AWS Trends to Watch for in 2021

The Increasing Demand for Cloud Processing

 The demand for cloud processing increased steadily in 2020 and shows no signs of slowing down in 2021. The **global cloud computing market** is expected to be over $623 billion by 2023, with a continuing compound annual growth rate (CAGR) of 18 percent. That's a huge jump from the 2018 valuation of $272 billion. **AWS continues to be the dominant cloud service provider** with 52 percent of the market and a container services adoption rate of 44 percent.

Public cloud is growing in popularity. The average business runs 38 percent of its workloads in the public cloud and 41 percent in private clouds. And public cloud spending is growing three times faster than private cloud.

New Cloud Services and COVID-19 Lockdowns Fuel 2021 Demand

The increasing demand for cloud services in 2021 is being fueled by developments in new cloud services as well as the effects of COVID-19 lockdown measures. The demand for services coupled with recent advances in technology are spawning development of new features and capabilities, which in turn spawns further demand. Internet searches for cloud computing trends result in a wide variety of predictions for the future of cloud services in 2021 and beyond. Here are a few significant trends:

There is a widespread, accelerated move toward edge computing. Dave McCann, vice president of AWS Migration, Marketplace and Control Services, **predicts that the next wave of cloud** is going to be edge computing with 5G. Edge computing has more data processing on local devices instead of offsite in the cloud, and 5G — the next generation in wireless technology — will be much faster than current technologies. "When fast connections to the cloud are pushed to the farthest edges of the network, great things can happen," **says Werner Vogels**, vice president and chief technology officer at Amazon.com.

In 2020, cloud computing was mostly used by enterprises, but more small businesses will be migrating to the cloud in 2021. And service providers will continue to develop technologies that will cater to small and medium-sized businesses (SMBs). David Brown, vice president of AWS Elastic Compute Cloud, says that it will be key for providers to continue to roll out technology that lowers the price of services to the point where they become attractive to SMBs. Brown says that AWS can lower the cost of cloud by 40 percent with its Graviton processor and by finding new ways to reduce prices. "When you're able to lower the cost in the cloud by 40%, it suddenly becomes a different equation."

Businesses are collecting increasing amounts of data. The vast amounts of data being collected will drive more organizations to the cloud to help with data processing, data analytics and AI services. "If you especially look at it from the perspective of machine learning, you need access to lots of data and lots of computers," says Bratin Saha, vice president and general manager for machine learning services at AWS. "The best place to get lots of data and lots of compute is in the cloud." And Shawn Bice, vice president of databases at AWS says, "Customers increasingly want to move from managing their own databases to using data services that are fully managed. This helps them cut time and costs so that they can focus more on building their own products, rather than worrying about the databases they use."

There are the effects — many of them long-lasting — from measures put in place due to COVID-19. More people are working remotely, and organizations have increased their usage of software-as-a-service (SaaS) solutions to support remote workforces. There has also been an increase in the adoption of digital payment, online shopping and over-the-top (OTT) streaming services. On the health front, healthcare systems

need scalable and secured cloud infrastructure to manage and maintain patient information with high speed and flexibility. Cloud computing can also be used to analyze patient data. And as the number of electronic health records grows, healthcare providers are expanding the use of scalable and highly secure storage cloud solutions to handle the increase of data.

Educational institutions have been forced to innovate to continue providing quality education during COVID-19 lockdowns. Despite the challenges, educators have been able to use technology — including cloud services — to meet students' evolving needs. A **significant trend in education** will be the rise of online, flexible learning, which will offer students to more freedom in shaping their learning experience.

New AWS Services and Courses Keep IT Professionals up to Date With Current Trends and Future Needs

In addition to core service enhancements, AWS continues to focus on new technologies in all verticals. At its **virtual AWS re:Invent 2020 conference** in December, AWS announced over 140 product updates, milestones and launches. Here are some examples of recent AWS offerings to be aware of in 2021:

Education: AWS offers a range of training and certification courses in response to academic institutions' need to adjust their offerings to enhance learner knowledge and employability in times of accelerating cloud usage, economic recession and increasing unemployment.

Internet of Things (IoT): In response to the growing number of devices connecting to the internet, AWS is introducing AWS IoT Greengrass, an IoT open-source edge runtime and cloud service that helps you build, deploy and manage device software. You can program your devices to act locally on the data they generate, execute predictions based on machine learning models, filter and aggregate device data and only transmit necessary information to the cloud.

Satellite communications: AWS Ground Station is a fully managed service that lets you control satellite communications, process data and scale your operations without having to worry about building or managing your own ground station infrastructure.

Health data: Amazon HealthLake is a HIPAA-eligible service that enables healthcare providers, health insurance companies and pharmaceutical companies to store, transform, query and analyze health data at petabyte scale.

Machine learning (ML): Amazon SageMaker helps data scientists and developers to prepare, build, train and deploy high-quality ML models quickly by bringing together a broad set of capabilities purpose-built for ML.

Application development: Amazon DevOps Guru is an ML-powered service that makes it easy to improve an application's operational performance and availability. DevOps Guru detects behaviors that deviate from normal operating patterns so you can identify operational issues long before they impact customers.

As an authorized AWS Training Partner, ExitCertified offers a full range of AWS training and certification preparation courses for IT professionals at all levels to help you take advantage of advances in cloud technologies and services. Courses focus on the provisioning, management and operation of AWS.

- **Essentials** for IT business leaders and professionals who want to learn about the benefits and advantages a cloud strategy can provide for their business
- **Architect** for solutions architects, design engineers and anyone who wants to learn about designing systems and applications
- **Operations** for system administrators, network administrators and anyone in an operations role who provisions or supports applications, systems and networks on the AWS platform
- **Developer** for software developers who want to learn how to develop cloud applications on AWS
- **DevOps** for anyone who wants to learn how to create automatable and repeatable deployments of applications on the AWS platform
- **Big Data** for solution architects, data scientists and anyone who designs or implements big data cloud solutions
- **Security** for security architects, engineers, auditors and analysts who need to learn about compliance in the cloud and security features
- **Machine learning and AI** for using SageMaker and deep learning

Additionally, the **Complimentary AWS Niche Resources Bundle** is a set of videos that provides introductions to many of the AWS services used for specific workloads, including IoT, edge computing, media, mobile applications and more.

With ExitCertified, you gain access to the latest updates and new courses from AWS. For more information on AWS training, visit **exitcertified.com/AWS**.