Solution Scorecard for Alibaba Cloud International IaaS+PaaS

Published 16 November 2021 - ID G00757038 - 22 min read

By Adrian Wong

This assessment scores Alibaba Cloud's IaaS+PaaS offering against Gartner's 270-point Solution Criteria for cloud integrated IaaS and PaaS. It received a solution score of 81 out of 100, making it a generally viable option for technical professionals responsible for cloud production deployments.

Overview

Key Findings

- Although Alibaba Cloud is available worldwide, there are differences in capabilities between services within its international offering and its Chinese offering. Similarly, there may also be contractual differences, differences in the scope of audits and other differences related to business practices between these two offerings. The scope of this assessment is Alibaba Cloud's international offering.

- Alibaba Cloud's international offering has an overall solution score of 81, and meets 86% of Gartner's Required criteria, 74% of Gartner's Preferred criteria, and 58% of Gartner's Optional criteria. It is suitable for enterprise-class production use. More capabilities are offered in China, but Alibaba Cloud's international capabilities have improved markedly for the second year in a row, based on the assessed criteria.

- Alibaba Cloud's strategy is focused on being a best-in-class provider in China (and more broadly, in APAC), but it also has international ambitions. Infrastructure, sales and marketing presence has increased outside China in the past few years, particularly in APAC. Alibaba Cloud's product roadmap often mirrors that of its hyperscale competitors, but it also has significant differentiators of its own, particularly in data and artificial intelligence (AI)-/machine learning (ML)-oriented services.

- Alibaba Cloud is primarily oriented toward digital business workloads, and has some unique solution implementations that are specific to the demands of the Chinese market, yet may also be

useful to international customers. Capabilities of note include its Alibaba Cloud Apsara Stack on-premises services, AI/ML services, and its solutions targeted at the media and gaming verticals.

Recommendations

I&O technical professionals responsible for evaluating, comparing and selecting cloud providers should:

- Select Alibaba Cloud as your primary strategic IaaS+PaaS provider if you are an APAC-based business that prioritizes using a Chinese cloud provider with a global presence and a broad set of IaaS+PaaS capabilities. For enterprises based in China, select Alibaba Cloud as your primary provider due to Chinese regulatory requirements, which restrict the operation of Western providers, and expanded capabilities over its international offering.

- Evaluate Alibaba Cloud as a strategic IaaS+PaaS provider within a multicloud strategy, if you have significant digital business workloads that need to be hosted in the APAC geography, or will serve APAC-based customers.

- Assess Alibaba Cloud as a potential tactical IaaS+PaaS provider for workloads that you would prefer to host in China to achieve better proximity to customers in the region or to support global innovation initiatives that will be initially launched in China.

What's New in This Update

Note: We have a new format for our Solution Scorecards. A complete version of the current criteria and scoring is available at Cloud Integrated IaaS and PaaS. You can also access the data in the downloadable Microsoft Excel file.

Throughout 2020 and during the first half of 2021, customers increasingly adopted "deliberate" multicloud workload placement strategies, in a shift away from the "accidental" multicloud situations that often resulted from ungoverned and tactical cloud adoption. Consequently, cloud provider decisions are not limited to deciding whether or not to adopt and contract with a provider, but also include workload placement decisions, which occur for each application. While customers will primarily choose strategic providers based on alignment to their strategic IT roadmaps, technical criteria remain a significant influencer on workload placement policies and decisions.

In the second quarter of 2021, Gartner performed a partial update of its Solution Scorecard evaluations for IaaS+PaaS. This research is part of that multivendor assessment. Across that assessment:

- Where a criterion's score changed from No to Yes (or from Yes to No), we updated the scores and evaluation text. Capabilities had to be generally available (GA) by 30 April 2021 (the "cutoff date") to count for scoring purposes. These criteria are marked with an update date of "April 2021."

- Where a criterion's score did not change, the evaluation text remains as it was in 2020, where capabilities had to be GA by 30 April 2020 to count for scoring purposes. These criteria are marked with an update date of "April 2020."

- If we discovered that a criterion's evaluation text was inaccurate when published in 2020, we have corrected that text even if the score did not change. These criteria are marked with an update date of "April 2021."

However, each 2021 Solution Scorecard contains a full update of Gartner's analysis of that cloud provider's IaaS+PaaS offering, along with new recommendations for effective adoption and ongoing management of the solution, in both single-cloud and multicloud contexts.

This Solution Scorecard is scored and evaluated against the latest Solution Criteria for Cloud Integrated IaaS and PaaS, which was published in April 2021 and consists of 270 criteria. The 2019, 2020 and 2021 scores are directly comparable to one another. The score details are available on the Gartner Cloud Decisions platform and the Excel toolkit contained within a zip file that can be downloaded from the left-hand side of this Scorecard on gartner.com. This assessment is intended to be read alongside the Solution Criteria because that research contains the full explanation of what is required for each criterion. Note that the title of a criterion is not, by itself, an adequate explanation of what is required. In many cases, in order to meet the criterion's requirements, the cloud provider must not only offer the named service, but also include a defined set of minimum features.

If you are customizing this assessment for your own needs, you may choose to score the provider differently from Gartner. We provide transparency into the scoring for each criterion so that you can choose to focus on the aspects of a criterion that matter to you.

Bottom-Line Assessment

We assessed the integrated IaaS and PaaS within Alibaba Cloud's international offering (referred to here as "AliCloud"), which is available through the AliCloud English-language console (requires client login). Alibaba Cloud is a cloud computing-focused subsidiary of Alibaba Group. There may be differences in capabilities between services within AliCloud and those services in the Alibaba Cloud regions in China. Similarly, there may also be contractual differences, differences in the scope of audits, and other differences related to business practices between the AliCloud international business, which is headquartered in Singapore, and Alibaba Cloud's main corporate entity headquartered in China. Throughout this research, "Alibaba Cloud" is used to refer to the entity as a whole, the abbreviation "AliCloud" is used to refer to the international entity and service, which was evaluated, and "Aliyun" is used to refer to the China entity and service.

AliCloud meets 86% of Gartner's Required criteria for enterprise-class production-grade cloud integrated IaaS and PaaS providers. AliCloud scores well in the compute, storage, network, security and software infrastructure services categories. Its scores are moderate in the remaining categories.

Its weakest category is vendor management and audit. In some cases, a capability may exist in China that is not yet in AliCloud.

Consequently, Gartner believes that AliCloud is generally suitable for enterprise production use. However, missing Required capabilities will need to be accepted, remediated or risk-managed. Gartner recommends that businesses outside of China consider AliCloud as a scenario-specific provider within a multicloud strategy. If your applications and infrastructure in Alibaba Cloud will be developed and operated separately from your global IT environment, separate your China cloud provider decision from your global cloud provider decisions. Allow your Chinese staff to make the choice.

Solution Scorecard and Feature Snapshot

Figure 1 shows that AliCloud has an overall solution score of 81 out of 100. It also shows that Alibaba Cloud meets 86% of Gartner's Required criteria, 74% of Gartner's Preferred criteria and 58% of Gartner's Optional criteria.
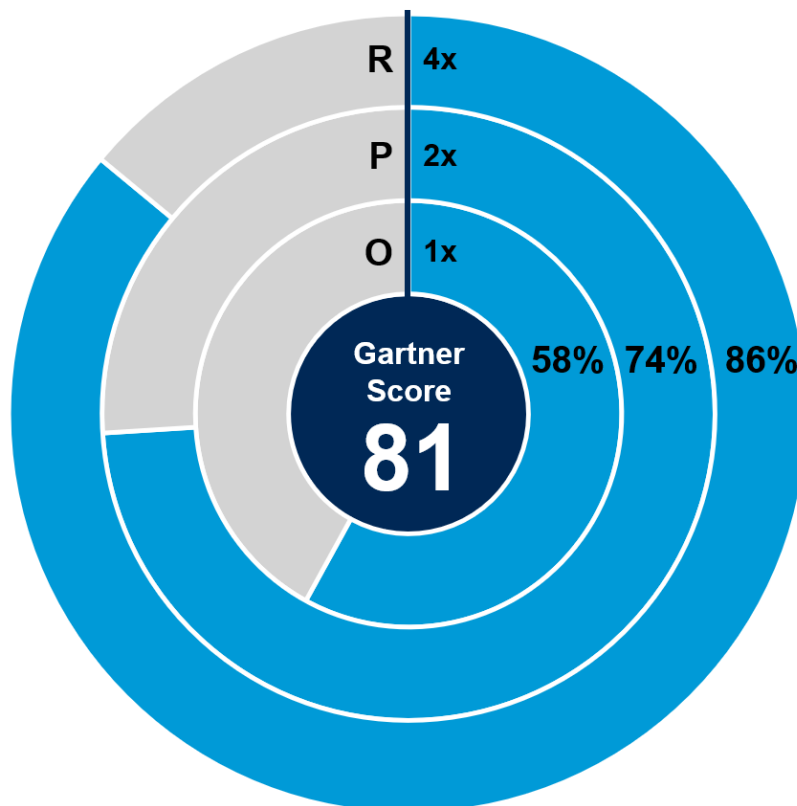
Download All Graphics in This Material

Figure 1. Solution Scorecard for AliCloud

⬇

Solution Scorecard
AliCloud IaaS+PaaS

R | 4x
P | 2x
O | 1x

Gartner Score **81**

58% 74% 86%

Source: Gartner
ID: 757038

As of April 2021

Gartner.

Note: The above scores, and those in the companion Excel tool, are accurate as of the published date. A complete version of the criteria and scoring as of the published date is available in the downloadable Excel file. The data will also be available on Gartner CloudScores, where it will be updated periodically.

Solution Scorecard Calculation

Gartner uses a weighted system to calculate the overall Gartner Score:

- Required criteria are assigned a weight multiplier of 4.

- Preferred criteria are assigned a weight multiplier of 2.

- Optional criteria are assigned a weight multiplier of 1.

The weight values can be customized by clients to meet their needs in the companion Microsoft Excel workbook (found under the download icon on the left side of this Scorecard in the client view on gartner.com). To omit weighting, clients should assign a multiplier value of 1 to all criteria.

Solution Criteria Framework

Gartner developed the Solution Criteria framework to address the current and future needs of its clients. This framework categorizes market features as:

- **Required:** Capabilities essential to developing, deploying and managing mission-critical, secure and compliant production applications. Missing Required capabilities may be "showstoppers" that require specific risk mitigation or may make the provider unsuitable for your use case.

- **Preferred:** Capabilities that are necessary but not vital to a broad range of use cases. Missing Preferred capabilities will often need to be replaced by other solutions. Most customers will have at least one application that requires these capabilities.

- **Optional:** Capabilities that are useful for specific use cases, but which many customers will not need. In many cases, these capabilities represent emerging technologies.

A companion Microsoft Excel workbook accompanies this Solution Scorecard. Your organization should modify and customize this workbook to create a comprehensive list of criteria that takes its specific needs into account. For assistance with using and modifying the workbook, refer to the "How To" worksheet.

Download the Excel Tool for This Document

In some cases, this assessment may show that the provider meets some or most of the requirements of the criterion, even though it does not meet all of them. In other cases, this assessment may show that the provider fully meets a criterion but is dependent on functionality that was in beta at the time of the evaluation (and which may still be in beta). Because this assessment does not offer partial credit, such criteria have received a "No" score. However, technical professionals reviewing this assessment should take note of the details because the explanations reveal what functionality exists and what workarounds may exist for missing capabilities. You are encouraged to use the Excel workbook provided with this research to customize your own scoring.
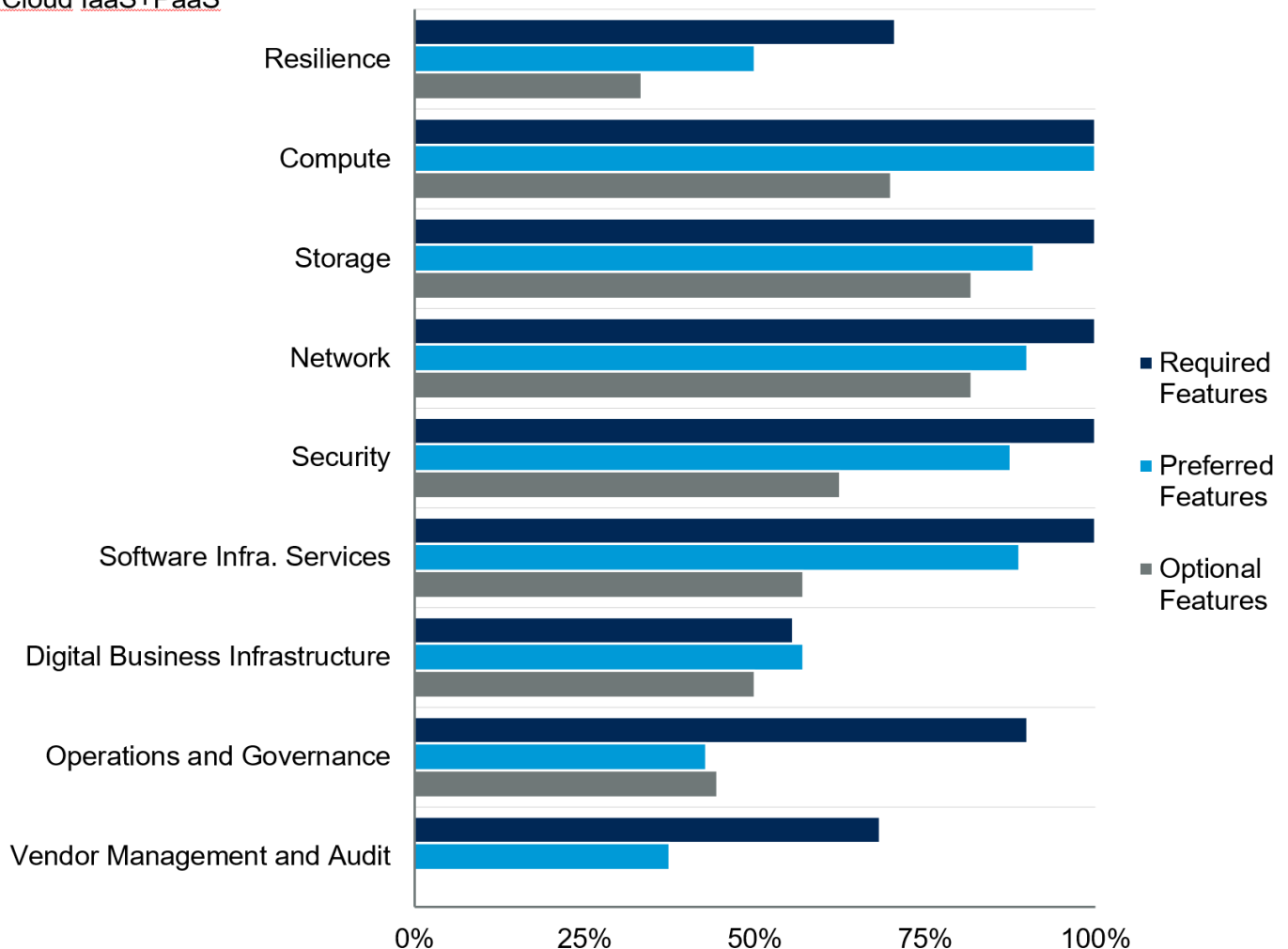
Figure 2 shows the AliCloud feature snapshot.

Figure 2. Feature Snapshot for AliCloud

⬇

Feature Snapshot
AliCloud IaaS+PaaS

Source: Gartner
ID: 757038

As of April 2021

Gartner

Note: The above scores, and those in the companion Excel tool, are accurate as of the published date. A complete version of the criteria and scoring as of the published date is available in the downloadable Excel file. The data will also be available on Gartner CloudScores*, where it will be updated periodically.*

Strengths

AliCloud has the following key strengths:

- **Chinese market leader:** In mainland China, Alibaba Cloud has 12 regions spanning more than 45 availability zones (AZs). It is an authorized cloud provider under China's regulatory schemes for cloud computing, and conforms with Hong Kong's regulatory requirements for the financial industry. It is designed to meet the requirements of the Chinese market for cloud IaaS and PaaS. The Chinese market emphasizes different customer types, use cases and verticals than the broader global market. Notably, the Chinese market is adopting AI/ML significantly more rapidly than the rest of the world, although much of this adoption is on-premises.

- **Many infrastructure options:** Alibaba Cloud offers many options for compute, storage and networking, although not all these options are present in all AliCloud regions. Of particular note are the range of options within its compute services. It has many options for virtual machine (VM) configurations, allowing optimization for specific use cases, and its autoscaling service can automatically price-optimize the mix of reserved, on-demand and preemptible instances. It offers bare-metal servers with Intel Software Guard Extensions (Intel SGX) that can be routinely automatically provisioned in less than three minutes. Its Kubernetes service supports both Linux and Microsoft Windows containers, and includes advanced features such as service mesh integration.

- **Breadth of data services:** Alibaba Cloud supports an array of data-related solutions, focused on delivering data at scale. It has data pipeline services, a data warehousing service (MaxCompute) and a data lake solution (Data Lake Analytics). It supports both online analytical processing (OLAP) and online transaction processing (OLTP) patterns, including AnalyticDB (OLAP) and HybridDB (OLAP and OLTP). It offers database services optimized for distributed deployments (Distributed Relational Database Service [DRDS]) and for high concurrency (PolarDB). Most of the data services are MySQL-compatible. It also supports several open-source relational databases, as well as multiple types of NoSQL databases, including both MongoDB and Apache Cassandra-compatible services.

Weaknesses

AliCloud has the following weaknesses, which may warrant caution:

- **Limited global offering:** AliCloud has presence in seven APAC regions outside of mainland China as well as a content delivery network (CDN) that spans more than 70 countries; but it has only two regions in the U.S., two regions in Europe, and one region in the Middle East, with no region in South America. AliCloud has an English-language portal and documentation, and these have improved significantly since the 2019 evaluation. However, the English-language documentation is not comprehensive, does not exist for all services and is not always accurate. Users should be careful to stay within the AliCloud portal, as it is possible to accidentally navigate to the Aliyun portal.

- **Lack of transparency:** AliCloud often does not document the technical details of service implementation, even under a nondisclosure agreement (NDA), which may increase the difficulty of making technical architecture decisions when using the AliCloud platform. Furthermore, AliCloud has made no assertions regarding the resiliency of the AliCloud control plane, or dependencies between services and thus potential vulnerability to cascading failures across multiple services. Finally, AliCloud does not provide any transparency into governmental/judicial requests for access to customer infrastructure or data.

- **Inconsistent service availability:** Alibaba Cloud was the provider with the second largest improvement from 2020 to 2021 in the multivendor Scorecard evaluation. While the velocity with which new services and features are introduced is technologically impressive, Gartner testing observed that new services and features may only be available in one or two regions at the time of launch. The pace at which these services and features are rolled out to additional regions is determined by AliCloud's perceived demand for an offering in each region. This issue is exacerbated when comparing Alibaba Cloud's Chinese portfolio with its international portfolio. In general, Alibaba Cloud's Chinese portfolio offers a richer set of services and features, when compared with the international portfolio. Notably, much of the company's DevOps tooling capabilities were not yet available in its international offering at the time of assessment.

- **Limited ecosystem for tools:** Most organizations — especially multicloud customers — supplement native cloud provider capabilities with additional cloud management tools and cloud security products. Relatively few such tools support Alibaba Cloud. Customers who have already chosen such tools for existing multicloud needs may find that their existing vendors and tools have insufficient support for AliCloud. This weakness also impacts AliCloud managed service provider (MSP) partners and their service delivery.

- **Marketplace offering:** Alibaba Cloud Marketplace only contains VM images and SaaS solutions. It does not contain prebuilt orchestration templates that allow independent software vendors (ISVs) to create full solutions that customers can deploy. As many marketplace items are for professional services, many Gartner clients do not make use of the marketplace.

Reasons to Deploy

Gartner clients typically believe that AliCloud is a likely good choice as a strategic IaaS+PaaS provider in the following circumstances:

- The organization seeks a China-based cloud provider with a strong local presence as well as globally competitive capabilities and intends to strategically adopt Alibaba Cloud as a whole (using both the Chinese and international entities).

- The organization has an aversion to selecting U.S.-based cloud providers and requires broad, globally competitive IaaS and PaaS technical capabilities.

Gartner clients also cite the following circumstances as influential in decisions to offer the option of AliCloud within a multicloud strategy:

- The organization seeks a local data center presence in mainland China or across multiple APAC countries.

- The organization seeks to decrease the complexity of multicloud management and portability, and its strategic provider is Amazon Web Services (AWS). A significant portion of AliCloud's services, including service names, capabilities and APIs, has been consciously modeled on AWS.

Reasons to Not Deploy

Gartner clients are typically cautious when adopting AliCloud in the following circumstances:

- The organization has workloads that will serve or interact with customers that are sensitive to using China-based providers (such as U.S. government customers).

- The organization wants a fully internationalized offering, including currency-specific pricing. Alibaba Cloud has a limited number of regions outside of APAC, though it does have local sales and support presence in the countries in which it operates. Services are priced in U.S. dollars.

Analysis

Alibaba Cloud is a hyperscale, integrated cloud IaaS+PaaS provider with a rich set of public cloud capabilities. It also offers preconfigured private cloud infrastructure such as Apsara Stack and the portfolio of Alibaba Cloud Intelligence Brain solutions (vertical-specific AI). A large portion of the company's customer base consists of Chinese digital businesses and Chinese public sector entities, and, due to the size of the Chinese market, it is one of the largest cloud providers in the world. While Alibaba Cloud has historically performed well in China, the rise of Huawei, Tencent, Kingsoft and other smaller cloud providers has seen significantly increased competition in the cloud IaaS+PaaS market in the country. In comparison to a significant increase from 2017 to 2018, the company's market share growth slowed between 2018 and 2019 (38.1% to 38.8%) before decreasing to 35.8% in

2020. This is indicative of these smaller providers eating into the Alibaba Cloud's market share. On a global scale, the company's market share increased marginally during the same period. See Market Share: IT Services, Worldwide 2020 for details.

As the company continues to wrestle for market share dominance in China, Alibaba Cloud seeks to expand its sphere of influence on a global scale. By registering the international entity in Singapore — the entity that we refer to here as AliCloud — Alibaba Cloud hopes to:

- Reassure customers who are less comfortable dealing with a China-based entity

- Build a technical foundation to fulfill global demand

- Meet regulatory requirements in the global market

AliCloud's expansion of its international footprint has included not just data centers, but sales, marketing and engineering presence in the regions in which it has data centers. However, on a global level, it is primarily of interest to organizations doing business within China's sphere of influence. That includes non-Chinese companies doing business in China, as well as geographies such as the Middle East and Africa.

Alibaba Cloud's technical orientation has historically been toward cloud-native digital business workloads, especially B2C workloads. With enterprise cloud adoption increasing in APAC, Alibaba Cloud has expanded its focus to serving verticals such as the public sector, financial services and retail. It primarily serves customers for use cases that are China-centric or, less commonly, APAC-centric. Its international regions are used primarily by APAC entities that want an in-country presence and Chinese companies that are delivering a global service (such as Chinese gaming companies that deliver mobile games worldwide).

Cloud architects guiding the implementation of AliCloud should:

- **Be wary of the provider's complex, sprawling portfolio of services**. Sometimes there are multiple services with what seem to be very similar feature sets, but each service has nuances that make it more optimal for particular use cases. Additionally, advanced features, particularly in the network security area, require additional costs. Therefore, significant expertise is required to navigate the array of options and design solutions, and to attempt to optimize costs. If such expertise is not available internally, an MSP with experience with AliCloud should be leveraged. See How to Selectively Validate and Implement Services From a Cloud Provider's Portfolio for guidance.

- **Be mindful of the dearth of English-language documentation**. English-language documentation typically lags behind the pace at which new features and functionality are released. Some AliCloud customers have reported implementation difficulties due to a lack of documentation. Additionally, documentation can be confusing and, in some cases, inconsistent with the demonstrated capabilities of a service.

- **Consider using a machine learning platform for AI.** AI has been identified as a key national priority by the Chinese government and, although not yet mainstream, the Chinese market has seen a sizable uptick in the use of these services. AliCloud has made significant upgrades to its AI/ML portfolio in recent years including the development of specialized hardware (such as AI-optimized chips) and tools that enable the building/training, deployment and consumption of ML models. See Artificial Intelligence in China: Landscape Analysis of Key AI Technologies for details. While AliCloud's AI/ML capabilities are strong, it should be noted that some services in the Machine Learning for AI portfolio are only available in Chinese regions.

- **Consider using Apsara Stack for a consistent on-premises cloud experience**. In China, large enterprises, especially Chinese conglomerates, are conservative in their approach to the cloud. There is a clear preference for building a full-functioning internal or hosted private cloud with a cloudlike experience (see Market Guide for Cloud Infrastructure and Platform Services, China for details). Apsara Stack is a solid hybrid offering that addresses these needs without the complexity of building a full-function private cloud. Apsara Stack offers on-premises infrastructure as a service and a subset of platform-as-a-service capabilities.

- **Rethink contract negotiation.** Although Alibaba Cloud offers negotiated contracts, the process of contract negotiation should be approached differently from other major vendors. While consumption volume is typically seen as the key contributor to negotiated discount value, Alibaba Cloud also places a large emphasis on the perceived potential of a client when determining discount value. Draw attention to long-term prospects that will be coming from your business beyond data center migrations. This includes specific projects involving analytics, the Internet of Things (IoT) and industry-specific initiatives that have the long-term potential to scale multiple times over current commitments. See 4 Best Practices to Reduce Costs in Your Cloud Infrastructure and Platform Services Contract to understand how to best support negotiation efforts.

Required Features for Production

AliCloud meets 86% of Gartner's required cloud IaaS+PaaS criteria. Some missing criteria that typical organizations require include:

- **Global data centers**: AliCloud is strongly positioned in China and the surrounding countries in terms of market share and capabilities. Outside of APAC, however, AliCloud only offers five regions: two in the United States, two in Europe and one in the Middle East. This has remained unchanged since the 2019 evaluation and is a barrier to gaining traction outside of APAC.

- **Global offering**: AliCloud provides an English-language portal, documentation and support, but does not support the full range of common European languages. AliCloud accepts payment only in U.S. dollars, Indian rupees or Malaysian ringgit; notably, the euro and British pound are not accepted.

- **Diverse marketplace:** There is an Alibaba Cloud Marketplace, but it contains only VM images and SaaS solutions. It does not contain prebuilt orchestration templates that allows ISVs to create full solutions that customers can deploy. There are more than 250 VM images available, but only approximately 10% of which are Windows-based. Many of the images contain open-source software, and the marketplace does not meet Gartner's requirement for a diverse ecosystem of at least 500 ISVs, which is necessary in order to cover the range of common software used by enterprises.

Preferred Features for Production

AliCloud meets 74% of Gartner's preferred cloud IaaS+PaaS criteria. Some missing criteria that typical organizations prefer include:

- **Cost optimization engine:** Overspend is an ongoing issue for enterprises in the cloud. Although Alibaba Cloud provides basic cost management capabilities, including cost forecasting and the ability to suspend compute instances on schedule, the company does not offer a tool that analyzes customers' historical usage and makes actionable recommendations for optimizing cost. As highlighted previously, this issue is exacerbated by a lack of third-party cloud management tools that support Alibaba Cloud. Customers must therefore take this into consideration when developing their cloud cost optimization plan.

- **Oracle partnership:** Alibaba Cloud is not an Oracle Authorized Cloud Environment, which has implications both for licensing and technical support for Oracle software running on Alibaba Cloud. Alibaba Cloud does not publish a list of partners that can assist with implementing Oracle solutions on Alibaba Cloud.

- **AI/ML API services:** While Alibaba Cloud has some AI/ML API services in China, these services are not available in AliCloud, and there is no English-language documentation for them. Gartner was not able to validate whether the Chinese services would meet this criterion's requirements.

Optional Features for Production

AliCloud meets 58% of Gartner's optional cloud IaaS+PaaS criteria. Some missing criteria that typical organizations consider optional include:

- **Hold your own key (HYOK):** Alibaba Cloud does not support HYOK, either in its Key Management Service (KMS) or in the services that use encryption, which may be of concern to customers who require higher levels of data protection.

- **ML algorithm infrastructure:** AI/ML is emerging as a key disruptor on a global scale. AI marketplaces improve the accessibility, usability and affordability of AI for organizations. While Alibaba Cloud provides capabilities for training and deploying ML algorithms, Machine Learning

Platform for AI does not yet offer a marketplace that allows customers to select an algorithm and process their data using that algorithm.

■ **Law enforcement request/transparency report**: Alibaba Cloud does not have a documented process for handling law enforcement requests. It does not report how many such requests it receives each year, nor how many it partially or fully complies with.

Note 1. Related Guidance

Alibaba Cloud is also evaluated in other Gartner multivendor assessments, which include:

Magic Quadrant for Cloud Infrastructure and Platform Services

Magic Quadrant for Cloud Database Management Systems

Solution Comparison for the Native Security Capabilities Within Alibaba Cloud, AWS, Azure, GCP, IBM Cloud and OCI

Solution Comparison for Blockchain Cloud Services From Leading Public Cloud Providers

Learn how Gartner can help you succeed

Become a Client

About   Careers   Newsroom   Policies   Site Index   IT Glossary   Gartner Blog Network   Contact   Send Feedback

Gartner.