Predictions 2021: Cloud Computing

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At A Glance

- Clouds were built to handle the massive scale. Pandemic responses lean heavily on this to scalability to adapt to new business demands. As such, AWS, Azure, Google Cloud, and Alibaba saw demand and revenue escalate, and they will grow even faster in 2021.

- In 2021, companies target fast wins with immediate advantages like shunning on-premises backups and finally moving disaster recovery to the cloud.

- Cloud native tech will continue to power digital transformation strategies: By the end of next year, 60% of companies will leverage containers on public cloud platforms and 25% of developers will leverage serverless.

- But cloud adoption won't go on without challenge in 2021. Governments will also start to exert more influence over where and how companies can use cloud.

- In preparation for 2021, read Forrester's "Trend: Cloud-Native Technologies Accelerate Software Innovation Everywhere" report and schedule an inquiry with a Forrester cloud analyst.

The Cloud Takes Center Stage In The Pandemic Recovery

The global pandemic reinforced the tremendous value and necessity of cloud computing to the global economy and workforce. Without cloud apps, tools, and services, we could not have sent millions of workers home, maintained global supply chains, or shifted entire industry business models in a matter of weeks. The rush to cloud also exposed stark contrasts between companies that embrace cloud technologies and those that have resisted or underfunded them. The aggressive move to cloud, already proceeding at a healthy clip before the pandemic, will spike in 2021, yielding even greater enterprise adoption, cloud provider revenue, and business value in 2021. We predict that:

- **Public cloud revenue will return to hypergrowth as cloud powers pandemic recovery.** Public cloud infrastructure providers rose to the pandemic challenge, helping enterprises everywhere pivot quickly to new business models, build and deploy new apps quickly, and keep millions of workers

connected. COVID-19 forced companies to prioritize speed and customer experience (CX) over cost savings and efficiency — and they flocked to public cloud faster than ever. Etsy spun up new Google Cloud infrastructure to meet a spike in e-commerce; Lowe's got a curbside pickup app running in three days; Moderna is using AWS to accelerate COVID-19 vaccine research. Forrester previously predicted that the public cloud infrastructure market would grow 28% to reach $113.1 billion in 2021. Mid-pandemic, the four largest public clouds maintained very strong revenue growth (AWS: 29%, Microsoft Azure: 47%, Google Cloud: 43%, and Alibaba: 59%) as companies accelerated cloud migrations and rushed out new apps to meet fast-changing consumer demands. We now predict that even with a surge in edge computing spending, the global public cloud infrastructure market will grow 35% to $120 billion in 2021 and that Alibaba Cloud will take the number three revenue spot globally, after AWS and Azure.

- **On-premises DR sites will fade in 2021, with recovery bound for the cloud.** Before 2020, a limited number of enterprises had moved DR operations to the public cloud hyperscalers due to infrastructure technology mismatches and security, networking, application portability, and licensing differences between data center and cloud technologies. Resiliency technology vendors are quickly resolving these challenges and removing these barriers. COVID-19 shone a bright light on companies unprepared to recover quickly and refocused tech leaders on improving resiliency. However, firms facing revenue losses and the challenges of a newly distributed workforce are now reevaluating whether public cloud is indeed a preferred DR target. As such, we estimate that in 2021, an additional 20% of firms will shift their DR operations to the public cloud for a mixed proportion of business applications. For the rest of the applications and infrastructure that run on proprietary stacks that can't recover in public cloud, firms will continue to lean on some managed DR services or continue to pursue active-active data center models.

- **Cloud-native tech consumption will spike, with serverless rising to 25% adoption.** Cloud-native technologies (e.g., containers, Kubernetes, and serverless) help companies build, migrate, and modernize customer-facing apps more easily, at scale, and from the data center to the cloud to the edge. Prior to the pandemic, 19% of developers regularly used serverless functions and 22% regularly use containers to build and run application software on public clouds. Roughly one-fourth of developers don't use containers today. Pandemic recovery will dramatically accelerate this consumption. As companies look to quickly develop new apps, they will adopt a "public-cloud-native-first" strategy, preferring to consume rather than build cloud-native platforms on-premises. We predict 25% of developers will regularly use serverless and regular container usage will hit 28% by the end of 2021. This will grow faster than on-premises container and serverless platforms. While AWS has a majority serverless market share with Lambda, rivals Azure, Google, and Alibaba Cloud will also benefit from stronger than expected demand for FaaS and CaaS.

- **Governments will further limit your choice of public cloud in 2021.** Today, the most successful multinational cloud vendors are headquartered in the US or China. Each faces regulation outside their home country. For example, companies must partner with local providers to sell cloud services in China, and the US government has placed restrictions on Huawei and Huawei cloud affiliates and other Chinese cloud companies like Tencent, Alibaba, and Baidu. In Europe, the idea

of a sovereign cloud — GAIA-X — is gaining momentum, but comprehensive services are a long way off. Ramifications of the collapse of a data sharing agreement between Europe and the US will continue into 2021 and beyond. Multinational and regional companies are drawn to the major multinational cloud vendors for their global reach, pace of innovation, and developer services — all of which local providers have struggled to match. In 2021, we predict more regulations that force cloud users to carefully decide whether different cloud partners must serve each business region. It won't be an easy decision.

- **Marketplaces will find increased adoption, but not as much as the hype suggests.** Marketplaces are all the rage. Everyone's got one, but usage is light. Whether it's a SaaS marketplace, an industry-specific aggregation of technology, or a cloud provider or developer marketplace, business has been limited. In SaaS marketplaces, the majority of business is smaller purchases, not larger or more strategic ones; most purchases range from $10 to $300 (with some exceptions). Among developer marketplaces, only Docker Hub boasts significant active users and participation through thousands of container images, but it is a free service. Prior to the global pandemic, only 1% of buyers leveraged marketplaces as a purchasing channel. In a recontact survey, 28% of global buyers anticipated an increase in marketplace spend. In 2021, Forrester believes that technology marketplace usage will triple but will still only be about 3% of total technology spend. Between then and now, successful marketplaces will continue to attract more offerings, offer better vetting, and do more to standardize contracts and billing terms to ease multivendor management.