



Market Insight Report Reprint

Cloud computing revenue set to nearly double to \$101bn by 2025

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According to the latest analysis from 451 Research's Market Monitor service, the global public cloud market surpassed the \$52bn mark in 2020, and will grow at a 14% CAGR to 2025. This healthy rate reflects the COVID-19-induced acceleration fueled by expanded public cloud adoption and usage by organizations previously reluctant to move to off-premises multi-tenant IT environments.

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Introduction

According to the latest analysis of the cloud-computing-as-a-service market from 451 Research's Market Monitor, the global public cloud market surpassed the \$52bn mark in 2020, and is expected to nearly double by 2025, reaching \$101bn. Global sales are projected to grow 20% this year compared with 2020, and to attain a five-year CAGR of 14% from 2020 to 2025. This healthy rate reflects the COVID-19-induced acceleration fueled by expanded public cloud adoption and usage by organizations previously reluctant to move to off-premises multi-tenant IT environments. Disruptions brought on by the pandemic required rapid business model pivots enabled by cloud's flexible, scalable IT resources. As organizations begin to incorporate these operational changes into business-as-usual ways of doing things, public cloud continues to play a role in the ongoing business transformation.

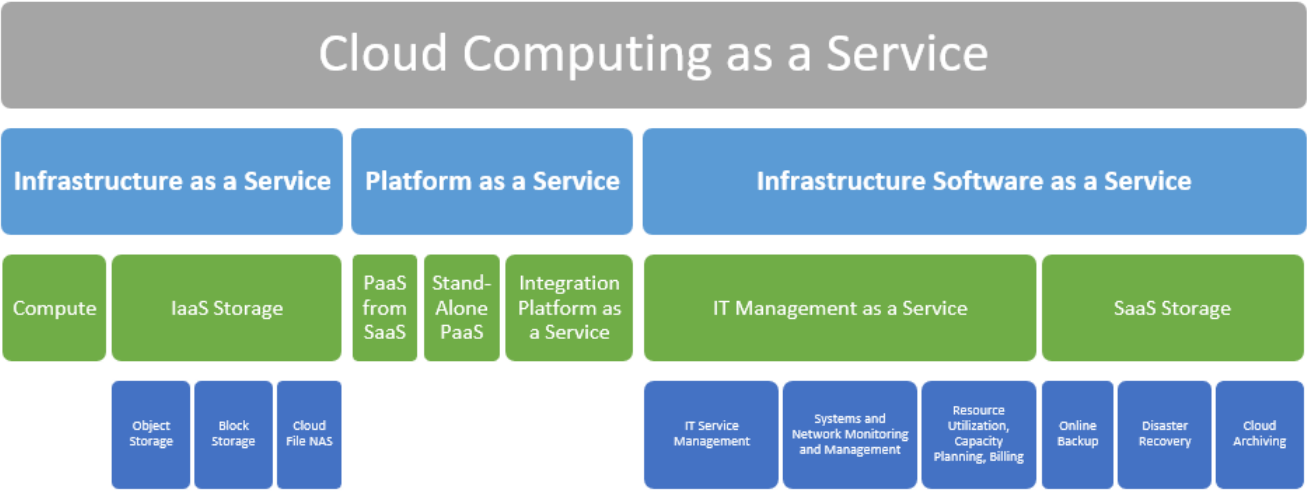
THE 451 TAKE

Cloud computing momentum continues to grow, driven by factors such as rapidly growing distributed workspaces and digital initiatives to keep pace with IT modernization efforts. We expect the cloud-computing-as-a-service (CCaaS) market – which includes IaaS, PaaS and infrastructure SaaS (IT management as a service, cloud SaaS storage) – to reach \$101bn in 2025, based on the latest results tallied from the 462 vendors tracked in 451 Research's Cloud Computing Market Monitor service. These findings are concordant with 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Workloads & Key Projects survey (June 2021), which indicates that 32% of organizations are using public cloud IaaS/PaaS and SaaS as primary deployment venues for workloads and applications in 2021, up from 26% in 2020. Public cloud's role in IT environments will continue to expand, with 57% of organizations citing IaaS/PaaS and SaaS as primary execution environments in 2023. The cloud computing market has proven to be resilient – not only by keeping the lights on for mission-critical workloads, but also by allowing organizations to innovate amid the global struggles that emerged in 2020 and continue today.

Cloud computing as a service

451 Research defines the CCaaS market as externally delivered IT services – specifically, third-party, hosted, pay-as-you-go services. The market overview report examines the revenue generated by cloud service providers and technology vendors via cloud platforms – IaaS and PaaS – as well as IT management as a service (ITMaaS) and cloud storage. It provides revenue estimates for 462 competing cloud vendors worldwide across 19 categories, and includes vendor leaderboards and a breakdown of revenue by geographic region, country and vertical markets. The report further includes key metrics in the CCaaS market's competitive positioning for the top 10 vendors worldwide, market drivers and challenges, mergers and acquisitions, and vendor revenue distribution per sector.

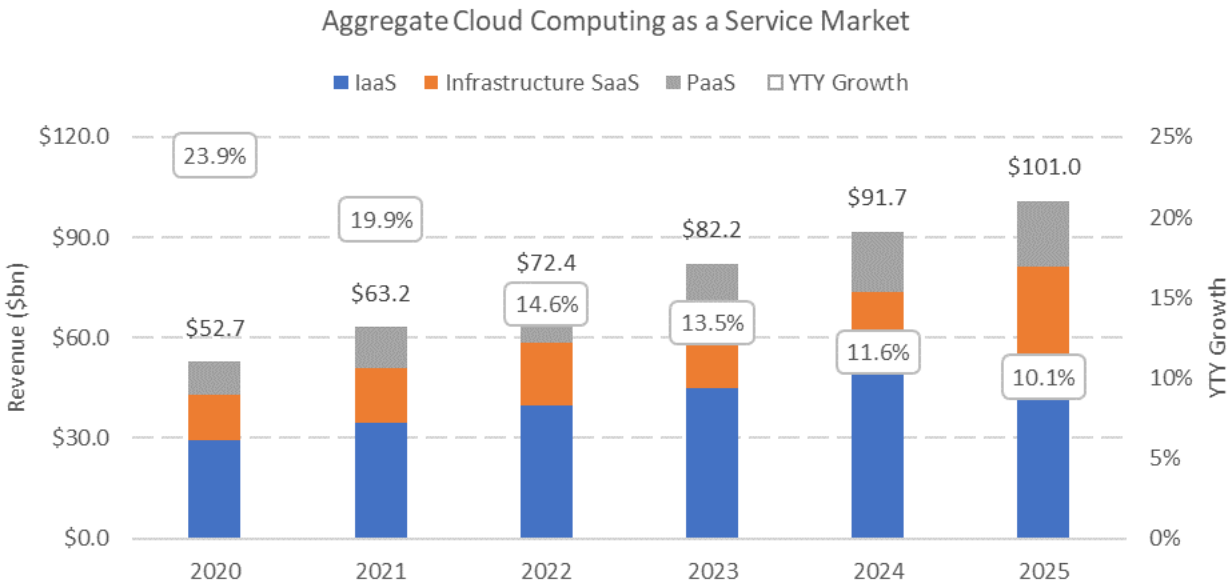
Figure 1: Cloud Computing as a Service Market Taxonomy



Source: 451 Research's Market Monitor and Forecast, Cloud Computing

The latest figures, providing updated market and vendor estimates through CY 2020, indicate that the global CCaaS market, as defined above, will grow at a CAGR of 13.9%, from \$52.7bn in revenue in 2020 to nearly double (\$101bn) in 2025.

Figure 2: Cloud Computing as a Service Market Sizing and Forecast



Source: 451 Research's Market Monitor and Forecast, Cloud Computing as a Service Market Overview

Key findings for top public cloud sectors

Infrastructure as a service is the cornerstone for cloud computing in terms of market share and number of vendors. IaaS created 55% of the total cloud computing market in 2020, and accounts for 250 vendors large and small, making this a highly competitive market. Within IaaS, compute is the largest sector in our analysis, generating 41% of the total cloud computing market in 2020. This year we added three storage segments to the IaaS stack, with revenue estimates for object storage, block storage and cloud file network-attached storage (NAS). In aggregate, our IaaS storage analysis reflects sales from 112 vendors, which generated one-quarter of the total IaaS market in 2020. IaaS storage is expected to grow at an 11.8% CAGR throughout the five-year forecast.

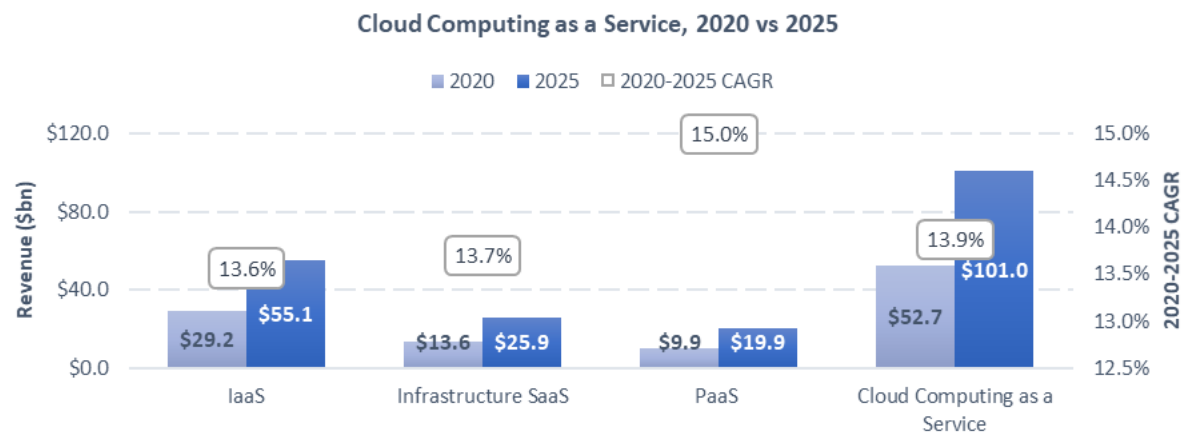
The top 24 IaaS vendors surpassed the \$100m mark and in aggregate accounted for a whopping 90% of total cloud IaaS revenue in 2020, reflecting escalating market competition. The long tail of other cloud players differentiate their offerings as niche or alternative cloud service providers, but with product/service knowledge and the ability to understand IT business models. As growth in the cloud computing market continues unabated, the role of long-tail vendors will increase in importance by bringing complementary services to new or existing offerings that are robust.

With an estimated compound growth rate of approximately 15% from 2020 to 2025, the PaaS market continues to add value, generating \$10bn in 2020. This market has fewer vendors than the IaaS and infrastructure SaaS segments, with 72 vendors large and small. PaaS offerings are designed to support the entire application lifecycle on a single platform. Given the shift to cloud driven by the pandemic and the IT transformation in response to distancing measures and spend-rationalization efforts, our research demonstrates that most of these use cases will be in demand as applications and workloads further shift to the cloud. PaaS providers continue to benefit from the investments being made to migrate to and operate within the cloud. Within the PaaS stack, PaaS from SaaS – where a central SaaS application provides a critical mass of users, and other smaller applications attach themselves – accounts for more than half of the total PaaS market (54%), with only a dozen vendors active in this sector, including Google AppEngine, Salesforce and Zoho Creator. The integration PaaS (iPaaS) market (e.g., Boomi, Informatica, MuleSoft) nearly surpassed the \$2bn revenue mark in 2020 and has a projected 2020-2025 CAGR of 14.3%. Stand-alone PaaS (e.g., Caspio Bridge, Microsoft's Azure, Pega Cloud) is expected to have an annual growth rate of 22% in 2021 versus 2020, and includes 32 vendors worldwide.

At 26% of the total cloud computing market share in 2020, the infrastructure SaaS segment continues to gain traction, and now includes 201 vendors worldwide. Within I-SaaS, the IT-management-as-a-service market surpassed the \$10bn mark in 2020 and includes 130 vendors, most prominently Datadog, New Relic and Splunk. ITMaaS is turning technology into a subscription delivery service, and as cloud usage grows there is more demand for infrastructure/app performance-optimization services. Demand for SaaS monitoring and capacity planning tools is set to continue as businesses increasingly evaluate their digital properties and reduce costs while ensuring their services meet customer expectations. Within ITMaaS, the systems and network monitoring and management (e.g., Dynatrace, PagerDuty, SolarWinds) and IT service management (e.g., EasyVista, Ivanti, SysAid) markets generated 40% and 29%, respectively, of the total infrastructure SaaS revenue in 2020. The resource utilization, capacity planning and billing segment comprises 31 vendors (e.g., Apptio, CloudCheckr, Kansys), and is expected to have an annual growth rate of 15.4% in 2021.

Additionally, within the infrastructure SaaS stack, the cloud SaaS storage sector – which involves the on-demand provisioning of storage capacity, accessible over the internet as a hosted service – nearly reached the \$3bn revenue mark in 2020, and includes 80 vendor participants. Online backup accounts for 50 vendors (e.g., Acronis, Datto, Recovery Point Systems), cloud archiving (e.g., Global Relay, Mimecast, Proofpoint) is expected to have an 11.6% CAGR through 2025, and disaster recovery (e.g., Cohesity, Druva, Rubrik) is estimated to have generated just 5% of the total infrastructure SaaS market in 2020. Demand for cloud storage is rising as organizations become more vigilant with regard to the sustainability and resiliency of their business contingency plans. The impact of lost data has intensified, and the challenges of providing data availability, protection and compliance for IT environments have become key contributors to recent cloud storage growth. Stay tuned for more details on the upcoming cloud storage market sizing, to be published in Q3 2021.

Figure 3: CCaaS Market and Five-Year CAGR Per Sector

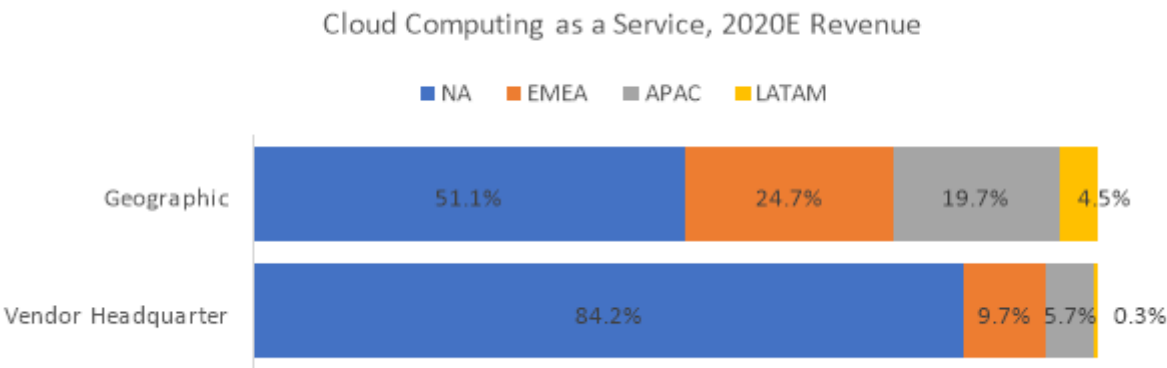


Source: 451 Research's Market Monitor and Forecast, Cloud Computing as a Service Market Overview

CCaaS geographic analysis

Geographically, we segment the CCaaS market into North America; Europe, the Middle East and Africa; Asia-Pacific; and Latin America. We expect the cloud computing market in North America (United States and Canada) to continue to lead the way in terms of revenue generation. The US market is the largest and most mature cloud market globally. It generated nearly half of the total cloud computing market in 2020 and includes most vendors in our global cloud computing analysis. Vendors in APAC are gaining traction in the public cloud arena, and today account for nearly one-third of all vendors, generating 10% of the total revenue. As a result of the growing adoption and usage of public cloud services, we expect that the cloud computing market will continue to experience rapid growth. Global vendors will continue to increase the number of unique products available, and local players will enter the cloud fray as more enterprises experiment with new technologies and launch new services. Local players can adapt to data-protection laws of specific countries to drive growth and usage of cloud computing.

Figure 4: CCaaS Geographic Revenue Breakdown



Source: 451 Research’s Market Monitor and Forecast, Cloud Computing as a Service Market Overview

The cloud computing market has proven to be resilient, helping to keep the lights on for mission-critical workloads amid the global struggles that emerged in 2020 and continue to this day. As millions were shifted to remote work to comply with social distancing policies, cloud computing service providers not only facilitated this transition, they kept innovating amid the surge in traffic on digital channels. Cloud computing is essential for operational efficiency in modern enterprises, and is a key technology pillar of digital transformation. Public cloud services continue to gain momentum as the best execution venue for deployment of IT workloads and business applications. The rapidly growing distributed workspace has snowballed public cloud usage as organizations increasingly require flexible IT services to enable the agility and resiliency of their business plans.

The latest Cloud Computing Market Monitor and Forecast identifies, sizes and segments revenue from 462 participating vendors, with an estimate and forecast for the market based on a bottom-up analysis of each vendor. Included in the report are our CCaaS segment definitions, market sector revenue estimates, top 10 vendors leaderboard, vendor growth forecasts, country-level market share, and a view of the competitive landscape for each of the market subsectors included in our analysis.

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