrastructure that will better support the business.

As an example, commoditized applications or services (those that are ubiquitous and are commonly used across many organizations with little customization, e.g. email, HR, payroll) usually fit best in a SaaS model, while software requiring extensive customization or frequent changes typically work better in an IaaS or PaaS model. Older, highly customized software may have to be hosted on premise or in a co-located data center because cloud providers typically don't offer older technology stacks. These solutions can co-exist within the same IT organization with relative ease.

Key elements to keep in mind as you develop a perspective on a hybrid solution:

- Commoditized applications are usually best served as SaaS applications (e.g. Microsoft Office 365)



- Packaged applications with little to no customization also lend themselves well to SaaS
- Heavily customized packaged applications are better suited to a PaaS or IaaS model that allow for more customization and control, but require more “care and feeding” than the fully hands-off SaaS model
- Keep in mind limiting options, such as hardware and software requirements (e.g. DB2 or IBM mainframe), which will restrict possibilities
- While a hybrid solution is usually best, but be mindful of the number of platforms/solutions you are selecting. Too much fragmentation can lead to complexities in managing your IT portfolio and increased cost
- Consider performance requirements such as latency and uptime and ensure that the provider can meet the requisite needs
- Ensure the solution meets any unique business and/or client constraints, such as requiring applications or services to be hosted within the confines of certain geographic regions
- Evaluate any special compliance requirements including government regulations such as HIPAA or GDPR

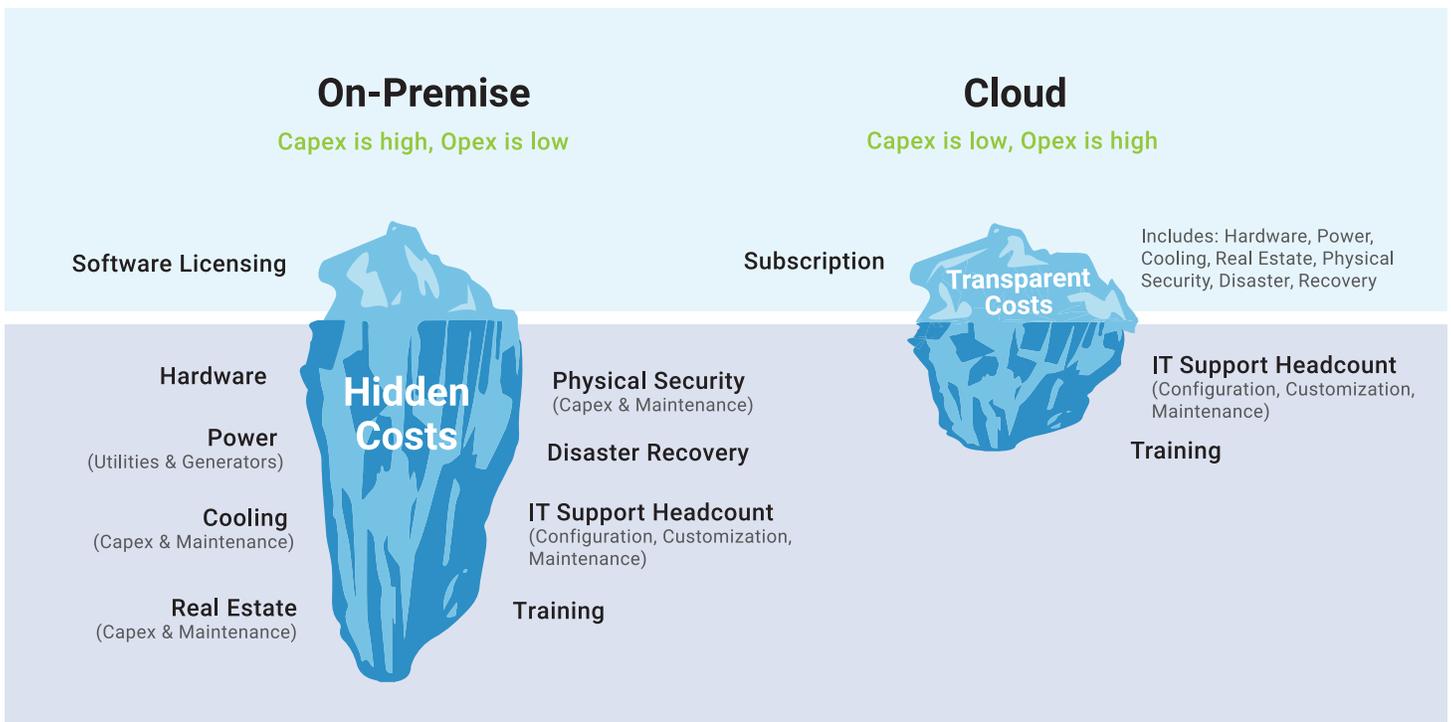
The Cost Factor

Frequently, when organizations begin researching options, they are dissuaded by the ongoing cost associated with running infrastructure in the cloud citing the fact that it is significantly more expensive than their current solution.

However, these organizations often fail to account for all of the costs of maintaining and operating their own infrastructure, as well as the differences in the quality of hosting between their existing (often on premise) solution and the various cloud options.

As all of the cost factors are added, three key observations usually emerge:

- **“Apples to Oranges”** - Organizations usually realize that their solution is not up to par with that of a production grade cloud datacenter. Servers are often older and nearing end of life, storage of IT hardware is in an IT closet, rather than a production grade facility with the proper power and internet failover, and most frequently, disaster recovery is limited or non-existent.
- **Shift of Capex to Opex** – Significant capital investments are required in order to operate a production grade IT environment.



As organizations move from on-premise IT to cloud hosted IT, the accounting shifts from significant capital outlays with lower ongoing opex to a full opex model requiring limited to no capex. Over time, the financial planning of the opex model is more predictable than attempting to predict when and how much capex will be required

- **Risk** – Many organizations that host their own IT infrastructure do so without the proper security, infrastructure and business continuity mechanisms in place. Utilizing outsourced infrastructure often mitigates many of these risks, especially the further right you move on the spectrum

Organizational Considerations

Once an organization has developed a strategy and is ready to undertake a cloud migration, it should consider whether it has the resources and the knowledge necessary to execute its vision. A different skillset is usually required to successfully execute an IT transition and hiring new resources or a firm with experience in this area is usually beneficial and will end up saving time and money in the long run. Finally, ongoing maintenance should be contemplated to ensure that the organization has the necessary skillsets to maintain its new infrastructure. In a world of cloud and SaaS, engineers used to maintaining hardware, VMs, and network elements can quickly get lost.

Organizational considerations to maintain a cloud environment:

- Ensure the proper cloud engineering skillsets are present within your organization; each provider environment has its own lingo and configurations, requiring experienced resources to properly set up and maintain the infrastructure
- Leverage the vast learning networks that are often free with your subscriptions, including how-to's, FAQs and online training
- Consider leveraging a partner to augment internal staff that can educate internal resources over time
- Monitor use and utilization of outsourced platforms. Most outsourced providers are shifting to a pay per use model, and if teams are not returning unused resources, costs will quickly get out of hand
- Don't forget a support agreement; many vendors are offering support contracts that can act as a tier 2 support when internal resources get stuck
- Don't forget vendor/contract management. Ensuring the proper controls are in place will help keep pricing is kept under control

Contemplating an IT infrastructure migration is a significant initiative with far reaching implications, both into the business it is supporting as well as the future operations of the IT organization itself. As with any large undertaking, a sound strategy and planning must sit at the foundation in order to ensure success. If you'd like to discuss an application/hosting strategy for your organization, please reach out to us. We'd be happy to help.



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