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10 Great Practices to Manage Your Multi Cloud Environment

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As the multi-cloud space continues to mature and become a mainstream component of enterprise IT environments, CIOs must have a clear picture of business objectives, constraints and deliverables. It is also necessary to understand that multi-cloud is not a solution to every problem that enterprise IT teams face. Also, since there is no single, all-encompassing approach for all organizations, each company will need to build their own multi-cloud roadmap for their unique business needs.

At the same time, organizations need to follow some best practices, to ensure long term success of their multi-cloud strategy. Here are 10 important practices that enterprises should adhere to while defining, implementing and managing their multi-cloud environment.

Map Workloads to Cloud Services

Mapping workloads is possibly the most critical step in creating a robust multi-cloud strategy. This enables that the right infrastructure components and cloud services are allocated / provisioned to the right business need. It also enables IT teams to define effective SLAs, depending on specific needs around data privacy, availability / uptime, latency, rapid scalability, real-time streaming, batch processing, heavy-duty compute, etc.

Incorporate Hybrid Cloud Concepts

Current conversations around multi-cloud and hybrid cloud concepts have been somewhat disjointed. However, any sustainable multi-cloud strategy needs to consider as many IT delivery models as possible – including public / private clouds, hosting services, DCs, Hyper Converged Infrastructure (HCI) and Hyperscale DCs.

Streamline Vendor Management

The fundamental premise of the multi-cloud concept is that it involves a wide spectrum of technology vendors – for DCs, colocation services, cloud infrastructure, SaaS applications, mobile apps, application development companies, QA / testing teams, SOCs / NOCs and managed service providers. In a multi-cloud set up, vendor management runs the risk of becoming disjointed, often departmentalized, resulting in a loss of control and increased business risks.

Centralize IT Governance

Enterprises need to leverage a strong Cloud Management Platform that enables teams to provision / de-provision cloud services, auto scale (new VMs), orchestrate services, monitor traffic and track performance parameters like latency, availability, etc. While cloud-based applications and cloud services are the easiest to govern using a Cloud Management Platform, an optimized multi-cloud environment would eventually bring on-premise systems, colocated infrastructure and DCs under a common management platform.

Drive Usability and Adoption

As traditional IT environments transform to dynamic multi-cloud ecosystems, organizations will need to put in strong change management initiatives to drive adoption. Also, IT teams must ensure that user behaviours and expectations are met in a fast-changing multi-cloud set up.

Create a Robust Integration Framework

The integration scenario in on-premise setups is complex as it is. In a multi-cloud environment, the complexity further increases due to a number of additional integration points between on-premise systems and data stores with third-party cloud-based applications and services. Integrating applications on the same cloud infrastructure are less complex. However, aggregating data across different cloud platforms and on-premise legacy often requires custom APIs and integration tools.

Benchmark Service Levels

Any organizations, over the years have ended up creating multi-vendor, multi-location IT infrastructure and service relationships, with highly non-standard SLAs. This makes its extremely challenging to provide a uniform set of business services consistently to business stakeholders. While implementing a multi-cloud roadmap, CIOs need to ensure that they have created a single, consistent and benchmarked set of SLAs for all resources (on-premise and cloud). The vendor consolidation step mentioned earlier goes a long way in implementing standard service levels across the enterprise.

Build Consistent Security Policies

Data privacy and security will become a core area of concern in a multi-cloud environment. With a diverse set of IT resources in use, keeping your enterprise perimeter (including applications, data sources, users and endpoints) secure will become significantly more complex. IT decision makers need to centralize and standardize security policies across the enterprise and may need to partner with Managed Security Service Providers (MSSPs) to unify their security environment.

Redefine Your DR Strategy

While implementing a DR strategy for multi-cloud environments, enterprises need to address three distinct challenges.

- **DR during migration:** The first challenge is during migration of existing systems and on-premise workloads to cloud environments. This is generally a period of uncertainty and requires meticulous planning to ensure uptime and business continuity.
- **DR for multi-cloud environment:** Current DR set ups in organizations are designed for traditional on-premise systems. Multi-cloud environments increase the complexity of the IT environment at many levels – due to a large number of dynamic parameters (scale, nature of workload, data type, geographical coverage), deployment models (SaaS, IaaS), infrastructure services (public cloud, private cloud, hosting, etc.) and cloud service providers (Netmagic, AWS, MS Azure, others).
- **DR for new requirements (CI / CD):** As multi-cloud environments are extremely scalable and adaptable, the CR set up needs to have the ability to adapt in equal measure. Having a continuous integration and continuous delivery approach (standard part of DevOps environments) is useful to handle fast-changing IT needs.

Leverage Analytics for Continuous Improvement

With process automation, strong integration and the use of Cloud Management Platforms, a multi-cloud environment will generate a large amount of data around performance, availability, downtime, resource utilization, traffic patterns, usage trends and correlations. This gives CIOs a great opportunity to go beyond traditional network monitoring, generate powerful insights from vast amounts of data, and use these insights to enhance performance.

While many public cloud vendors provide their own analytics and dashboards for network visibility, organizations will need to build a unified view of all IT resources, irrespective of vendor. One way to do this is to use APIs to connect various data sources and create consolidated dashboards. Some Cloud Management Platforms offer extensive pre-built capabilities to do this.

While many of the above processes seem effort intensive and time consuming, they are critical to the successful development and growth of your multi-cloud environment. It may not be possible to achieve all these goals simultaneously, but companies should identify a few low-hanging fruits to begin with – e.g., workload mapping, incorporating hybrid cloud concepts and streamlining vendor management. For the more complex needs, working with a leading Managed Service Provider like Netmagic will help companies navigate many initial challenges and bring a high level of process maturity to their operations.