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UNIVERSE

Selecting a Cloud Service Provider, 2021–22

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Summary

Catalyst

The cloud computing market has evolved into a strategic choice for organizations. Cloud service providers (CSPs) offer a range of services to meet business customer needs. As the adoption of cloud computing increases, CSPs must offer enterprise-grade support services and make doing business as frictionless as possible. This Omdia Universe evaluates and compares the leading global CSPs.

Figure 1: The Omdia Universe for Cloud Service Providers

OMDIA UNIVERSE: Cloud Service Provider
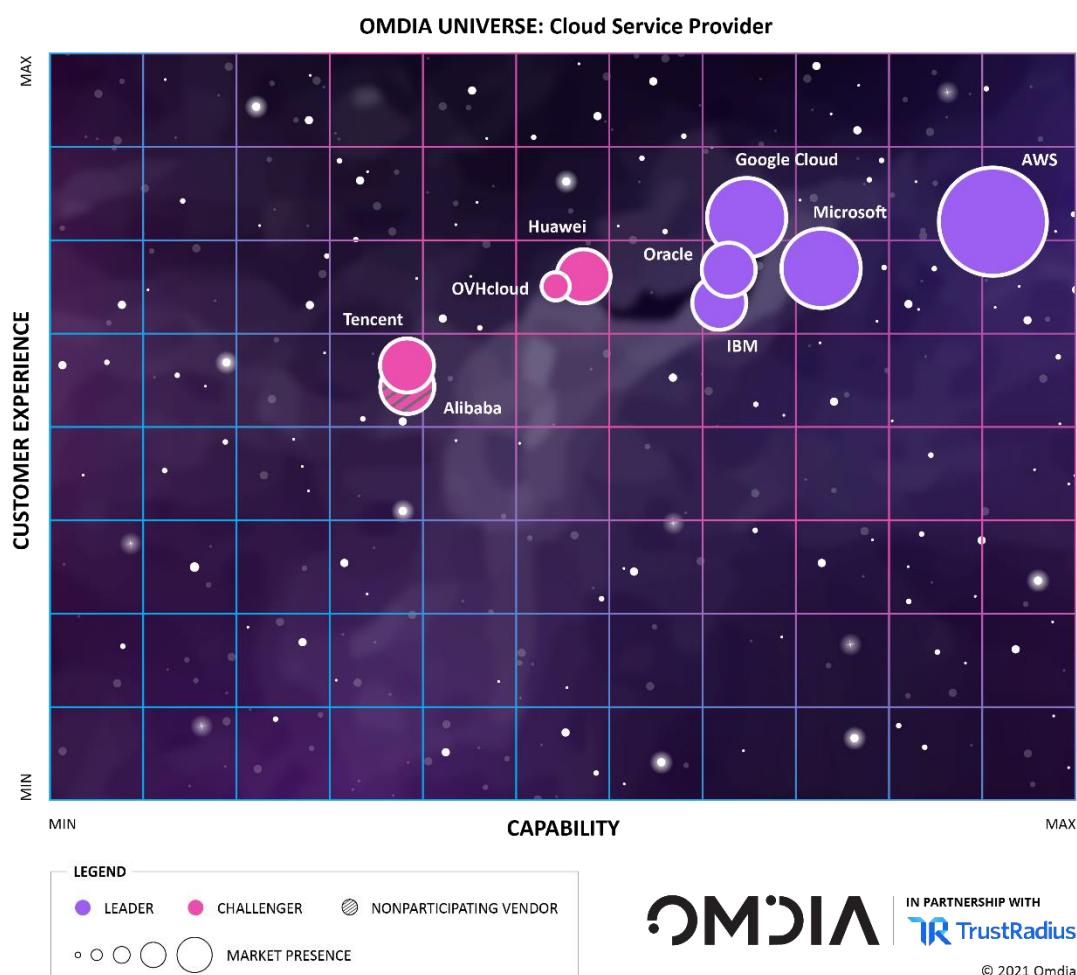
Source: Omdia

Omdia view

The cloud has been growing rapidly over recent years in terms of its breadth and depth, and many organizations have migrated to take advantage of its elasticity and opex model. This has laid the foundation for a shift in the strategic use of infrastructure where the cloud is set to become the dominant technology for the next 10 years. The cloud market is at a major inflection point, as its adoption is moving from serving a significant minority of workloads (respondents stated 45% of workloads were running in some form of cloud, according to Omdia's IoT, Cloud, AI & 5G – IT Enterprise Insights 2021 survey) to most organizations having a cloud-first policy. This transition will not result in a single dominant CSP; rather, the market will consist of a group of six CSPs that currently account for roughly 80% of the market, according to Omdia's ICT Enterprise Insights survey. The counterbalance to this is the ecosystem in cloud-native computing that has evolved in the open-source community with solutions such as Kubernetes—now the de facto standard cloud-native orchestration platform.

Organizations face an overwhelming need to enable IT to make their business more agile and able to generate more revenue more rapidly from new activities. In turn, IT departments face the challenge of supporting this business imperative, which has spawned many different approaches to cloud adoption. CSPs have evolved their offerings to meet this demand for easy-to-consume services that are enterprise-grade—where IT can centrally manage and coordinate any strategic use of cloud computing.

Key messages

- **Amazon Web Services (AWS)** is the clear leader for the third successive time, with a weighted average solution capability score of 67%, a solution breadth score of 95%, and an average customer experience score of 88%.

- **Microsoft** is second overall for the third successive time and is also classified as a leader. It has reduced the capability gap with AWS to less than 5%.

- **Google Cloud**, **IBM**, and **Oracle** complete the leader classification group. All scored a weighted average capability score of greater than 60%, a solution breadth score of greater than 90%, and an average customer experience score of 80% or more.

- **Alibaba**, **Huawei** (in its first Omdia Universe), **OVHcloud**, and **Tencent** were classified as challengers. All recorded weighted capability scores of 55–56%, but their performance in customer experience and solution breadth was more variable, which meant they lacked the consistency required for a leader classification.

- **Omdia scored CSPs in 16 categories**. AWS led in five individual categories and was a joint leader in two additional categories. Google Cloud recorded leading scores in four categories, Huawei three, Oracle two, and Microsoft, OVHcloud, and IBM one each.

- The **average customer experience score was 81%**, which shows customers are happy with CSP services. However, there is room for improvement, particularly in the vendor experience category, which had a spread of 14% between the top performing and lowest performing vendors.

- **Operational management was the highest scoring category**, with an average score of 66%, and onboarding and offboarding was the lowest, with an average score of 56%. This indicates more work is required by the industry to reduce the friction of moving between clouds.

Analyzing the cloud service provider universe

How to use this report

Omdia is a proud advocate of the business benefits derived through technology, and cloud computing is at the forefront of realizing benefits for CSPs. The Omdia Universe report is not intended to advocate an individual vendor; instead, it aims to guide and inform the selection process to ensure all relevant options are considered and evaluated in an efficient manner. The report findings gravitate toward the customer's perspective and likely requirements, characteristically those of a medium-large multinational enterprise (5,000+ employees). Typically, deployments are considered across the financial services, technology, media, and telecoms (TMT) and government sectors on a global basis.

Market definition

The move from on-premises to the public cloud (infrastructure as a service [IaaS], platform as a service [PaaS], and software as a service [SaaS]) is now well-documented and has seen steady growth over the past 10 years. Omdia estimates that 30% of all workloads were running in the public cloud as of 2019. However, the COVID-19 pandemic accelerated this move in 2020, and Omdia expects the number of workloads running in the public cloud to reach 50% of all workloads by 2022. The migration to the public cloud is now fairly uniform in terms of the types of workload and organizations' plans to move. But cloud computing is not a simple on-premises versus public cloud debate—it is more nuanced than that. The emergence of the hybrid cloud has introduced some challenging questions organizations must consider before they move workloads to any form of cloud.

Omdia clarifies the sector by identifying the key characteristics of a CSP. The current reality of the market is that the hyperscale CSPs do not all deliver the same level of performance on Omdia's 10 key categories.

Operational management
One of the key aspects of any management capability is how well it fits into existing processes and operational procedures and whether the solution imposes any significant operational management overheads. Organizations should also consider how advanced the CSP is in terms of automation and the seamlessness of the platform's operations.

Service quality

At the core of any cloud service offering is its ability to be available for the customer when they want it. It should also not have a history of poor performance or service unavailability. This metric looks at the global service quality of the CSPs as well as which regions are the best and worst performers.

Scale and flexibility

The vendor's presence in, and the platform's easy access from, any geography are critical aspects of a global CSP's offering. In addition, the platform should enable the customer to seamlessly grow or shrink resource consumption in line with demand.

Security operations

This category looks at the ability of the solution to provide the right levels of security and privacy to match those needed by the different classifications of data. The platform should also allow enterprises to integrate their own identity and access controls.

Service offerings

This category considers the breadth of offerings the supplier provides and how these match the customers' needs. The Universe expects CSPs to offer the basic IaaS and PaaS services and looks at the range of these services and the granularity and allocation of resources that can be purchased.

Pricing and TCO

This capability compares the suppliers on the cost and total cost of ownership (TCO) for several scenarios. Each CSP has a different set of offerings that are made up of different resources. Omdia normalizes the costs for small, medium, and large resource packages.

Customization and process

This capability refers to how easy it is for customers to make customizations to the service to meet their specific requirements. It also evaluates the processes that customers need to perform to do typical operational tasks, such as deploying a hybrid cloud solution.

Onboarding and offboarding

With any cloud service, the big challenges are how easy it is to start using the service and how easy it is to stop using the service and export the workload and data to another service. This capability looks at the hidden charges that users may be unaware of in both instances.

Reporting and integration capabilities

This capability refers to the ability to derive some metrics and understanding of the cost and value of the service, as well as the ease of integrating with adjacent technologies and the customer's whole IT environment.

Marketplace

This refers to the way different capabilities from third parties are made available for customers to consume in an easy and frictionless manner. It also considers approaches to simplifying the many different offerings a provider has developed and to making the purchase of these services as simple as possible while supporting corporate governance rules.

Market dynamics

According to Omdia's *IoT, Cloud, AI & 5G – IT Enterprise Insights 2021* data, the top four hyperscale CSPs account for over 61% of global cloud usage when measured by the number of customers reporting to be using those CSPs. While this research does not show market share based on economic use of the CSP or what percentage of their workloads each cloud is hosting, it does provide an indication of the most popular CSP in terms of the number of customers using any particular CSP. AWS is the most popular CSP based on this measure; it is used by 21% of all customers globally, but this figure varies significantly by region. For example, in the US, the top four CSPs account for over 63% of the market, while in Latin America & the Caribbean, they account for 57%. Similarly, AWS is used by 21% of all customers globally, but this figure drops to 18% in Asia & Oceania and increases to nearly 24% in the US.

The cloud market is also segmented into different classifications of cloud. Omdia's *IoT, Cloud, AI & 5G – IT Enterprise Insights 2021* data reveals some interesting insights into global cloud computing use. Nearly 16% of respondents indicated they use a combination of on-premises and colocation cloud, marking it as the second most popular global choice. Again, this picture varies by region. Unsurprisingly, China ranks Alibaba as the top cloud of choice with nearly 19% (18.93%), followed closely by the combined on-premises and colocation cloud with 18.7% and AWS third with just over 14%. The key takeaway from this is that while the US global hyperscaler CSPs are dominant in certain geographies, they are being challenged by large regional CSPs with strategic intentions of also becoming global players.

Further analysis of the data shows AWS has 19.6% of the customers in Asia & Oceania (excluding China); Google Cloud is a strong second with 15.2%, just ahead of IBM on 15%. In Europe, AWS has 23% of the customers and Microsoft is second with over 14%, which compares favorably to North America, where Microsoft is used by 14%. In Latin America & the Caribbean, AWS has just over 20% of customers using its cloud services, and Google Cloud is second with 14% of respondents. The survey shows that the cloud market is dominated by these hyperscale CSPs, but as edge is more widely adopted, Omdia anticipates the Tier 2 CSPs will become more relevant when local edge clouds evolve.

Figure 2: Vendor rankings in the Cloud Service Provider Universe

Vendor	Product(s) evaluated
Leaders	
AWS	Amazon Web Services
Google Cloud	Google Cloud Platform
IBM	IBM Cloud
Microsoft	Azure
Oracle	Oracle Cloud Infrastructure
Challengers	
Alibaba	Alibaba Cloud
Huawei	Huawei Cloud
OVHcloud	OVHcloud
Tencent	Tencent Cloud

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Source: Omdia

Market leaders

The market leaders all shared some common attributes: they scored over 90% for solution breadth and their weighted capability scores were greater than 60%, with customer experience scores of greater than 80%.

- For the third consecutive time, **AWS** was the clear leader and **Microsoft** was a clear second (also for the third time).

- The three remaining leaders (**Google Cloud**, **IBM**, and **Oracle**) were all very close in terms of their respective scores.

The gap separating the leaders in terms of capability was 7%, which is the narrowest margin it has been since the inception of this research project. It must be noted that this Universe is not directly comparable to the previous reports since it uses a new structure. But in terms of the categories, the results cover the same aspects, so they can be compared reliably. The gap in terms of solution breadth was less than 5%, which indicates all the leaders have an excellent range of capabilities that would meet the requirements of the majority of organizations. It was in customer experience where the largest gap between the leaders emerged: an 8% gap. However, when a more detailed analysis

was performed, the product experience gap was 13%. These scores demonstrate that while the leaders may be close in terms of their technical offerings, customer experience is an area where some leaders need to improve.

Market challengers

The market challengers all scored more than 80% for solution breadth, greater than 50% for weighted capability, and greater than 70% for customer experience. The challengers were formed into two groups:

- The leading challengers were **Huawei** and **OVHcloud**; these CSPs scored at least one category in line with the leaders but were below the leader's threshold in at least one of the other categories.

- The other challengers were **Alibaba** and **Tencent**. These were comfortably in the challenger classification, but there is a gap between them and the leading challengers. However, both have mitigating factors: Alibaba was unable to complete the questionnaire, so it was scored using publicly available data. Tencent struggled to complete all the questions due to delays in the email delivery.

Market prospects

No vendors were classified as prospects in this Universe. To be considered a prospect, a CSP would exhibit the following attributes:

- The weighted capability score would be less than 50%.

- The solution breadth would be less than 70%.

- The customer experience score would be less than 60%.

Market outlook

In 2H20, off-premises cloud services revenue continued its strong growth trajectory, with half-over-half (HoH) revenue up by 13% for the second consecutive period. Omdia now has clear indications that the COVID-19 pandemic has accelerated the adoption of cloud services, particularly IaaS and PaaS. We also saw strong growth in some of the SaaS subcategories, namely virtual desktop and collaboration.

Omdia believes that, in many ways, the COVID-19 pandemic has reenergized the cloud services market. We expect that the increased reliance on services that enable remote working, for example, will continue going forward. Thus, we have raised our five-year SaaS growth CAGR to 16% in this reporting cycle (up from 10%).

The strong close to CY20 and strong start of CY21 encouraged Omdia to update our long-term forecast for the off-premises cloud services market. Overall, CY20 revenue was $37bn, ahead of our pre-pandemic forecast (published in October 2019), with the growth rate of the market accelerating. The off-premises cloud services market has had two notable growth acceleration periods in CY17–18 and CY21.

Omdia expects growth to ease very slightly in CY21, given that the COVID-19 pandemic is still in full swing in much of the world. In the long term, the market continues to move toward saturation as it nears the $1tn mark, which it will likely hit by 2030. Omdia's updated five-year CAGR for the off-premises cloud services market is 17%.

Omdia now expects IaaS and PaaS to grow 1–2 percentage points ahead of the rest of the market. We expect innovation in the IaaS market to drive renewed enterprise interest, namely the emergence of more optimized and specialized IT equipment, such as servers optimized with a large pool of memory for analytics and mainframes. PaaS will continue to be attractive to developers, with artificial intelligence (AI) and analytics platforms driving much of the growth.

North America is where off-premises cloud services started with over-the-top players such as Amazon, Google, and Microsoft. The region will remain the lead market through 2025, with 51% of off-premises cloud service revenue. Omdia expects most regional revenue shares to remain relatively stable to 2025; all four regional share splits will likely stay roughly flat during that timeframe.

Omdia continues to see regional players and traditional telcos in Europe, the Middle East, and Africa (EMEA) lead the charge to offer off-premises cloud services. We forecast EMEA will take 24% of off-premises cloud service revenue by 2025, the same as in 2020. Asia & Oceania continues to be a desirable location for off-premises cloud service deployments, with established players including Alibaba, China Telecom, and China Unicom expanding their services along with up-and-comers such as Baidu, Tencent, Huawei, and JD.com. Omdia expects Asia & Oceania to account for 23% of off-premises cloud service revenue by 2025.

Vendor analysis

Oracle (Omdia recommendation: Leader)

Oracle should appear on your shortlist if you need a competitive price-performance CSP with proven enterprise-grade reliability credentials

Oracle is classified as a leader in the Omdia Universe for the second successive time. It scored 60% for the weighted capability score, 97% for solution breadth (see **Figure 9**), and 83% for customer experience. Oracle also has two category leading scores for service quality (72%) and solution breadth (97%). The solution breadth score means that Oracle scored a partial capability or above in 138 of the 143 different questions in the capability dimension. The vendor has invested in its gen2 cloud architecture and engineered Oracle Cloud Infrastructure (OCI) to match the market needs currently and where it anticipates the market will be in two to three years' time.

Omdia likes the fact that Oracle has introduced a number of options for hybrid cloud and edge cloud scenarios, which demonstrate the vendor's thinking about how to address these growing trends. Our research shows that hybrid cloud is the fastest growing subsegment of the cloud market between 2020 and 2022. IT infrastructure will be placed at edge locations by CSPs, communications service providers, and the enterprise and will be worth $68.5bn by 2024. One of Oracle's key attributes is its heritage of delivering core business mission-critical workloads in a reliable and cost-effective manner. The vendor has used this experience in its OCI design and has robust processes that enable it to operate the cloud environment in a way that instills confidence in its customers about the availability and security aspects of cloud computing.

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Figure 9: Omdia Universe ratings – Oracle

OMDIA UNIVERSE VENDOR SUMMARY

Oracle: Cloud Service Provider

LEADER
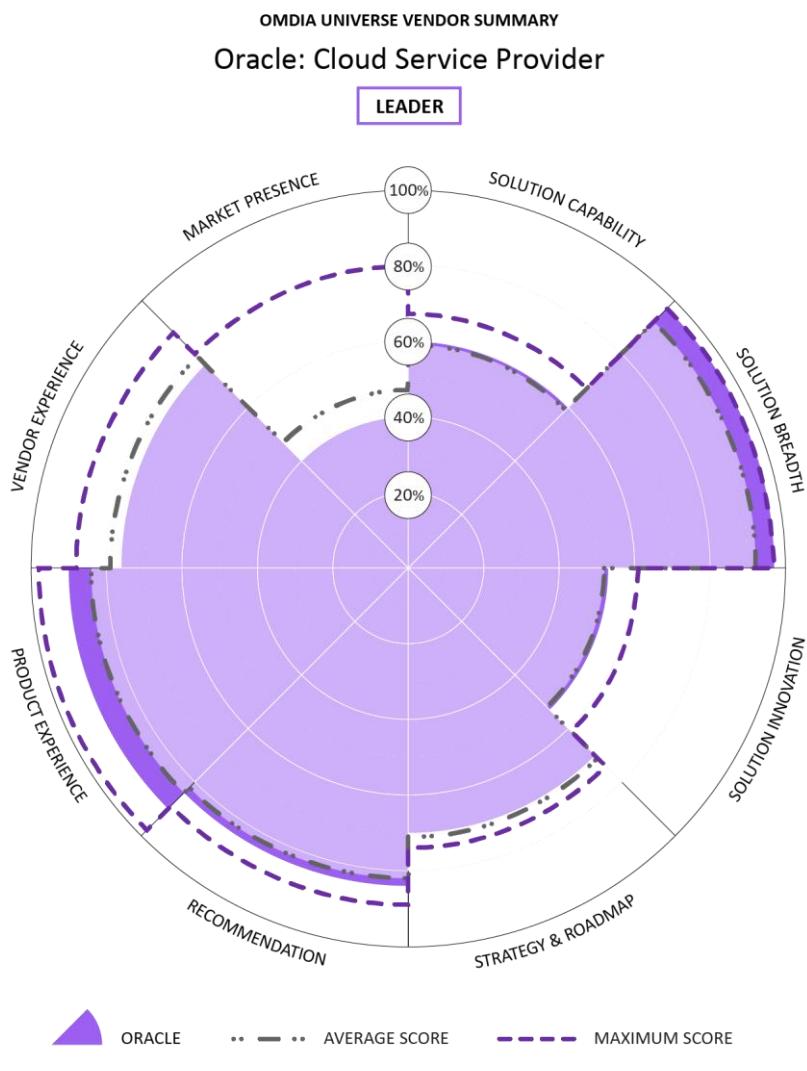
Source: Omdia

Strengths

Oracle's strongest category was operational management, where it scored 73%. The operational management responsibilities of the customers will vary based on the type of Oracle cloud services they use. Oracle cloud applications (SaaS) and managed/advanced cloud services are fully managed/operated by the vendor, and the customers do not have any operational management responsibility. Some services (classified as PaaS) like Autonomous Database (ADB) and Oracle Container Engine for Kubernetes (OKE) also provide full operational management automation and customers do not have any operational management responsibility. In the case of Oracle cloud infrastructure services like OCI Compute, Storage, and Network, customers are responsible for

managing specific operational activities themselves, as they are designed for customers that want more control.

Oracle's management tools are varied and flexible in how they can be used. Its observability and management solutions enable customers to manage operational activities like patch management automatically. Oracle Cloud performs automation based on Terraform, which is offered as an OCI managed service called Resource Manager and can be integrated with other DevOps toolsets such as Hudson, Jenkins, Puppet, and Chef. Customers that do not want to implement their own management tools can use Resource Manager to automate the process of provisioning OCI resources by assisting users with tasks such as installation, configuration, and management of resources based on the "infrastructure as code" model.

Oracle's second strongest category was service quality, where it scored 72%, a category leading score. The vendor was able to supply availability figures for its oldest and newest regions, both of which were better than its competitors. It was clear that service quality was a focus for Oracle; the fact that the vendor had figures it could share indicates a better position than some of its competitors.

Omdia liked the fact that for some services such as OCI Compute or Oracle Database Cloud Service, service administrators can configure rules to generate alerts when metrics exceed or are under specified thresholds for a specific time period. Also, for some Oracle Infrastructure and Platform Cloud Services (Oracle IaaS/PaaS), customers can monitor real-time service usage data to help them determine whether the resource allocations for a service are underutilized or overutilized.

Limitations

Oracle's weakest category was service offerings, where it scored 49%. The main reason for its relatively poor performance was due to a couple of capabilities Oracle either did not have or could not provide an answer for. The one significant lack of capability, compared to an inability to answer, was Oracle's lack of any quantum computing offering, which made it the only leader not to have any form of capability in quantum computing.

Opportunities

Oracle has been making steady progress in terms of developing and growing its cloud business, but if it is to become a serious challenger to the top two CSPs, it must identify new ways it can increase its appeal. Omdia believes vertical cloud packaging and marketing represent an opportunity for Oracle to exploit its deep industry knowledge and to help the laggard verticals make the business case to adopt cloud computing.

Threats

Oracle's biggest threat is nothing to do with anything it can control; rather, it is the political landscape between China and the Western democracies. If China gets back into a good trading relationship, then the Chinese CSPs will become competitors Oracle must watch. However, these Chinese CSPs currently lack the enterprise-grade credential of Oracle. Therefore, Oracle only has to look forward, as the competition behind it is of lesser concern since those companies face economic sanctions and market experience issues.

Methodology

Omdia Universe

The process for writing a Universe is long and time consuming:

- Omdia analysts perform an in-depth review of the market using Omdia's market forecasting data and ICT Enterprise Insights survey data.

- Omdia creates a matrix of capabilities, attributes, and features that it considers to be important now and in the next 12–18 months for the market.

- Vendors are interviewed and provide in-depth briefings on their current solutions and future plans.

- Analysts supplement these briefings with other information obtained from industry events and user conferences.

- The vendor responses are scored by a group of analysts using a scoring model, and the average score is recorded for each category.

- The Universe is peer reviewed by other Omdia analysts before being proofread by a team of dedicated editors.

Omdia ratings

The scoring for the Universe is performed by independent analysts against a common maturity model, and the average score for each subcategory and dimension is calculated. The overall position is based on the weighted average score, where each subcategory in a dimension is allocated a significance weighting based on the analyst's assessment of its relative significance in the selection criteria:

- **Market leader:** This category represents the leading solutions that Omdia believes are worthy of a place on most technology selection shortlists. The vendor has established a commanding market position with a product that is widely accepted as best of breed.

- **Market challenger:** The vendors in this category have a good market positioning and are selling and marketing the product well. The products offer competitive functionality and a good price-performance proposition and should be considered as part of the technology selection.

- **Market prospect:** The solutions in this category provide the core functionality needed but either lack some advanced features or suffer from a low customer satisfaction rating. A niche or relatively new vendor with select innovative products and strategies may fall into this category and should be explored as part of the technology selection.

Inclusion criteria

The criteria for the inclusion or exclusion of a vendor solution in the *Omdia Universe: Selecting a Cloud Service Provider, 2021–22* are as follows.

Inclusion criteria

- The CSP must be a global CSP and have customers and data centers in three of the four regions: Asia & Oceania, EMEA, Latin America & the Caribbean, and North America.

- The CSP must offer IaaS and PaaS capabilities that enable end users to request and initiate compute, storage, or a combination of both solutions.

- The CSP must have at least 500 customers, and they must be a mixture of mid-sized enterprises and large enterprises.

Exclusion criteria

- The CSP's offerings are only applicable to five of ten different classifications in the features questionnaire.

- The CSP's services are more than 33% made up of partner solutions or third-party solutions.

- The CSP's services are "white-labeled" and not sold as a branded solution.

Appendix

Further reading

Software Market Forecasts: Infrastructure, 2019–24 (September 2020)

AIOPs Transforming the Role of IT (March 2019)

Data Center Network Strategies & Leadership North American Survey–2020 (March 2021)

IoT, Cloud, AI & 5G – IT-Enterprise Insights 2021 (September 2020)

Understanding the People and Process Challenges with Deploying Data Center Automation Technologies (March 2021)

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Citation policy

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