

MARKET PERSPECTIVE

Priority Considerations for Cloud Platform Capabilities in 2023 and Beyond

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Priority Considerations for Cloud Platform Capabilities in 2023 and Beyond

To meet the highest level of service and fuel innovation while ensuring business continuity, organizations should expect, and actively work with their strategic technology partners to demand, the following requirements from their cloud platforms: security; data residency and privacy; scalability, including serverless; rapid iteration and delivery; and data services in support of AI/ML.

Key Takeaways

- Security: Capabilities such as encrypting data in transit and at rest to be secure by default
- Data residency and privacy: The ability to serve employees and customers globally while providing local data store and processing; comprehensive privacy standards that enable both transparency and control
- Scalability, including serverless: The ability to scale reliability and flexibly but also sustainably
- Rapid iteration and delivery: Increasing standards for delivery of new features, capabilities, and content
- Data services in support of AI/ML: Enabling increasingly real-time capabilities across data management, data analytics, and AI/ML

Recommended Actions

- Look for and make use of more natively experiences via integrations across PaaS ecosystem vendors.
- Put a strong emphasis on trust, data privacy, and automation to ensure your cloud platform strategy empowers the business to deliver growth. This is of critical importance for operating at global scale.
- Consider the benefits of serverless models: reduced costs, improved scalability, and improved time to market. IDC sees compelling business cases arising from use of serverless approaches in both start-ups and enterprises.
- The strategic imperative to become a data-driven organization is becoming more baked into application development. This area of advancement will be foundational for organizations to drive the next level of value in the cloud.

Source: IDC, 2023

NEW MARKET DEVELOPMENTS AND DYNAMICS

Introduction

While macroeconomic uncertainty during 2023 remains a concern, the fundamentals of cloud technologies and public cloud PaaS providers as strategic partners to enterprises and companies of all sizes are evident. Companies continue to accelerate movement to and adoption of the cloud for modernization and new application initiatives as well as data and artificial intelligence (AI) initiatives. IDC research shows that in the PaaS market, growth comes from not just the top few but a large ecosystem of PaaS vendors.

IDC research also shows that cloud platform services/PaaS spending is among the areas least likely to be impacted by recessionary pressures. This is in part because cloud-first approaches are the norm for the development of new, innovative capabilities. In addition, organizations that have already adopted cloud are measuring business benefits across vectors of efficiency, productivity and, most importantly, revenue generation. IDC expects to see more focus on revenue-enabling business value for cloud as organizations continue to prioritize innovation that delivers value to their customers.

Cloud-first approaches require cloud platforms that fundamentally deliver on security, privacy, and compliance requirements. Meeting these needs is challenging and especially significant for organizations whose customers have grown into worldwide presence. IDC research shows that 78% of organizations worldwide say it will be a priority or high priority to invest in security, privacy, and compliance technologies in 2023.

All of this is happening while velocity and speed to market remain paramount even as efficiency concerns and demands for new tools to support innovation increase. By approaching innovation from a customer-centric vision combined with customer-centric solution sets, organizations put themselves in a unique position to succeed in a trust-centric world. But customer-centric innovation can only truly transpire if the underlying platform of the tools for innovation can operate at a global scale while delivering capabilities across a core set of capabilities.

This IDC Market Perspective offers insight on what organizations need to know regarding cloud platform services that provide global scale along with the highest level of security, compliance, and privacy. They are the critical building blocks to enabling the innovation and value that organizations can achieve in their software development and digital-first efforts.

Industry Dynamics

Cloud platforms, or PaaS, serve as the foundation for applications, digital products, and digitally supported services. These products and services help end customers accelerate innovation and time to market across functional areas of their business, including sales, customer service, marketing, HR, supply chain, ecommerce, and other industry-specific solution sets.

Customers across industries, from highly regulated verticals such as banks, governments, and financial services firms, to the digital-first innovation driven by both large enterprises and small start-ups alike covering healthcare, retail, energy, and more will increasingly benefit from these requirements. This will especially be true when those requirements are met by the underlying cloud platform serving customer-centric innovation strategies.

Business Imperative for Cloud Platforms and PaaS Services

It used to be that CIOs primarily considered cloud adoption as an alternative IT purchasing model (i.e., a shift from capex-based spending to opex-based spending). Today, that justification has been left in the dust by the recognition that cloud-based technology can deliver better and faster customer experiences that make use of the cloud's proven ability to deliver automation, real-time data, and intelligence. The potential of cloud is truly unlocked when cloud is adopted as both a technology platform model and an operational model, jointly enabling agility and responsiveness for delivering the next phase of an organization's market differentiating services to customers.

Executives must continually assess their business, IT, and security operations to ensure that the right people, processes, and technologies are in place. IDC sees the most successful executives, those who qualify as innovation leaders in our research, uphold a strong business strategy vision behind all technology decisions. Knowing those future-state objectives is vital.

The ability to apply intelligence, or AI/ML services, to serve customers is one common future-state objective for executives. IDC research shows that 61% of cloud decision makers say availability of AI/ML services was a factor in their selection of cloud application platform services vendor.

Figure 2 further shows what matters to developers, and their wider businesses, when it comes to developing and deploying custom applications on cloud platforms: better security and availability of complementary services. Better security frees up developers to focus on business differentiating code while ensuring that organizations of all sizes can improve their risk and compliance postures with cloud-based services while benefiting from the available services. Complementary services such as data services and AI/ML services within a vendor's tool kit greatly speeds access for a developer and thus speeds their ability to get solution into their sales, customer service, and end-customers hands.

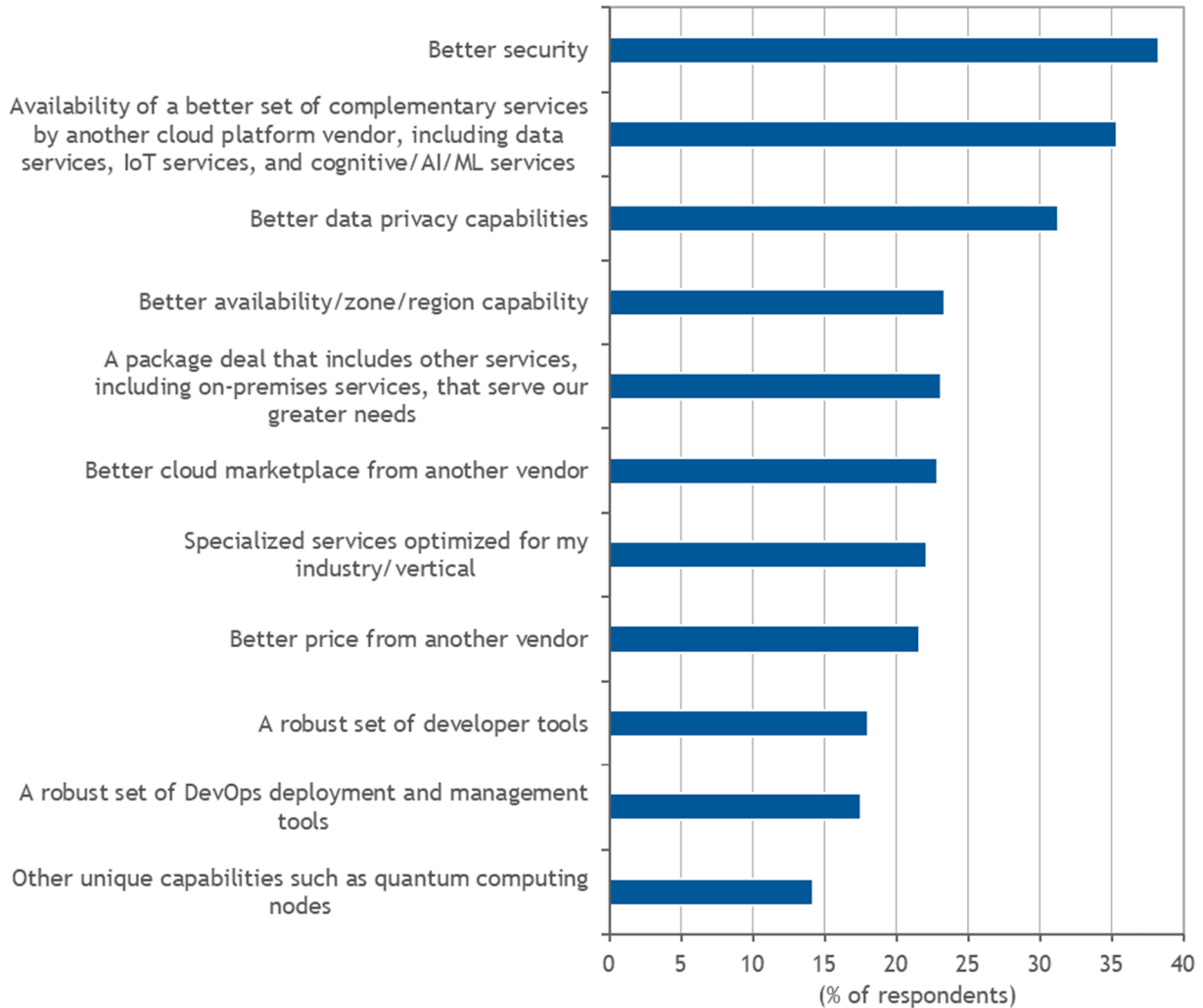
Figure 2 shows top pain points of customers developing and deploying applications on cloud platforms.

Furthermore, 65% say availability of data services that support AI/ML services was a factor in selecting a cloud platform vendor. Underlying the importance of AI/ML services and supporting data services are the cloud platform's capabilities in data residency, scalability, security, privacy, and agility to drive business benefits.

FIGURE 2

Factors Responsible for Changing Cloud Platform Vendors

Q. Which of the following factors might make your organization consider changing cloud platform vendors? (Select up to three.)



n = 416

Base = all respondents

Notes:

The data is managed by IDC's Quantitative Research Group.

Data is not weighted.

Multiple responses were allowed.

Use caution when interpreting small sample sizes.

Source: IDC's *PaaS Spending and Trends Survey*, January 2022

Priority Capabilities for Cloud Platforms/PaaS

To meet the highest level of service and fuel innovation while ensuring business continuity, organizations should expect (or are demanding) the following requirements from their cloud platforms:

- **Security:** Capabilities such as encrypting data in transit and at rest to be secure by default
- **Data residency:** The ability to serve employees and customers globally while providing local data store and processing
- **Privacy:** Comprehensive privacy standards that enable both transparency and control of data
- **Scalability, including serverless:** The ability to scale reliability and flexibility but also sustainably
- **Rapid iteration and delivery:** Increasing standards for delivery of new features, capabilities, and content to market means operating with speed and agility
- **Data services in support of AI/ML:** Enabling increasingly real-time capabilities across data management, data analytics, and AI/ML

Security

Security must be at the core of every business-related discussion around technology and cloud platform choices; it is central to the trust in customer relationships. Typically, IDC sees that customers that were previously reluctant to migrate their applications to the cloud were wary of privacy, security, and compliance factors. Organizations should expect their cloud platforms to be secure by default, including features such as least privileged controls and immutable software artifacts. The cloud platform should also encrypt data both in transit and at rest. Finally, when it comes to the overhead required to manage security controls and postures, a single pane of glass for configuration and data for all applications running on the cloud platform regardless of location will greatly reduce overhead and make it more secure because of the reduction of complexity.

Data Residency

To achieve data residency, consider cloud platforms that will offer local data storage and processing, which provide benefits to customers when it comes to meeting local regulations. The ability to colocate the running of applications alongside other apps and data can also provide improved performance. The cloud platform must provide choice and control with the ability to process and store customer data in the location required. The European Union is a primary target for this type of need. When asked about what will influence them the most when it comes to digital sovereignty and their partnership priorities over the next two years, IDC research shows that around a fifth of organizations in Europe said they would be driven by customer needs for data localization, while a similar number said data ownership and control regulations would be significant factors. These capabilities help organizations meet data governance goals while focusing on serving their customers.

Privacy

When it comes to privacy, organizations need controls so as to safeguard customer data robustly and transparently. There must be features in the cloud platform that allow organizations to understand how their data is collected and used. Cloud platforms must be built in a way that allow organizations to remain in control of data at all times, including operating in regions while meeting the requisite privacy and data handling requirements.

CIOs want the ability to run consistent compliance evaluations across the entire estate. This is especially critical for a global organization, and any organization that is in a position of maintaining compliance records for their customers. Simplifying compliance, auditing, and reporting controls is key to both effective use of resources and reducing risk in compliance posture.

Scalability, Including Serverless

The ability to scale reliably and flexibly while sustainably have been value propositions of the cloud model since its inception. PaaS services play an important role in making the promise of scalability a reality by taking on the work of optimizing how an application will scale when deployed.

Serverless is a key, and growing, way of achieving scalability. With serverless deployment models, developers are freed up from the tasks of configuring, scaling, and managing clusters or servers. They are also freed from having to predetermine and provision capacity. This allows developers to focus on writing code and deploying applications, rather than managing infrastructure.

IDC research shows that adoption of serverless has been relatively slow to date compared with Kubernetes/containers, despite its potential to result in lower cloud costs and faster performance. This is in part because it lacked the PaaS capability to make, build, and deploy dead simple. However, a new generation of PaaS providers is working on just that opportunity space. Lock-in is a concern, but strong business benefit and serving use cases shouldn't stop organizations from considering long-term strategic relationships with serverless platform vendors.

Rapid Iteration and Delivery

Increasing standards for speed and agility with zero downtime for updates, fast access to dev and test environments, and interoperability with, or complete abstraction from, the underlying public cloud. From a developer perspective, PaaS services hit the mark when those services excel in metrics related to their productivity. This includes performance/latency, time to spin-up sandboxes and dev/test environments, and eliminating downtime for upgrades. Productive development teams are benefiting from the ability of cloud platforms to improve their development velocity in these areas.

Data Services in Support of AI/ML

Data is a key battlefield for developers and their organizations because of its untapped source of business value. Innovation by cloud platform providers in the areas of data management, data analytics, and AI/ML specifically with the ability to bring real-time capabilities to applications, will help customers solve problems across a wide range of verticals and use cases.

Speed, including latency but also development time, is a critical roadblock for companies to get value out of data. As vendors continue to build out their portfolios and offer native integration with ecosystem partners, customers will benefit from reduced need for custom development and the associated governance complexities and maintenance of custom code.

Cloud Platforms: Representative Vendors

Cloud platforms serve as the foundation for the creation, delivery, and operation of applications and digital solutions. Table 1 lists representative vendors across the following categories:

- Major cloud platforms with collections of developer-centric services
- Cloud application development and deployment platforms (including low code and no code)
- Developer-centric platforms from SaaS/ISVs (usually to develop customer solutions that extend a vendor's core software solutions in meaningful ways)
- Other cloud-native technology providers with developer-centric use cases

Note: Table 1 is not an exhaustive list; it is only representative.

TABLE 1**Representative Cloud Platforms and Cloud-Native PaaS Solutions by Category**

Major Cloud Platforms with Collections of Developer-Centric Services	Cloud Application Development and Deployment Platforms (Including Low Code and No Code)	Developer-Centric Platforms from SaaS/ISVs	Other Cloud-Native Tech Providers with Developer-Centric Use Cases
Microsoft Azure	Red Hat	Salesforce	Snowflake
Amazon Web Services	VMware	SAP Business Technology Platform	MongoDB
Google Cloud	IBM	Workday Extend	Couchbase
IBM Cloud	Salesforce	ServiceNow	Atlassian
Oracle	ServiceNow	Esri ArcGIS Developers	Databricks
Alibaba	Vercel	Zoho	Tencent
DigitalOcean	Netlify		OpenText
Akamai/Linode	Microsoft (Power Platform, Azure Arc)		HERE Technologies
Edgio	Google		Dell Technologies
	Appian		Teradata
	OutSystems		JFrog
			Digital.ai

Source: IDC, 2023

ADVICE FOR THE TECHNOLOGY SUPPLIER**IDC Guidance**

IDC advises cloud platform vendors to consider the following points of discussion that IDC offers to technology buyers regarding their cloud strategy:

- Across the PaaS market, vendors continue to innovate, acquire, and partner to grow the breadth of products. This breadth requires a strong focus on integrations. To the extent that customers can make use of more natively like experiences for those integrations, they will benefit. This is especially true when it comes to data for the central role it plays for ensuring compliance with data residency requirements, privacy requirements, and security.

- Connecting with customers is paramount to digital innovation and business growth. While organizations globally continue to experience significant headwinds, they are also proving to innovate and transform at a pace never seen before. The trust challenge that comes with competing in a digital-first world is top of mind for all executives. Maintaining and delivering on brand trust must permeate all business decisions related to technology investment.
- For all cloud services, the underlying cloud platform must deliver on the needs of data residency, privacy, and security to fuel the agility that brings customer success. Expanding business to new locations globally means new laws and regulations come into play. CIOs must put a strong emphasis on trust, data privacy, and automation to ensure their cloud platform strategy empowers the business to deliver growth.
- Security remains a top concern for enterprises when it comes to considering the use of public cloud services. Concerns surrounding security extend to the topics of data privacy and data sovereignty of cloud services, which are particularly strong inhibitors in Western Europe. Some organizations may be hesitant to relinquish control of security assurance, even if the reality may be that security capabilities in the public cloud are better than the customer's own capabilities. Consider the security posture with an open mind, as cloud platform vendors are investing in this foundational capability.
- Serverless platforms can offer organizations several benefits, including reduced costs, improved scalability, and improved time to market (by offloading infrastructure management to the PaaS/cloud provider). In looking at serverless options, IDC advises organizations that the best option for any particular use case will depend on the specific needs and requirements of the use case and how it aligns with other organizational needs. In some cases, it may be best to build on top of the hyperscalers, and in other cases it may be beneficial to adopt a cloud application platform/PaaS vendor.
- The strategic imperative to become a data-driven organization is becoming more baked into application development. The potential for organizations and their developers to make use of cloud platform services to create data-driven applications is still in its infancy. IDC believes this area of advancement will be foundational for organizations to drive the next level of value in the cloud.

In conclusion, enterprises must continue to partner with cloud platform vendors from an ecosystem perspective, making sure to push for the advancements that address unneeded complexity. IDC expects CIOs and CEOs to continue to place strategic importance on team velocity and efficiency while addressing data residency, security, and privacy. With cloud platforms, organizations will increasingly be able to enable employees, developers, and IT teams, regardless of location to deliver innovative new tools, processes, and products that serve their customers.

LEARN MORE

Related Research

- *What Does an Organization's Digital Business Maturity Say About Its Planned Spending on Cloud Platform Services in 2023?* (IDC #US50009623, January 2023)
- *IDC Innovators: Cloud Platform-as-a-Service/PaaS Technologies, 2022* (IDC #US49790022, November 2022)
- *Digital Sovereignty: Rethinking IT Strategies and Operations for Self-Determination* (IDC #EUR149591322, September 2022)

- *Market Analysis Perspective: Worldwide Platform as a Service, 2022* (IDC #US48603322, August 2022)
- *Worldwide Competitive Public Cloud Platform as a Service Forecast, 2022-2026* (IDC #US48603722, July 2022)
- *Worldwide Competitive Public Cloud Platform as a Service Market Shares, 2021: A Vibrant Ecosystem Delivers Growth with Across-the-Board Focus on Improving the Pace of Development* (IDC #US48603822, July 2022)

Synopsis

This IDC Market Perspective offers insight on what organizations need to know regarding cloud platform services that provide global scale along with the highest level of security, compliance, and privacy. Meeting these needs is challenging and especially significant for organizations whose customers have grown into worldwide presence. In addition, IDC research shows that scalability, including serverless, rapid iteration and delivery, and data services in support of AI/ML round out the list for critical considerations for cloud platforms in 2023.

"The strategic imperative to become a data-driven organization is becoming more baked into application development. This area of advancement will be foundational for organizations to drive the next era of value in the cloud," said Lara Greden, research director, PaaS at IDC. "IDC also advises organization to consider the benefits of serverless models, which include reduced costs, improved scalability, and improved time to market. IDC sees compelling business cases arising from use of serverless approaches in both start-ups and enterprises."

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