YOUR POWER STRATEGY EXPERTS

Which Datacenter Model is Right For You?

INDUSTRY BRIEF | September 2016

EXECUTIVE SUMMARY

State of the Industry

The options for where to collect, process, and serve information have grown beyond building your own datacenter. Today's CxO can choose from public cloud, private cloud, hybrid cloud, and colocation as alternatives to the challenges of building and managing their own datacenters.

Key considerations for each datacenter option:

- Public cloud for speed and scale
- Private cloud for security
- Hybrid cloud for flexibility
- Colocation for efficiency and proximity

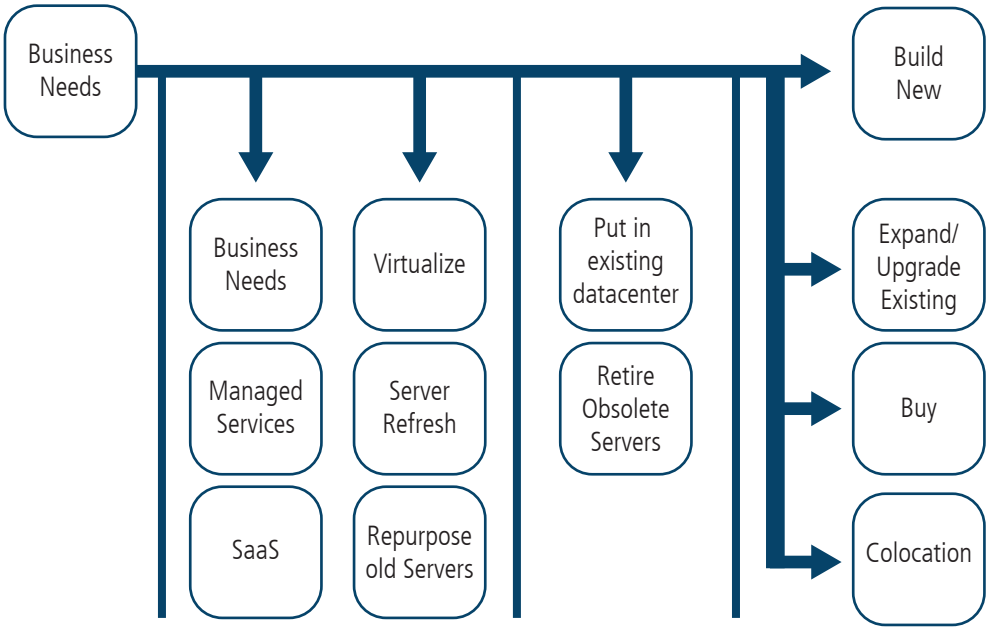
See Figure 1 for datacenter options and decisions

INTRODUCTION

There was a time when no matter what business you were in, you were likely destined to join the club of datacenter builders, owners, and operators. Companies involved in drilling and refining oil, retailing, pharmaceuticals, food processing, insurance, banking, and every other industry would all build and operate their own datacenters.

In today's market, the CxO has a wealth of options to choose from for collecting, processing, and serving the data that brings revenue to the company. Whether they stick with the tried and true approach of building a datacenter themselves, or they abandon ownership of physical infrastructure altogether and move all of their IT processing to the cloud, there are a multitude of decisions to be made on how to best deliver the benefits of IT to an organization, and choosing a datacenter strategy is one of the most critical of those decisions.

This industry brief outlines the differences between public cloud, private cloud, hybrid cloud, and colocation facilities, and the advantages for choosing each.



source: 451 Research

Figure 1 - Recreated from 451 Research Original

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AMAZON WEB SERVICES

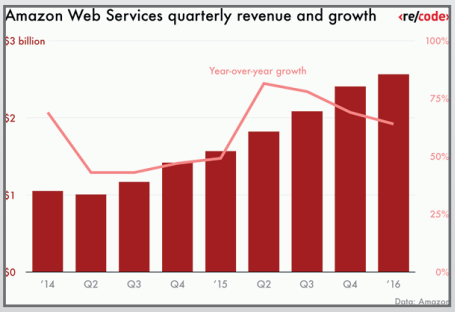

Figure 2 Amazon Web Services Revenue Growth - <re/code>

Public Cloud Advantages

- Fast, flexible, scalable
- Resilient
- IT without CAPEX
- IT staff work on revenue projects, not maintaining and repairing equipment
- Higher energy efficiency than most "build your own" datacenters

Top Competitors

- Microsoft
- Google
- IBM / Softlayer
- Rackspace

IS YOUR FUTURE CLOUDY?

NIST defines cloud computing as having five characteristics: on demand self-service; broad network access; resource pooling; rapid elasticity or expansion and measured service.[1] Gartner says that for a resource to be considered "cloud" it must be provisioned in minutes and billed by the hour (or even more granularly than that).

The Public Option

With public cloud services, the cloud provider supplies and manages your full hardware infrastructure, including servers, storage, and network elements, along with much of the software stack, such as hypervisors, operating systems, and containers. This eliminates your CAPEX costs and cuts OPEX costs, since the provider's staff, not your IT staff, are responsible for day-to-day administration, routine maintenance, troubleshooting, and problem resolution.[2]

According to Gartner, "by 2020 they [Gartner] expect that a corporate 'no-cloud' policy will be as rare as a 'no internet' policy is today. Cloud-first, and even cloud-only, is replacing the defensive no-cloud stance that dominated many large companies in recent years. Today most IT technology innovation is cloud-centric, with the stated intent of retrofitting the technology to on-premises."[3]

Foremost among the public cloud providers is Amazon Web Services. Amazon's cloud revenues dominate the industry, eclipsing that of Google, Microsoft, and IBM Softlayer. This is attributed to the ease of deployment of virtual machines into the Amazon infrastructure, and the reliability of that infrastructure to provide timely delivery of results. For example, Netflix relies heavily on Amazon for storing and delivering their streaming video services to consumers.

1- http://www.networkworld.com/article/2159885/cloud-computing/gartner--5-things-a-private-cloud-is-not.html
2- Forbes.com.sungardas
3- http://www.gartner.com/newsroom/id/3354117

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PRIVATE CLOUD

Advantages

- Scalability
- Self-service
- Higher security and privacy
- More control
- Cost and energy efficiency
- Improved reliability
- Cloud Bursting
- Chargeback tools for tracking usage

Disadvantages

- On premises IT responsible for managing the private cloud
- Same staffing, management, maintenance, and capital expense as traditional data center ownership
- Costs to implement virtualization, cloud software, and cloud management tools

See www.interoute.com/cloud-article/what-private-cloud for more details

Private Cloud

Many people associate private cloud with being in an organization's datacenter, whereas public cloud is from a third-party service provider.

Numerous vendors will sell off-premise private clouds, meaning the resources are dedicated to a single customer, with no multi-tenant, shared pooling of resources among various customers. "Private cloud computing is defined by privacy, not location, ownership or management responsibility," Gartner's Tom Bittman says.[4]

Private cloud is a type of cloud computing that delivers similar advantages to public cloud, but through a proprietary architecture. Unlike public clouds, which deliver services to multiple organizations, a private cloud is dedicated to a single organization.[5]

A private cloud provides the same basic benefits of public cloud. These include self-service and scalability; multi-tenancy; the ability to provision machines; changing computing resources on-demand; and creating multiple machines for complex computing jobs, such as big data. Chargeback tools track computing usage, and business units pay only for the resources they use.

Hybrid Cloud

Hybrid cloud is the melding of both private and public cloud options, with the flexibility to move IT loads from the private to the public when rapid scale up is required. Gartner expects that the "not everything will be cloud-based…Hybrid will be the most common usage of the cloud – but this will require the public cloud to be part of the overall strategy."

4- http://www.networkworld.com/article/2159885/cloud-computing/gartner--5-things-a-private-cloud-is-not.html
5- http://searchcloudcomputing.techtarget.com/definition/private-cloud
6- http://www.gartner.com/newsroom/id/3354117

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EQUINIX FOR COLOCATION

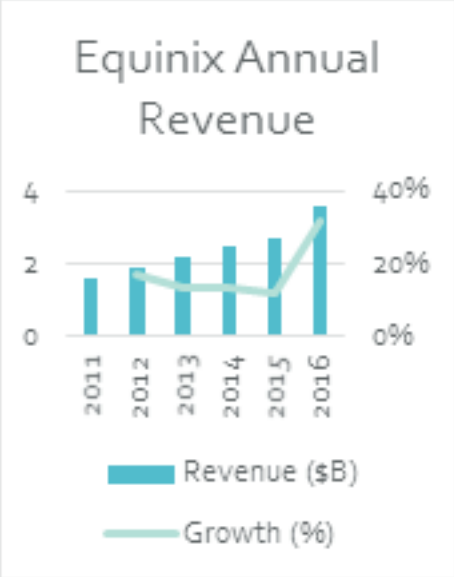

Figure 3 - http://www.recode.net/2016/4/28/11586526/aws-cloud-revenue-growth

Advantages of Colocation

- Energy efficiency
- Reduced CAPEX
- Control of IT gear
- Easier compliance on HIPAA, PCI DSS and other security oriented regulations

Competitors

- Digital Realty Trust
- IO
- QTS
- CyrusOne
- CoreSite
- DuPont Fabros Technology

COLOCATION – SO ATTRACTIVE EVEN THE CLOUD PROVIDERS USE IT

With colocation, companies own, use, and maintain their own equipment, but share the cost of power, cooling, communications, and data center floor space with other tenants. Colocation is a good choice for you if you need complete control over your equipment. This might be the case if you need that level of control to satisfy regulatory or data protection requirements based on your industry, for example.

For organizations with robust IT infrastructure talent, choosing between colocation and cloud hosting can come down to a true cost and benefits analysis. If you have the talent to maintain your own servers and the budget to purchase your own equipment, colocation may be the right option for you."[7]

"Colocation is quickly becoming the nexus of both cloud and enterprise IT," according to Katie Broderick, a Research Director at 451 Research."[8]

451 Research says "that among the largest colocation providers, Equinix is the market leader with a share of 8.1% in global annualized wholesale and retail colocation revenue. Digital Realty, primarily a wholesale provider, is the second largest supplier in terms of revenue at 5.6% but leads the global market in terms of operational square feet at 7.8%."

Many customers are attracted to colocation for interconnectivity and proximity to their end users. Equinix supports this by having Amazon Web Services Direct Connect Services present in 11 Equinix facilities around the world.[9]

According to the company, 90% of global Internet traffic passes through an Equinix data center, and 100% of global Tier 1 routes are served by the Platform Equinix network.

CONCLUSION

Today's CxO has more options than ever before when deciding where to collect, process, and serve data. The IT market seems to be deciding that public cloud and colocation are the best options for fulfilling their datacenter needs, as evidenced by the growth of Amazon Web Services and Equinix in the colocation space.

7- https://www.atlantech.net/blog/colocation-vs.-cloud-services-which-is-best
8- https://451research.com/images/Marketing/press_releases/03.31.16_DCKB_Q1_PR_FINAL.pdf
9- http://www.equinix.com/partners/amazon-web-services/

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