The Required Management for a Multicloud Model

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In partnership with Orange Cloud for Business and Microsoft

EXECUTIVE SNAPSHOT

FIGURE 1

Summary of Information and Actions to Take Into Account

The simultaneous use of several cloud services is common in IT management worldwide. However, it is less common to co-manage, connect, measure, and control these services. IDC believes that a multicloud environment depends on:
- Sharing data via different models of use,
- Making at least two external cloud services of the same type available to users, in a manner both orchestrated and in compliance with regulations and governance.

Principle Multicloud Information

- A multicloud approach with optimal maturity has several advantages, such as cost reductions for lock-in and usage.
- Multicloud management has its challenges, particularly those linked to complexity, network latency and investment in software tools.
- There are several multicloud procedures, and the range of tools is varied. They include IT service management tools (ITSM), system orchestration, open source clustering and Docker containers
- If the integration of the multicloud method involves more advanced organisations, a minimum of management and cloud experience tracking for users will be highly beneficial.

Recommended Actions

- Start with cost and usage visibility. Organisations should log all the cloud services that they currently use and analyse their costs and security levels before envisaging multiple strategies.
- Connect them to SaaS applications. External SaaS applications are often unmanaged and not connected to core systems. Application management and API management are two domains which should be dealt with in priority.
- Train or recruit "general" IT technicians. During the construction of a multicloud stack, you will need cloud specialists in each platform, but also a team of IT professionals who have a solid understanding of the global strategy and who can communicate with users and translate their needs into specialize domains.
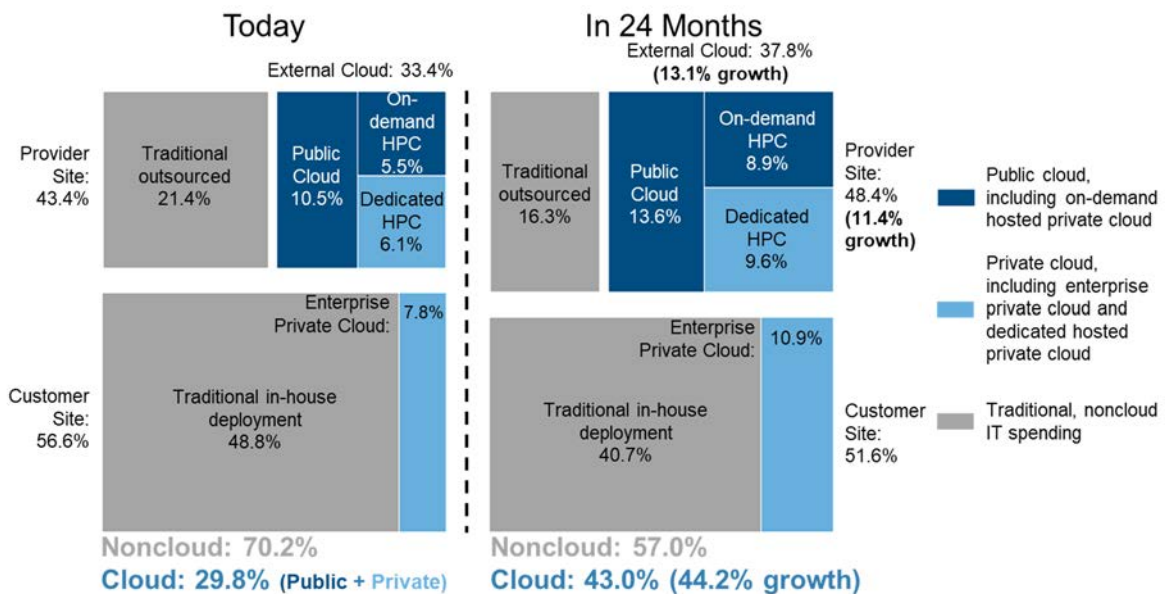
Source: IDC, 2018

Synopsis of Investment Priorities

The cloud model, whether private or public, is emerging as a leading consumption model for IT resources. It will allow the development of new digital initiatives and the renewal of current systems. IDC figures clearly confirm this trend – IDC forecasts that worldwide spending in the cloud will continue to increase by nearly 22% per year until 2020, while the market as a whole will only increase by 3.3%.

This evolution is also confirmed for the most advanced organisations, which are intensifying their cloud usage. IDC has analysed the percentage of the total annual budget – including servers, applications, middle ware, storage, network, IT personnel and services – from 11,350 companies worldwide that are currently using the cloud at an advanced level, according to each of the procurement/management models. The image below clearly illustrates the transition made by the Western European organisations from traditional models to cloud models, with, on average, a transfer of 14 budget points from the traditional model to the cloud model.

FIGURE 2

Large Shift in IT Spend to Provider Site Clouds Over Next 2 Years

HPC = Hosted Private Cloud

Source: IDC, 2018

Elsewhere, the digital architecture of the private and public organisations is de facto an architecture that implements distinct models: public cloud, private cloud (hosted or not), traditional IT (hosted or not).

From Multiple Distinct Cloud Services Management to Engineered Multicloud Management

There is a difference between having multiple distinct cloud services, often in silos (SaaS productivity applications, HR or accounts/finance, private cloud infrastructure or in IaaS for tests and development, etc.), and having an engineered multicloud management that enables a unified vision and coherent engineering of environments, as well as data and workload transfer, if necessary, between the various models.

IDC believes that the multicloud approach can be described as the next step, after the hybrid cloud. Just as for the hybrid cloud, multicloud architectures involve:

- A multitude of public and private cloud usage models
- A certain form of data exchange (from the high-level API connection to low-level storage transfer) between various environments

However, in addition to this, the multicloud approach brings two supplementary complements along with it. In a multicloud scenario, the services and IT products buyer, regardless of their job or IT services, must have:

- A choice between two or more simultaneous external services of the same type (for example, two different IaaS services providing virtual machines)
- Complete integration and management capacities for service levels to allow the governance, training, and selection of compliance policies across external (and internal) clouds
- The model must also be sufficiently open to support the addition (or deletion) of other clouds (specialised or community clouds...)

The hybrid cloud represented the creation of ad hoc bridges between various cloud environments. The multicloud approach consists of defining a trajectory, measuring costs and supplying users with the expected service level agreements (SLA).

It should also be noted that the multicloud approach does not necessarily represent the dynamic shift in workloads (VMs/containers) from one environment to another. It is one of the usage scenarios, but the most common scenarios will consist of management and engineering environments which are, mostly, static, integrating into certain data exchange scenarios and interactions between them via API or other protocols.

Why Companies Should Integrate Multicloud Approaches

The Advantages of Implementing a Multicloud Approach

There are several benefits to using a multicloud approach:

- Lock-in risk reduction with a mega-platform provider
- Use of the environment that best suits the functional criteria and services (SLA) required
- Opex reduction for a given service by allowing the selection of the most cost-effective option, before using a workload
- Capacity to satisfy the data location and compliance (in particular with the PRGD) requirements thanks to recording activities (data traceability) and a broader services catalogue
- Heightened control of "Shadow IT" (purchase of IT solutions that are not visible to the CIO) thanks to the centralisation of resource access while conserving the freedom of choice (if needed) of users
- The ability to select and combine superior-level services (for example, machine learning-as-a-services, IoT-as-a-service, etc.) in a "best of breed" approach
- The ability to compare internal IT services functioning costs (for example, virtual machines delivered from the private cloud on-site) and external cloud services (for example, Azure IaaS virtual machines).
- TTM (time to market) reduction: provisioning of services as close as possible to the site of consumption.

The Challenges Associated With the Multicloud Approach

While the benefits are numerous, there is a certain number of challenges need to be tackled in order to fully take advantage of the multicloud approach. The potential challenges that we have been able to identify are:

- Complexity in regards to the management of more providers
- Potential need for, and consequent cost of, an externally managed service provider
- Lack of skills in specific domains and especially in cloud management
- Possible integration costs associated with the development of personalised software
- Supplementary investment required in management software
- Security risks associated with cross-cloud data transfer (only for dynamic scenarios)
- Publisher licence policies (portability)
- Complexity and costs associated with potential encrypting
- Network latency and/or bandwidth (particularly in dynamic scenarios)

Comparison Between a Multicloud Approach and a Strategy From a Hyperscale-Type Cloud Provider

The multicloud approach presents major advantages in comparison to an approach without any coordination or an approach without any precise cloud strategy. Nevertheless, do the benefits remain the same, even when we compare the multicloud approach with a massive workload standardisation strategy with a single, hyperscale-type cloud provider, whether it be for IaaS or SaaS?

At a first glance, the standardisation with a single external provider has its advantages:

- The tools and security practices are easier to manage on a single platform
- Management tools and processes are simpler

- Less investment is required to integrate lower layers
- The required programming and IT production skills are more homogeneous due to the fact of it being a single ecosystem
- Network latency and connectivity problems are minimised
- The tools offered by the hyperscale provider can be used directly

However, this approach also has its disadvantages:

- The development environment is less diverse, reducing the possibility for creation and the attractiveness for certain talents
- Dependence on a single provider in terms of prices and the technology roadmap
- Fewer options in terms of data localisation (not all countries are covered by hyperscalers)
- Heightened risks in the event of incidents regarding a redundant multicloud solution
- Fewer options for compliance branding

Furthermore, IDC believes that even companies that standardise with a single external IaaS and PaaS hyperscaler cannot avoid the following two problems:

- The SaaS application required by any organisation (for example HR follow-ups, productivity follow-up, email, back-end core applications, finances, etc.) are highly unlikely to all be available from the same cloud provider.
- Certain core onsite resources, whether it be in the traditional company systems or in the private clouds, will probably remain within the IT heritage of the company for the following 10 years.

Both of the above predictions necessitate an investment in a minimum of management and software surveillance, even if it isn't a full-blown multicloud approach.

A New Digital Environment

Several major trends have an impact on the functioning of companies and IT management:

- The role of digital in the activity of organisations entails that the CIO is transformed into a services centre. They may choose to produce their services, but in the long-term we have observed an increase of returns to external services at the detriment of those produced internally, which are concentrated on critical environments or core professions.

- This evolution of the role of the CIO is also accompanied by new offers available on the market, leading to the infrastructure becoming a commodity, manipulated like a code across API. The developed applications that use such infrastructure (Native Cloud Applications) become self-resilient and automate several processes.

- New steps will be taken. We can cite IoT as an example, in automobiles, industry, insurance, distribution... which will entail significantly large volumes and Native Cloud Applications. These applications will nevertheless be interfaced with the legacy which, even if the cloud is significantly developed, will last for several years.

These trends lead to the appearance of needs for the provision of a transparent services portal (in regards to their execution platform) offering a wide choice of services. This portal for services must not only allow responses to be offered for the management of existing services, but must also offer sufficient services to limit the IT shadow that remains extremely present. Finally, this services approach should allow management, control and access propagation to be unified, on all layers, from the networks (LAN, WAN, VPN) to the services catalogue.

Once these foundations have been established, new mastered subjects should be positioned and integrated into cloud approaches. We can also cite among these subjects the ITSM, patch management, OS or middleware management and a general means of services standardisation.

The Offer Developed by Orange Cloud for Business (OCB) and Microsoft

Orange Cloud for Business (OCB) has various offers depending on usage models:

- Offers for public cloud (Flexible Engine, based on Openstack [Open Source technology]) supporting as many traditional applications as Native Cloud Applications, oriented microservices. Flexible Engine is based on the achievements issued from CloudWatt integration.

- Virtual private cloud offers (Flexible Computing Advanced) intended both for corporate clients and for IT professionals seeking to offer their own services.

- Private cloud and multicloud offers intended for large accounts with significant needs in terms of capacity.

It is on this last offer that OCB integrates Microsoft Azure within a customer environment while respecting its standards (clustering networks/development/production/internal access/external access...), security, identification (IAM) and while allowing users to make the most of the wealth of the Microsoft platform in a tightly controlled environment.

Orange also intervenes as an industrial services usage manager and aggregator with high added value in respect of the previously defined commitments.

This approach necessitates particular skills, both in the technical aspect and the aspect of the CIO accompaniment:

- The backbone of a multicloud environment is fundamentally based on a fine and transparent integration (in regards to users) of network and security aspects, which require particularly refined skills that form the DNA of Orange, as do its consequences such as monitoring, reporting, and billing.
- Once these foundations have been established, Orange accompanies its customers in the implementations of a transversal accompanied services catalogue of commitments and usage in compliance with the requirements of the CIO, especially on essential subjects such as the respect of company rules and legal constraints such as GDPR, applicable as of May 2018.

As for Microsoft, it supplies the raw resource of a large functional wealth which, nonetheless, requires assembly to make end-user services from it. Non-specialist customers can benefit from this vast ecosystem thanks to the expertise lent by OCB in the upstream phases (design & build) or downstream phases (run & OLS) to deliver standardised, managed services.

Standardisation is effectively a key element of the industrialisation and automation of an IT system. It allows significant gains in terms of usage thanks to perfect reproducibility of elementary tasks composing a service, equally reducing support costs while it increases the delivered service quality. However, standardising an environment that is of a heterogeneous nature, such as a multicloud, is a complex process on which OCB has acquired expertise based just as much on internal experience within the Orange Group as on the experience of its numerous customers.

RECOMMENDATIONS FOR COMPANIES

IDC believes that with companies using increasingly mature cloud management, the strategies entailing the management of several external cloud service providers will be recovered. In this context, a contrast will appear between

- A vision driven by the control of multiple IaaS and PaaS cloud services, enabled by a rich and developed stack of multicloud software and accentuated by the need to leverage multiple best in class service providers.
- A vision driven by one, single Iaas and Paas cloud platform provider, influenced by the "natural gravitational effect of the ecosystem" – that is to say, the usage scenarios and availability of the superior-level services of this provider

In Western Europe, IDC believes that the result of these strategic divergences will be specific to each final user organisation. The level of IT costs, the vertical sector, the role of externally managed services providers, software development skills, geographic localisation or technological maturity will all be equal factors that will influence the strategy. Large, cutting-edge companies in technology-driven sectors are a lot more likely to construct rich multicloud stacks than small organisations in sectors where IT and personalised coding (copyright) have less impact on the competition.

IDC provides the following recommendations for IT decision makers (CIO, CDO, Study Director, Production Director) who wish to advance on multicloud approaches and work with offers such as those proposed by OCB and Microsoft:

- Begin by working on **cost visibility** and **the use of your cloud services**. Independent of the final scenario, IDC strongly advises organisations that have not yet done so to create a catalogue of all of the services existing and used in the public cloud, and to conduct an analysis of their costs and security levels (in addition to the cost visibility and use of the private cloud). Several non-invasive tools which assess network traffic towards external clouds are now available. These tools are best used by a small working group who directly stem from IT decision makers.

- First of all, connect the **SaaS applications**. Even the smallest companies use several external SaaS applications. However, these applications are rarely managed or connected to core systems. Application performance and API management are two domains that should be dealt with in priority.

- Involve the **CISO** and **legal services** as soon as possible. If you wish to make the effort to develop a unique strategy adapted to the scale of the company to manage and organise external cloud services, security and legislation should be involved from early on in the process. Obtaining advice from these figures, as well as their approval, for the purchasing of services will allow you to save a lot of time and money.

- If you require a multicloud approach, train or employee individuals with **"general" IT technician** profiles. During the construction of a multicloud stack, you will surely require specialists in each of the software or cloud domains. However, IDC also recommends that you rapidly put together a team of IT professionals, including global strategy, who can communicate with professions requiring specific services on a superior level, as well as being able to advise and accompany them in specialist domains, while also respecting any governance and compliance objectives.

MORE INFORMATION

Related Research

- IDC FutureScape: Worldwide Cloud 2017 Predictions – European Implications (IDC #EMEA42241617, January 2017)
- IDC MaturityScape: Multicloud Management 1.0 (IDC #US42132917, March 2017)
- Industry Development and Models: Effective Multicloud Management Strategies Support Digital Transformation and Business/IT Collaboration (IDC #US41672016, August 2016)

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