How to Cloudify Your Data Center

EXECUTIVE OPINION

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Executive Summary

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Cloudifying means selecting the best features of the cloud such as flexibility, SLAs, cost transparency and security and applying them to physical facility and IT assets. Today, hybrid cloud is becoming multi-cloud and multi-cloud driven data center strategies are increasingly common across on-premise, commercial DC cloud on ramps, hybrid, private and public cloud platforms.

At every level of the IT stack, discussions surrounding operations and optimisation of physical infrastructure management or continuous delivery of applications using Dev Ops, microservices and containers, the objective is the same:

'How can I create an environment that provides the same economies and service levels achieved by FAAGM (Facebook, Amazon, Apple, Google, Microsoft) and the other web giants? How can I operate different platforms as a cloud like service?'

...this requires a holistic approach and unless there is a rethinking of how to manage the infrastructure and IT assets, the road ahead is likely to be lumpy, at best.

Within the enterprise, line of business leaders are delighted that we've entered the era of infinite capacity availability across multiple platforms, (owned and operated, commercial and cloud). For many users the instant availability of enterprise class IT has changed expectations of acceptable service levels from internal IT.

A multi cloud approach is needed to manage these changing demands. However, this requires a holistic approach and unless there is a rethinking of how to manage the infrastructure and IT assets, the road ahead is likely to be lumpy, at best.

Cloudify First, Cloud Second

Spending patterns among enterprises reflect the 'cloud first' approach for many new and traditional workloads. For example, the Goldman Sachs 2018 mid-year report on IT spending plans revealed CIOs will almost double workloads in the public cloud to 34% by the end of 2019 while spending on private cloud will be steady. It said companies were becoming increasingly aware of the challenges. "We remain bullish on the overall public cloud opportunity, we see an increasing number of companies confronting the realities and challenges of migrating workloads and re-platforming apps," the report said.

Another report said firms expect to increase cloud services spending even in the face of integration issues, costs and rising security concerns around moving data around different platforms. (Data Center Cloud Execution for the CIO).

To some the cloudification process may require a fundamental rethinking of how data center and IT function are viewed within business.

Today close to all firms apply a multi cloud strategy definition to themselves which includes use of 'multiple public and private clouds for different workloads, using cloud services in addition to on-premise infrastructure, or using multiple public clouds simultaneously.'

The number of clouds in use by the same organization is expected to continue to rise to more than 10 within a couple of years. *(Source: IHS Markit Ltd)*

What is Cloudify

The challenges of the multi cloud approach include usage, costs, and security.

To cloudify physical data center assets and related IT, means managing and maintaining the shortest distance between enterprise and cloud/s. It means achieving visibility of all infrastructure both physical and logical.

In order to cloudify, operators require a range of perspectives including insight into current usage, analysis of historic use, utilisation analysis, reliable capacity planning and forecasting based on predictive analytics.

This provides the foundation to enable a data center and IT function to understand its cost of goods on everything from Capex on owned physical assets to visibility of ongoing Opex for third party provided colo, private and public cloud services.

However, operators face many challenges and for some this cloudification process may require a fundamental rethinking of how the data center and IT function are viewed within the business. This rethinking means moving from being seen as a cost center line item on the balance sheet to that of a services provider with transparent costs and charges.

An opportunity exists to grasp this change across the entire engineering stack using agile approaches and embracing automation.

To cloudify means architectures will continue to evolve and key to successful cloudification is to avoid being locked in to another five-year outsourcing deal.

What is agile? What began as a new approach to software development is slowly permeating the rest of IT and the data center. Some of this is in direct response to the new software environment where applications are delivered in continuous iteration which in turn means physical IT must be equally agile in availability, performance and reliability.

There are also new demands to shift workloads between different cloud platforms and back and forth between different physical locations. All of this amid the pressure to optimise operations and maximise utilisation.

This is not easy in an environment which is often tethered to legacy hardware, processes and workflows. However, an approach based on methodologies which show benefits based on key metrics and measure both cost and value will free the data center operation from the traditional cost accountability approach beloved of finance departments.

Cloudifying provides the opportunity to think and act like a business and be customer driven.

Cloudifying is not about Technology but is the Foundation of the DC and IT Organization Transformation.

Cloudifying the data center can begin with automation. Operators must examine where optimisation can be driven by automation. The potential eradication of manual processes and low-level tasks must be embraced.

Automation driven by artificial intelligence and machine learning will eradicate many of the current tasks within the data center (Shifting Fundamentals of Data Center Management) and workers must be willing to upskill to new higher value tasks.

As well as assessing the available technologies operations management will need to create new approaches and new team structures. This may require reskilling the workforce and applying new levels of flexibility. This may mean restructuring teams, retraining staff and creation and environment where staff development is continuous and new practices and methods are continuously applied. The goal is to establish an environment where individuals are invested in the change.

Transition to cloudifying also requires new management approaches – the availability of enterprise class public cloud services means management must show a willingness to use the cloud where appropriate for best value. If a cloud provider has the right product then the question should be: 'Why not?'

However, this must be done with strategic goals in mind which encompass all platforms.

Cloudified outsourcing means creating the right partnerships to achieve the best service level – not always the cheapest – based on agile engagement. To cloudify means accepting that both internally and externally architectures will continue to evolve and key to successful cloudification is to avoid being locked in to another five-year outsourcing deal.

Some commentators say we are approaching the death of the data center. However more likely is that there will be no more single entity data centers or single platform strategies. The end of the single platform requires a letting go of traditional physical management practices to allow workloads to shift between owned, colo, private, hybrid and public.

This means:

- Cloudifying the data center
- Cloudify in the context of physical security, utilities and BMS
- Cloudify – existing IT hardware infrastructure to make it agile
- Outsource when and what you want

Cloudify: the Smart Approach to Sustainable Future Proofing of the IT Data Center Function.

There is no overnight success in cloudification of a data center. However, by setting priorities and showing what benefits can be delivered it can be achieved with objectives and outcomes tracked along the way.

Cloudifying provides the opportunity to start small, to fail fast at little or no loss (Data Center Physical Infrastructure Operations as a Cloud Service is Here). It also provides an approach which when it works can create a platform to fundamentally shift the data center and IT function to that of a business minded operation which is based on flexible and continuous improvement.

It is time to cloudify the data center over on-prem, in multi-tenant DCs and across multiple clouds.

About ServerFarm

ServerFarm is a global expert in data center real estate and operations. Our mission is to maximize data center and IT infrastructure efficiencies by providing a holistic approach to building, integrating and managing data center environment and IT deployments. Through our innovative InCommand Services, we provide customers with staffing, training, workflows and a data center portal that provide unprecedented process consistency, knowledge management, and KPIs to regulate IT infrastructure.

With more than 17 years in the industry, ServerFarm delivers complete data center oversight from facility to IT infrastructure management, which enables our customers to concentrate on growing their businesses.

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