Four Trends In Cloud Computing CIOs Should Prepare For In 2019

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As the traditional role of the CIO keeps evolving, 2019 promises higher pressure on them to deliver IT solutions that will meet the expectations of customers, partners and employees.

According to IDC, almost half of IT spending will be cloud-based in 2018, "reaching 60% of all IT infrastructure and 60-70% of all software, services and technology spending by 2020."

It is imperative for CIOs to see cloud computing as a critical element of their competitiveness, not just as a cost that needs to be carefully managed. In 2019, CIOs will have to balance the capabilities of the newest cloud technology while focusing on security.

Here are four trends in cloud computing that CIOs should prepare for in 2019:

1. The Number Of Cloud Services And Solutions (SaaS, Paas, IaaS) Will Continue To Rise

There will be an explosion of new cloud services and solutions, and here are some stats to prove it.

• Subscription-based software-as-a-service (SaaS) will grow at an 18% CAGR by 2020, according to Bain & Company.

• Investment in platform-as-a-service (PaaS) will grow from 32% in 2016 to 56% in 2019, making it the fastest-growing sector of cloud platforms, according to KPMG.

• The infrastructure-as-a-service (IaaS) market is predicted to reach $72.4 billion worldwide by 2020, according to Gartner.

If we judge by the current cloud computing trends, the number of cloud solutions in public and private sectors will further expand in 2019. We expect to see more organizations take advantage of the simplicity and high-performance the cloud guarantees.

2. Quantum Computing -- The Holy Grail For Global Tech Giants -- May Be Closer Than We Think

The race to establish quantum supremacy is on. IBM continues to race against Microsoft, Google and Intel, all of which are working rigorously to build the first quantum computer that can deliver on the technology's long-promised abilities like seamless data encryption, solving complex medical problems, weather prediction, real conversations with AI and better financial modeling.

A fast and reliable quantum computer is likely more than a decade away, but recent events show that we are indeed getting much closer.

In November 2017, IBM established a landmark in computing when it released a 5-qubit and a 20-qubit version, and it began offering quantum computing as a cloud service. JPMorgan Chase, Daimler Honda, Barclays and Samsung were the first to sign up for testing.

Alibaba joined forces with the Chinese Academy of Sciences and took the next big step toward quantum computing, launching an 11-qubit quantum computing service that is now publicly available on the quantum computing cloud platform. It is the second fastest in the world right behind IBM's 20-qubit cloud computer.

And the quantum computing market will grow faster than anticipated. The global quantum computing market will be worth $1.9 billion in 2023, increasing to $8.0 billion by 2027.

But the quantum computing market is getting crowded. An increasing number of quantum computing startups are entering the race. The most well-known outfit is Canada-based D-Wave Systems, the first company in the world to sell quantum computers. A dozen other companies are developing quantum computing components, algorithms, applications and software tools.

If IBM and Alibaba and IBM can effectively implement quantum computing's power with their cloud services, it could potentially accelerate the adoption of quantum computing.

Once the next milestone in quantum computing is reached, we will see if it will it be successful or lead to greater quantum computing innovation.

3. More Businesses Will Opt-In For Hybrid Cloud Solutions

Making a full transition to the cloud has proved more challenging than anticipated, so here is where hybrid cloud solutions will play an important role. With a hybrid cloud, companies can transition to the cloud at their own pace, with less risk and at a lower cost. In 2019, more companies will choose a hybrid-cloud approach that will allow them to access the efficiency and effectiveness of cloud solutions.

The 2016 State of the Cloud Survey from RightScale indicates that a business using the cloud will access at least six different clouds. These clouds could be multivendor systems (aka AWS, IBM, Google) or a blend of private and public clouds. With the adoption of the cloud at its peak, the CIOs of 2019 need to

understand the advantages and disadvantages of each of the clouds before making a decision that best suits their businesses.

4. With GDPR, Cloud Security Will Become More Confusing

It's no surprise that security will continue to be an issue with cloud technology, especially now with the introduction of the General Data Protection Regulation (GDPR). Given the advantages of cloud computing, many businesses will likely rush into it without serious consideration of the security implications.

According to Gartner, "Through 2020, 99% of vulnerabilities exploited will continue to be ones known by security and IT professionals for at least one year."

In 2019, companies will have the difficult task to ensure that their data practices fully comply with the requirements of GDPR.

Driven by digital transformation, we will see more and more enterprises move to the cloud next year, which means cybersecurity threats will increase as well.

Eighty-three percent of enterprise workloads will be in the cloud by 2020 -- 41% of enterprise workloads will run on public cloud platforms while another 22% will be running on hybrid cloud platforms.

Cloud compliance under GDPR it is not going to be an easy task. Results from a recent survey done by Commvault showed that only a small number (12% of the 177 global IT organizations surveyed) understand how GDPR will affect their cloud services. These results raise the assumption that companies that use cloud services will be more vulnerable.

CIOs will face more challenges than ever to be competitive in this ever-changing tech environment. The trends described above are critical areas in which to dedicate resources in order for them to stay relevant and ensure their products remain ahead of the curve in 2019 and beyond.

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