



Top 8 Cloud Computing Focus Areas for 2019





Looking back at 2018, we have had a number of major developments globally – around new technology trends such as big data, IoT, edge computing and analytics. Many of these developments have been clubbed under a common theme of ‘digital transformation’. Cloud computing has been another area that has seen significant transformation and adoption.

Going by market focus and technology vendor priorities last year, 2019 is likely to be another eventful year for technology in general, and cloud computing in particular. Three important factors will drive technology evolution in 2019 and beyond – hyper-competition, reducing IT budgets and the need for digital innovation. Cloud computing will play a major role in driving this evolution. Here are the major cloud computing focus areas in 2019.



1. CLOUD-FIRST & CLOUD NATIVE APPROACHES

While they are different conceptually, both 'cloud-first' and 'cloud-native' focus on making the best use of cloud infrastructure, to achieve outcomes, build dynamic scalability, simplify integration / orchestration and minimize costs.

Cloud-first is an IT industry approach that prioritizes cloud infrastructure over on-premise models. More and more CIOs are adopting a cloud-first approach that involves developing new systems and migrating existing systems (or data) to cloud infrastructure. Instead

of the traditional lift-and-shift approach, many companies are re-architecting existing applications to incorporate features like auto-scaling and multi-tenancy.

Cloud native is a development approach, and refers to applications that are designed to run only on the cloud. Cloud-native application development uses notions such as containerization and microservices to create a set of services that can be orchestrated and dynamically scaled as per business needs.

2. LEGACY INTEGRATION CHALLENGES

As the cloud footprint within industries and organizations continues to grow, integrating large, legacy monolithic applications (including legacy data formats and closed architectures) with newer cloud-based systems will be one of the most challenging pieces of the cloud story. CIOs need to deal with multiple challenges such as cross-platform connectivity, data normalization, API creation, downtime/ latency issues and security management.

At the same time, we see that peripheral applications like HCM, portals, team management tools, etc. are already being replaced with cloud-native equivalents (either through new development, re-engineering or third-party SaaS products). This is helping simplify integration and management of legacy environments along with hybrid-cloud ecosystems.



3. MULTI CLOUD STRATEGIES

Globally, companies are moving to a highly use case driven approach to cloud service and cloud vendor adoption. The use of multiple cloud vendors has been prevalent for a few years, especially in large, geographically distributed organizations. In 2018, we saw this trend becoming more mainstream, and as the management complexity increased, ‘multi-cloud’ became a prominent area of discussion. Analysts like Gartner, Forrester and IDC have an

extremely positive outlook towards this trend. Gartner predicts the multicloud market size to reach \$240 bn in 2019.

2019 will also be the year when organizations will start building multi-cloud strategies that address key challenges around technology stacks, migration, integration, workload needs, security and skills.

4. HYPERSCALE DATACENTERS

The massive amounts of data being generated by people (social data), devices (including IoT, wearables, sensors) and enterprises (EDW, data lakes) will start to bring value through analytics. Many industries such as banking, healthcare, ecommerce, social networking and supply chain management have already undergone significant digital transformation, and this is why hyperscale datacenters have already

seen significant growth in the last 2-3 years. Hyperscale datacenters are becoming integral to hybrid It strategies of many organizations.

Other emerging concepts like data virtualization are accelerating this trend. We already have nearly 500 hyperscale datacenters across the world and the number is likely to go beyond 600 in the next few years.



5. CLOUD SECURITY

The number and intensity of cyberattacks has risen greatly in the last few years. We also saw massive regulatory shifts in 2018 (e.g., GDPR in Europe, new data privacy laws in India) that made personal data protection an organizational priority, with severe financial repercussions in case of non-compliance.

With greater cloud adoption, data privacy and security will have greater attention and investment in 2019, especially around endpoint

security, crypto threats and social engineering attacks. Managed Detection & Response (MDR) approaches such as real-time threat monitoring and SIEM will take precedence over traditional remediation-based security practices. Managed Security Service Providers (MSSPs) will expand in breadth and depth of offerings and will help IT departments lower their exposure to cloud vulnerabilities and risks.

6. CLOUD BACKUP AND RETRIEVAL

Cloud infrastructure has become default for backup and retrieval operations, and to address DR needs of organizations. The growing trend of cloud backup and retrieval has been accentuated by a number of factors, including cloud-first strategies, pricing concerns and rapid scalability needs. In fact, according to Gartner, 90% of organizations will use cloud services for their DR needs by 2020.

We also see that AWS is taking a significant lead globally, in the cloud backup and recovery

space, mainly due to robust and extremely cost-effective storage products like S3, EFS (Elastic File Service), EBS (Elastic Block Storage) and Glacier. In 2019, there would be many other cloud storage vendors that would introduce specialized backup and DR offerings, but AWS is likely to stay ahead due to its massive infrastructure, enterprise grade cloud solutions and some of the world's highest performance and availability SLAs.



7. CLOUD-BASED NETWORK SERVICES

In the last year, we have keenly observed the widespread adoption of on-demand network services, largely due to benefits such as unified security, network analytics, cloud integration and dynamic traffic optimization. Concepts like SD-WAN, NFV (Near Field Virtualization) and NaaS (Network-as-a-Service) started gaining traction in 2018 but did not really make it to largescale adoption. However, infrastructure leaders like Cisco, IBM, VMWare and NTT Communications are already offering strong SD-WAN and NaaS solutions with a host of advanced features.

Network-as-a-Service or NaaS is replacing traditional networking infrastructure and allowing companies to build a virtual, centrally managed system that helps optimize traffic, improve network performance and scale on-demand.

In 2019, we should expect a gradual rise in SD-WAN and NaaS adoption, with most leading vendors building new offerings and driving market penetration. We are still some way before largescale adoption of these technologies.

8. SERVERLESS ARCHITECTURES

The serverless computing (also known as backend-as-a-service or function-as-a-service) approach, in our opinion, is truly transformational in terms of building massive server scalability and compute power, while keeping resource utilization to minimal levels. We have already seen a company like Kubernetes make significant headway in the containerization, service orchestration and serverless architecture space. AWS has also made major advancements in this space with Lambda.

In 2018, the serverless concept took off in a big way within the development, testing and database management communities, with the promise of allowing developers and testers focus on their core activities (coding, testing, etc.), without worrying about infrastructure optimization or scalability. We should expect a stronger uptake of these models in 2019, as a greater number of development teams move to Agile and DevOps models.



While the cloud computing marketplace undergoes rapid evolution in 2019 and beyond, CIOs will need to build managed service partnerships to navigate the cloud ecosystem, align to trends and define a cloud-centric roadmap for their IT organization. Creating the right tools, skills and technology environment for a multi-cloud environment will be critical to long-term IT success. NTT Com–Netmagic has been a strategic partner to many leading organizations in India, helping them define and implement their multi / hybrid cloud strategies over the years. Organizations that partner with us benefit from the years of cloud and infrastructure management expertise – across migration, integration, security, hyper scalability and cloud first strategies. And even though adoption of many of the new technologies will take time, it is clear that they will bring significant business benefits in the long run.