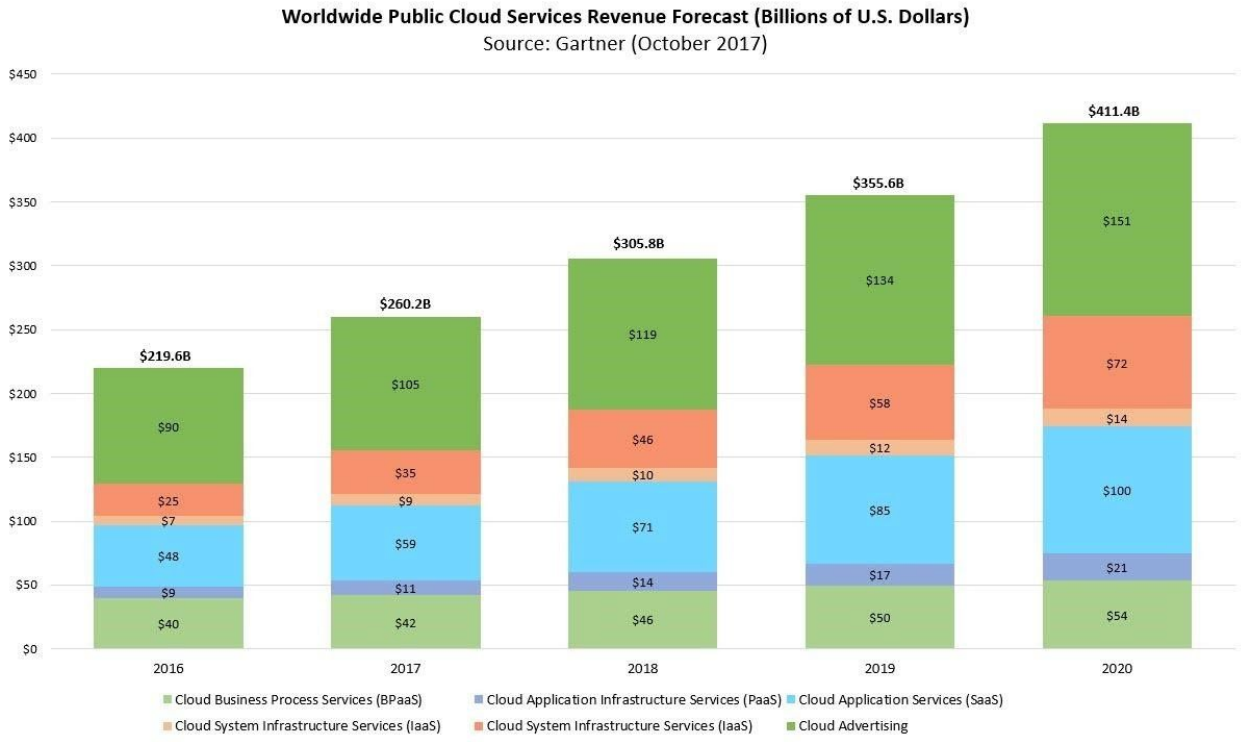
Cloud Computing: New Trends, Technology Improvements Drive Growth in 2020

Cloud Computing: New Trends in 2020

Introduction

Cloud computing — a technology that provides computer resources via the Internet— has grown substantially since its mainstream adoption in 2006. Microsoft Azure, AWS, and Google Cloud competed to bring the Cloud to global markets during the 2010s.

By the end of 2019, the market value of Cloud computing soared to $214.3 billion. These gains are impressive, but Cloud computing is still an infant technology. You should expect massive growth in 2020 and beyond as the technology develops. Analysts at Gartner expect public Cloud computing companies to earn as much as $411 billion in 2020.



Most experts agree that 2020 is going to be a year of revenue and spending records in the cloud computing industry. What is driving this growth? The short answer is technological advancements. However, the growing availability of options in the cloud computing industry

means that there are now Cloud solutions for companies of every size. This means that widespread Cloud adoption is highly likely going forward.

Cloud Computing Trends in 2020

In 2020, several buzzwords are evolving from marketing lingo to real-world technologies. 5G, edge computing, quantum computing, and serverless computing are among these exciting, seemingly futuristic technologies that are now shaping Cloud markets.

Some changes — such as the shift from public to private Clouds — are perhaps less interesting in spite of their importance. To provide an accurate overview of cloud computing trends in 2020, we will take a broad look at changes in Cloud markets. Here are the most important topics to consider.

Private, On-Premise, and Hybrid Clouds

Private clouds are used exclusively by an organization that typically pays server fees to a company. An on-premise Cloud is technically also a private Cloud, but the user organization stores the servers in a data center on their property. Private and on-premise generally offer more options for tool customization and security at the cost of more work for the users.

In 2020, 41 percent of data workloads will be on public clouds. While 59 percent of data workloads will be on private or on-premise clouds since they can offer more options for tool customization and security at the cost of more work for the users. You can expect companies in regulated industries — such as government contractors — to use private clouds for their greater control and security.

As their name suggests, hybrid clouds use a combination of private and public clouds. The hybrid model allows companies to use both local resources and tools stored in the public Cloud.

From 2018 to 2019, organizations using the hybrid model grew from 51 percent to 58 percent. This growing trend is driven mainly by economic rather than technical factors; organizations are shifting to private Clouds because of recent price increases in SaaS products. Expect more organizations to switch to the hybrid model in 2020.

Key Takeaways:

- Expensive SaaS products are causing businesses to consider alternatives to the public Cloud.
- Private and hybrid Clouds are being widely adopted because they can be tailored to an organization’s budget and resource demands.

Serverless Computing

In the 2010s, the Cloud operated primarily from third-party data centers and private servers. The general idea of the Cloud is to have your data and IT resources on a server rather than rely on local hard drives and software. In 2020, serverless computing, or function-as-a-service (FaaS), may take this idea a step further.

Serverless computing is similar to the infrastructure-as-a-service model (IaaS) long offered by AWS and Microsoft Azure, but the payment model is different. Instead of hiring entire servers, users pay for computing resources as they use them.

Serverless computing is potentially cheaper than traditional IaaS. For example, FireEye reduced its Cloud computing costs by 80 percent after adopting Amazon's serverless computing service Lambda.

While the leading Cloud technology firms continue to make headways with serverless computing, business consumers appear to be mostly uninterested. A survey conducted by Cloud Foundry revealed that the percentage of respondents who use serverless computing fell from 19 percent in 2018 to 15 percent in 2019 because of storage issues. Despite this downtrend, serverless computing still remains important for startups looking for inexpensive Cloud solutions to scale their operations in 2020.

Key Takeaways:

- Serverless computing will remain attractive to budget-strapped organizations because of the pay-as-you-go model.
- Storage issues and low interest in FaaS prevent widespread adoption.

Containers and Kubernetes

Container usage has been a growing trend for some time. From April 2018 to February 2019, firms using more than 100 containers grew from 34 percent to 48 percent. The container market continues to grow and will reach $2.7 billion by the end of 2020. And Kubernetes is driving this trend.

Kubernetes rose to dominance in the 2010s as one of most reliable automated systems for deploying and managing containers. In the past few years, Kubernetes has been used to deploy Cloud-based platforms and infrastructures. Expect Kubernetes to play a large role in Cloud computing in 2020.

Some experts believe that the long-anticipated Kubernetes Federations — also known as KubeFed v2 — will finally arrive in 2020. This second version of KubeFed will allow multiple Kubernetes clusters to be managed with one configuration. In essence, KubeFed will better enable developers to automate processes across multiple Cloud platforms. If Kubernetes Federations v2 does arrive in 2020, scaling Cloud platforms will soon become much simpler.

Due to the convenience of containerization in Cloud development, you should expect more teams to adopt a Cloud-first mentality in 2020. The Cloud will no longer be an afterthought when developers depart from siloed development in favor of an automated DevOps solution using Kubernetes.

Key Takeaways

- Containers usage will continue to grow due to its role in DevOps and Cloud-first development.
- The growing popularity of Kubernetes will encourage developers to use containers and Cloud platforms.

Edge Computing

Edge computing is a technology designed to bring IT resources closer to devices as a means of reducing latency. Edge computing was designed specifically for the Internet of Things (IoT). The general idea is that data is transferred from IoT devices to another local device called an edge gateway.

At the edge gateway, data are processed with pre-fetched computing resources before being sent to the Cloud. In theory, edge computing can greatly reduce the latency problems that are so critical for devices like industrial robots and autonomous vehicles. When combined with 5G, edge computing makes latency trivial.

According to a study conducted by Grand View Research, the edge computing market will increase in value by $3.24 billion in 2020. Grand View Research also predicts that the edge computing market will climb beyond $28.8 billion by 2025. Growth in edge computing is directly related to the Internet of Things. Expect edge computing to become more valuable as the importance and number of devices on IoT expands.

Key Takeaways:

- Edge computing will be adopted to reduce latency problems for the quickly growing Internet of Things.
- Since edge computing complements the Internet of Things, the market for edge technology will grow alongside the market for IoT.

Quantum Computing

In 2019, Google allegedly created a quantum processor that solved a complex math problem in 200 seconds. A research paper released by the tech giant claims that the fastest supercomputers would require 10,000 years to solve the same problem.

The world is years away from seeing broad applications for quantum computers, but it is reasonable to expect the technology to become available to the business world via the Cloud.

Three prototype quantum computers — provided by Honeywell, IonQ, and QCI — are already being offered to some business customers via Microsoft Azure.

Quantum computing is an immature technology that will likely not have much impact on real applications in 2020. However, it is a ripe area for investment. In 2017 and 2018, quantum computing projects received $450 million from private investors.

In 2020, interest in quantum computing has shown no signs of slowing down. IBM now has over 100 quantum computing customers, including large companies, start-ups, and research firms. Quantum computing will likely continue to be a hot topic through the 2020s among business people and investors unless the new tech fails to translate to earnings.

Key Takeaways:

- Thanks to Google's breakthrough, investors will continue to pump VC dollars into quantum computing projects.
- It is currently unknown if quantum computing will translate to real technological gains for the Cloud.

Conclusion

The Cloud has shown considerable growth over the past decade. With a Cloud-first culture and flexible pricing options developing across the industry, widespread adoption of Cloud technologies will continue well into the 2020s. Thanks to edge computing, the market for Cloud tech will only grow with the Internet of Things. Quantum and serverless computing may also contribute to some gains in the industry.

All signs point to yet another year of growth for cloud computing.