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Magic Quadrant for Cloud Application Platforms

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Cloud application platforms remove infrastructure management complexity, support dynamic scaling and enable product teams to deliver faster customer value. This research helps software engineering leaders to evaluate cloud application platform vendors and find the best fit for their organization.

Market Definition/Description

Gartner defines cloud application platforms as those that provide managed application runtime environments for applications and integrated capabilities to manage the life cycle of an application or application component. They typically enable distributed application deployments and support cloud-style operations — such as elasticity, multitenancy and self-service — without requiring infrastructure provisioning or container management.

Cloud application platforms are designed to facilitate the deployment, runtime execution, and management of modern cloud-native or cloud-optimized applications (e.g., web-based apps, back-end services with/without APIs, etc.) without the need to manage any underlying compute infrastructure. Also, they are designed to enhance developer productivity, accelerate development and deployment cycles, and increase operational effectiveness by making it easier to scale on demand.

Cloud application platforms offer a structured execution environment for applications, effectively hiding the complexities of the underlying infrastructure and computing resources. They also provide vendor-supported versions of application runtimes and frameworks for the commonly used languages (for example, Java, Node.js, PHP, Python, Go and Ruby). By abstracting the complexities associated with infrastructure management, cloud application platforms enable product teams to deliver faster customer value.

The cloud application platforms market reflects the consolidation of technologies across deployment, scalability, security and observability of applications to streamline software delivery. They are intended to be more than just a platform for running applications; they are essential for businesses aiming to achieve excellence in software engineering, productivity and market responsiveness.

Typical cloud application platform benefits include:

- **Operational excellence**: Cloud application platforms remove infrastructure management complexities, allowing organizations to focus on innovation and core business goals, thus improving efficiency.

- **Easier to scale**: Cloud application platforms ensure applications can scale dynamically to meet demand with minimal manual intervention by using automation and providing seamless performance, even during peak loads, thus enhancing reliability and user experience.

Mandatory Features

The mandatory features for this market include:

- Application runtime services (including language runtime support) for multiple application types including web applications, mobile backends, microservices, AI/ML models, and analytics applications without requiring infrastructure provisioning or container management.

- Automated deployment of cloud-native applications (e.g., integration with DevOps).

- Autoscaling (load balancing, scalability and running of multiple instances).

- Application monitoring and observability — support for monitoring and observability to improve service-level objectives; gathering production telemetry (logs, metrics, events, traces).

- Cloud-based managed service — vendor (service provider) handles the maintenance, monitoring, updates and troubleshooting of the cloud application platform. This includes support, security, backups and performance optimization. It allows users to only focus on the application that can be deployed on cloud application platforms.

Common Features

The common features for this market include:

- Ability to deploy, manage, configure and operate containers at scale.

- Cost management capabilities for effective cost control and cost optimization.

- AI-assisted and AI-powered runtime environment. This includes intelligent configuration and orchestration of services, along with efficient resource distribution across workloads.

- IDE extensions and development tools to support software engineering teams in building applications for cloud application platforms.

- Serverless computing, which eliminates server management, automatically scales with application demand, and charges based on compute time used, enhancing efficiency and cost-effectiveness.

- Automatic updates and security patches to keep cloud application platforms up-to-date and secure without service disruption, reducing vulnerability risks and maintenance effort.

- Polyglot deployment supports multiple programming languages and frameworks.

- Ability to easily integrate with external services such as DBMS, event brokers and caches through standard APIs (e.g., ability to use Open Service Broker APIs).

- Disaster recovery, which ensures high availability by automatically switching to another compute region if the native host region goes down. This includes, but is not limited to, data backup and automatic failover, enhancing application reliability and continuity.

Magic Quadrant

Figure 1: Magic Quadrant for Cloud Application Platforms

Vendor Strengths and Cautions

Amazon Web Services

Amazon Web Services (AWS) is a Leader in this Magic Quadrant. It offers AWS Lambda, AWS App Runner and AWS Elastic Beanstalk. AWS offers many related cloud platform services supporting managed container systems, API management, event management, integration, identity

management, observability services and data management. The extensive platform suite supports serverless functions, native code, containers and cloud migration use cases.

AWS' operations are geographically diversified and cater to customers of all sizes across all sectors. The company is investing in improving its developer tools, automation features and performance optimization within the AWS ecosystem.

Strengths

- **Product or service:** The AWS cloud application platform suite provides teams with multiple options. AWS Lambda supports serverless functions. AWS App Runner provides a serverless runtime for containers and tooling to build container images from native code. Both platforms support modern architectures, multiple languages and frameworks, and provide cost-effective scalability, flexibility, performance and streamlined DevOps workflows. AWS Elastic Beanstalk supports a three-tier architecture and provides a platform for lift-and-shift migrations.

- **Product strategy:** AWS Lambda and App Runner are integral parts of the AWS serverless suite of complementary cloud services that help customers build, deliver and maintain secure, high-performance applications. AWS' marketplace of third-party solutions and native integrations also helps to streamline application delivery.

- **Innovation:** AWS continues to invest in its serverless platforms. One recent upgrade allows Lambda functions to scale more rapidly than before. AWS Lambda can allocate up to 1,000 additional execution environment instances, or 10,000 additional requests, to each function every 10 seconds. AWS is also making significant strides in its generative AI capabilities that simplify cloud computing.

Cautions

- **Customer experience:** AWS' vast array of interconnected services can overwhelm new customers who don't have deep knowledge of the AWS portfolio. The complexity of the AWS offerings can make it challenging for new users to get started and efficiently manage their organization's cloud infrastructure. The complexity can also impact budgeting because users might not be aware that some services are still running after an application has completed.

- **Market understanding:** AWS Lambda customers may find it difficult to replatform applications to other cloud providers. While AWS Lambda is not conducive to multicloud deployments, AWS' comprehensive platform portfolio provides a wide range of services that may reduce the need for a multicloud strategy.

- **Solution complexity:** AWS has a wide range of cloud application platform offerings that sometimes overlap. Customers at times struggle to select the right service for a given use case — for example, mapping AWS App Runner and AWS Fargate to the right use cases.

Cloudflare

Cloudflare is a Challenger in this Magic Quadrant. It offers the Cloudflare Developer Platform, which includes Pages and Workers services within Cloudflare's connectivity cloud. Cloudflare enables enterprises to build serverless applications and deploy them to over 330 globally distributed points of presence in its content delivery network (CDN).

Cloudflare's operations are geographically diversified, and Cloudflare Developer Platform clients tend to be midsize enterprises across various sectors. Cloudflare is working to expand its platform capabilities and enhance the developer experience.

Strengths

- **Offering (product) strategy:** Cloudflare offers a global network of edge computing resources, supporting CDN services, cloud cybersecurity and distributed denial of service (DDoS) mitigation. Its CDN also provides customers with a secure, high-performance edge-computing platform for serverless functions.

- **Sales execution:** Cloudflare has achieved more than 50% annual growth in cloud application platform sales for each of the past three years. Cloudflare excels in cross-selling its cloud application platform to its large, diverse base of existing customers, appealing to customers' needs to support extensive edge-computing initiatives.

- **Innovation:** Cloudflare has recently released Workers AI, a GPU-based compute resource that offers advanced computational capabilities at the edge and the ability to deploy machine learning and large language models (LLMs). Cloudflare also provides a graphical workflow tool for building AI applications. Cloudflare continues to innovate in the area of generative AI by steadily adding more natively deployed LLMs. Cloudflare is currently running a container platform in production for internal workloads and is planning to open container management functionality widely to customers in 2025. This expansion will enhance the development and runtime capabilities available to customers.

Cautions

- **Product or service:** Cloudflare Developer Platform supports development and deployment of functions, but not containers or native code. It supports JavaScript, Python, Rust and WebAssembly, where developers can write in Go and C. These limitations make the platform less suitable for modernization and lift-and-shift cloud migration scenarios.

- **Sales strategy:** Cloudflare has a relatively small partner program and does not offer a marketplace for community extensions, templates or plug-ins that can extend its core functionality. Its emphasis on edge execution does not appear to resonate with a broad audience. All these factors limit Cloudflare's ability to expand its ecosystem and appeal to new customers.

- **Market understanding:** Cloudflare's marketing strategy assumes that customers prioritize edge computing and serverless functions as the preferred architecture. While these are important trends, this focus may limit the company's ability to explore broader market opportunities.

Google

Google is a Leader in this Magic Quadrant. It offers Google Cloud Run, a serverless platform supporting functions and containers, and Google App Engine, a polyglot platform supporting new development and cloud migration. Numerous related cloud platform services are offered on Google Cloud Platform (GCP), supporting API management, integration, big data and managed container systems. Google platforms support a wide array of languages and back-end frameworks, and Google Cloud buildpacks simplify the creation of containers.

Google's operations are geographically diversified and cater to customers of all sizes across all sectors. The company is investing in embedded AI features to streamline developer and operator experiences.

Strengths

- **Product or service:** Google Cloud Run offers serverless computing for both functions and containers, supporting an exceptionally broad set of languages and frameworks. Google Cloud buildpacks can build container images directly from code, eliminating the need for developers to manually build containers. Gemini Cloud Assist provides contextual and personalized AI guidance to help manage application life cycles. Google App Engine supports a more traditional three-tier architecture and provides a platform for lift-and-shift migrations.

- **Market understanding:** Google demonstrates an awareness of developers' need for flexibility in development and deployment. The Google platform services give customers the choice to use any language, any library and any binary. Customers can deploy functions, containers or native code. They can build cloud-native microservices or function-based architectures, or they can lift and shift monolithic systems.

- **Innovation:** Google is integrating generative AI capabilities across its platform, with features like "Explain this log" (currently in GA) and "Help me create" for synthetic monitors (currently in public preview). These features go beyond code assistance to support developers with operational insights and configuration.

Cautions

- **Operations:** Google offers uptime service-level agreements (SLAs) and supports platform zero downtime updates, but it does not offer end-user latency guarantees. Google will not negotiate higher SLA guarantees.

- **Offering (product) strategy:** The products in Google's portfolio are deeply integrated and the workflows are more strongly opinionated than those of other Leaders' platforms. If teams are accustomed to integrating complex compositions of cloud services in novel ways, they may find the Google opinionated environment constraining.

- **Solution complexity:** Google Cloud has a wide range of cloud application platform offerings that sometimes overlap. Customers at times struggle to select the right service for a given use case — for example, mapping Google Cloud Run and Google Kubernetes Engine to the right use cases.

Huawei

Huawei is a Niche Player in this Magic Quadrant. Its cloud application platform — comprising Cloud Application Engine, Cloud Service Engine and ServiceStage — provides a polyglot platform for modern application development and a runtime environment for both web apps and back-end services. Huawei's cloud application platform supports a wide array of languages, back-end frameworks, and deployment of containers and native code.

Huawei's operations are predominantly in China, with some operations in Southeast Asia, Latin America, the Middle East and EMEA. Its Cloud Application Engine clients tend to be midsize enterprises across varied sectors. The company is investing in expanding its global presence and targeting specific industries, such as finance, telecommunications and energy.

Strengths

- **Innovation:** Huawei has broadened the platform's support for open-source development frameworks, which are popular in China. These include Apache ServiceComb, Spring Cloud Huawei and Sermant. In our customer survey, customers indicated that they value Huawei's internal feature flag product, Dark Launch, as it helps them support canary deployments.

- **Overall viability:** Huawei invested 23.4% of its 2023 revenue back into R&D, demonstrating its commitment to research and innovation for cloud services and Cloud Application Engine in particular.

- **Offering (product) strategy:** Huawei has a strong product roadmap for the next 12-18 months. Enhancements include buildpack tooling to support multiple languages and frameworks, infrastructure-as-code-based environment extensions, extended Berkeley Packet Filter (eBPF)-based mesh and AI assistants for cloud.

Cautions

- **Geographic strategy:** For its cloud application platform product portfolio, Huawei primarily targets customers in China and the Asia/Pacific region. Huawei plans to expand sales and support for this platform into Europe and South America, but economic sanctions will limit its ability to reach customers in the U.S. and some other markets. Huawei offers availability zones in the following regions: South America, Africa, the Middle East, Europe, China and Asia/Pacific.

- **Operations:** Cloud Application Engine's SLA for uptime and end-user latency guarantees lag those of its competitors in most regions, which may impact customer confidence in Huawei's service reliability. In our customer survey, customers reported a need for expanded

documentation, tutorials and community support to help them use the platform's features and troubleshoot issues more effectively.

- **Product or service:** Huawei offers a relatively limited list of plug-ins and integrations compared with Leaders in this Magic Quadrant. In our customer survey, customers expressed a desire for a greater degree of integration with both internal and external solutions to help accelerate development.

Mia-Platform

Mia-Platform is a Niche Player in this Magic Quadrant. Its platform helps enterprises support developer self-service, streamlining deployment and management of cloud-native and cloud-optimized applications. The platform serves as a unified hub for technology capabilities and processes supporting DevOps.

Mia-Platform's operations are mainly in Europe and its clients tend to be large to midsize enterprises across various sectors. The company is investing in improving its developer tools, deployment automation features and runtime performance optimization to allow software engineers to focus on application development.

Strengths

- **Innovation:** Mia-Platform provides a unique no-code Design section, which enables customers to configure and deploy applications on Kubernetes or serverless environments. It provides an internal developer portal and a Backstage plug-in. The platform is extensible with third-party tools and custom interfaces. Mia-Platform also offers Mia Assistant, an AI companion that streamlines onboarding for new users and provides insights into product usage, project and runtime statuses, and the current configuration of development applications.

- **Market understanding:** Mia-Platform demonstrates a strong awareness of customer needs by providing a multicloud offering that is fully managed on all major cloud platforms. The platform is also available as self-managed software for on-premises or cloud deployment.

- **Customer experience:** Mia-Platform Expert Program and Mia-Platform Academy provide customers with workshops, training sessions and an exclusive sandbox environment to experiment with new solutions. Mia-Platform Partner Program offers consulting and professional services, and enables customers to publish technical components within the Mia-Platform ecosystem.

Cautions

- **Geographic strategy:** Mia-Platform primarily targets customers in Europe. Although it has some customers in North America and South America, it has limited sales and support resources outside of Europe. While Mia-Platform offers a managed service, it's important to note that provisioning and support is done per customer. Customers should verify if Mia-Platform can effectively serve organizations in their region.

- **Operations:** In our customer survey, respondents highlighted the complexity of the onboarding process, noting that the steep learning curve cannot be addressed through self-service deployment, as this option is not available. Instead, direct support from Mia-Platform or one of its certified partners is required to successfully deploy and integrate the solution.

- **Business model:** Mia-Platform has a 100% organic innovation strategy and no acquisitions planned for the next 12 months. Given the company's size constraints, this preference to postpone strategic acquisitions may delay its ability to deliver new capabilities to customers.

Microsoft

Microsoft is a Leader in this Magic Quadrant. It offers: Azure App Service, a polyglot platform supporting new development and cloud migration using a variety of languages; Azure Functions, a serverless function platform; Azure Container Apps, a container platform supporting buildpacks and .NET Aspire; Azure Spring Apps, a framework-driven platform for Java and .NET; and Azure Static Web Apps, a web-focused platform with support for multiple web frameworks and languages.

Microsoft's operations are geographically distributed and it caters to customers of all sizes across all sectors. The company is investing in AI, developer experience, cloud migration and automated security.

Strengths
- **Product or service:** In our customer survey, customers praised the Azure platforms for ease of use, reliability, availability and scalability. Azure Functions provides scalable, serverless compute for modern, cloud-native architectures. Azure App Service supports traditional three-tier architectures and offers a seamless platform for lift-and-shift migrations, simplifying the transition of legacy applications to the cloud.

- **Customer experience:** Microsoft tooling is intuitive, enabling developers to learn how to use the platforms quickly. Microsoft also provides extensive documentation, guidance, training and certification programs to assist teams in learning cloud-native best practices.

- **Product strategy:** Azure Functions offers deep integration with Azure DevOps, Visual Studio and Visual Studio Code. This seamless integration simplifies the development life cycle, enabling developers to write, test, deploy and run code efficiently while automating workflows. With the added strength of the .NET ecosystem, Microsoft provides a unified platform that offers a streamlined experience.

Cautions
- **Operations:** Microsoft offers uptime SLAs and supports platform zero downtime updates, but it does not offer end-user latency guarantees. Microsoft will not negotiate higher SLA guarantees.

- **Market understanding:** Azure Functions customers may find it difficult to replatform applications to other cloud providers, which limits their ability to implement a multicloud strategy. While Azure Functions is not conducive to multicloud deployments, the Microsoft

platform portfolio provides a wide range of services that may reduce the need for a multicloud strategy.

- **Solution complexity:** Microsoft Azure offers a wide range of cloud application platform services that sometimes overlap. Customers at times struggle to select the right service for a given use case — for example, mapping Azure Container Apps and Azure Kubernetes Service to the right use cases.

Netlify

Netlify is a Visionary in this Magic Quadrant. It offers: Netlify Core for building and deploying front-end applications; Netlify Create for visual editing of web content; and Netlify Connect for unifying application content. Netlify offers a wide variety of web application templates to streamline web development. All of these components are part of its composable web platform, which enables seamless delivery of modern web applications.

Netlify's operations are primarily in the U.S. and Europe. Its clients tend to be small and midsize businesses across various sectors. The company is investing in platform engineering, serverless technology, geographic deployment of functions and the Jamstack ecosystem.

Strengths

- **Innovation:** Netlify has delivered several innovative features with Netlify Connect and Netlify Create, including AI-enabled deploy assist for debugging, caching durability and GraphQL API over web app content and data. It also offers website visual editing through the recent acquisition of Stackbit. Moreover, Netlify supports and promotes the modern front-end architecture style known as Jamstack.

- **Market understanding:** Netlify recognizes the value of using a composable web architecture to maximize flexibility, performance and scalability for web applications. Netlify's prebuilt web app templates and web framework support are reinforced by serverless architecture based on Netlify edge functions.

- **Business model:** Netlify offers flexible integration packages so users can build applications quickly. It offers self-serve subscription bundles, including a free tier, so prospective clients can try out the platform at low to no cost.

Cautions

- **Offering (product) strategy:** While Netlify includes back-end features like serverless functions and compatibility with frameworks such as Next.js, Astro or Remix, its platform is primarily designed for front-end-adjacent, back-end workloads. For more complex back-end needs, Netlify customers should separately source back-end compute or rely on their existing back ends and integrate these components.

- **Vertical/industry strategy:** Netlify offers limited industry-specific solution packages. Prospective customers with industry-specific requirements should assess Netlify's suitability for their needs.

- **Overall viability:** Netlify will need to grow its market share and expand into new regions like South America, Asia/Pacific (including China) and the Middle East to remain viable in a market dominated by megavendors. Expanding its sales and support teams to other regions, like South America and the Middle East, could be a challenge without establishing local teams or partners. Prospective customers should monitor Netlify's financial performance and growth.

Platform.sh

Platform.sh is a Niche Player in this Magic Quadrant. It offers Upsun, a managed platform that supports a wide variety of application frameworks using a Git-based deployment process, as well as managed services for databases, caching and search with integrated application performance monitoring. Platform.sh also supports full-stack project cloning and multicloud deployments.

Platform.sh's operations are mainly in North America, Europe and Asia/Pacific. Its clients are typically midsize web agencies and line-of-business departments within large enterprises across a wide range of sectors. The company is investing in improving resiliency, scalability and extensibility with enhanced support for data-intensive applications.

Strengths

- **Product or service:** Platform.sh offers a flexible solution that supports multiple languages and frameworks while automating infrastructure tasks such as scaling and backups. Upsun provides a self-service platform designed to support scalable architecture across all major cloud providers. It enables teams to efficiently scale individual applications, optimizing resource use without impacting overall system performance.

- **Market understanding:** Platform.sh takes a developer-focused approach by offering a Git-centric solution with a high degree of flexibility. Upsun includes full-stack project cloning of all application code, data and services, which enables customers to replicate environments with improved efficiency. It also enhances multicloud portability by minimizing vendor lock-in.

- **Marketing strategy:** Platform.sh has positioned itself as a champion of sustainability and cost-effectiveness. Its carbon footprint modeling reports help customers to understand the impact of their deployments, and its support for migrating projects to greener regions enables customers to improve their energy efficiency and cut costs. This focus on sustainability and cost efficiency resonates with a wide range of organizations.

Cautions

- **Vertical/industry strategy:** Platform.sh offers a relatively limited selection of packaged solutions for specific industries. While its offering complies with some industry standards, including SOC 2, PCI DSS Level 1 and HIPAA, prospective customers with industry-specific compliance requirements should review Platform.sh's suitability for their needs.

- **Innovation:** Platform.sh's product roadmap does not include the release of generative AI innovations to enhance its platform capabilities. The company's main focus is on improving the resilience and developer experience of its existing platform.

- **Geographic strategy:** Platform.sh primarily targets customers in the U.S. and Europe, with some customers in Asia/Pacific but limited implementation and hosting support in other regions. Prospective customers should verify if Platform.sh can effectively serve organizations in their region.

Red Hat

Red Hat is a Leader in this Magic Quadrant. It offers Red Hat OpenShift cloud services in partnership with four different hyperscalers: Red Hat OpenShift Service on AWS (ROSA); Microsoft Azure Red Hat OpenShift (ARO); Red Hat OpenShift Dedicated on AWS or Google Cloud Platform; and Red Hat OpenShift on IBM Cloud. OpenShift can also be deployed as self-managed software.

Red Hat's operations are geographically diversified via partnership with hyperscalers and cater to customers of all sizes and across all sectors. The company is investing in AI assistants for multicloud application management, improving portability across cloud providers and on-premises platforms, and enhancing the developer experience.

Strengths

- **Offering (product) strategy:** Red Hat is a leading multicloud vendor, providing customers with high flexibility in where to run the platform, relatively easy portability across cloud providers and on-premises platforms, and seamlessly integrated services across its own platform. OpenShift supports deployment of functions, containers and native code. It provides multiple managed language runtimes and DevOps tooling to create and deploy containers.

- **Market responsiveness/record:** Red Hat has delivered new features in 2024 that directly address its top customer issues, including support for deployments on virtual machines that facilitate cloud migration, AI assistants that facilitate operations, and advanced security features.

- **Business model:** Red Hat has forged strong partnerships with four hyperscalers to jointly engineer and operate OpenShift on those clouds. Red Hat also curates a broad platform ecosystem and marketplace of independent software vendors, systems integrators and industry partners that resell OpenShift.

Cautions

- **Product or service:** Red Hat's managed service offerings are not as well-integrated with the hyperscalers' cloud-native services as the hyperscalers' own PaaS offerings. For instance, ROSA's integration with AWS cloud services is not as strong as that of AWS Lambda, AWS App Runner and AWS Elastic Beanstalk.

- **Innovation:** While Red Hat consistently delivers incremental improvements to the platform related to operations, performance and developer experience, it has not delivered any recent significant feature innovations that could disrupt the cloud-native applications market. The main innovations are around containerization workload runtime.

- **Operations:** Red Hat offers uptime SLAs and supports platform zero downtime updates, but it does not offer end-user latency guarantees. Red Hat will not negotiate higher SLA guarantees.

Render

Render is a Niche Player in this Magic Quadrant. Render provides a platform that automates the operational role and enables developers to focus on building code rather than the often repetitive tasks of setting up cloud infrastructure.

Render's operations are mostly in North America, and its clients tend to be small and midsize businesses across various sectors. The company is investing in expanding its cloud platform in several key areas, such as building new developer tools, extending its geographic coverage and focusing more on developer experience.

Strengths
- **Innovation:** Render's Blueprint solution acts as the single source of truth for configuring an interconnected set of services, databases and environment groups. Whenever an update takes place in Blueprint, Render automatically redeploys any affected services to apply the new configuration.

- **Market understanding:** Render understands the market landscape for small and midsize businesses. It has built a product that is well-integrated to deliver cloud applications and an online experience, with its deployment from GitHub option, autoscaling and high-availability Postgres services.

- **Market responsiveness/record:** Render has delivered new features in 2024 that directly address top customer issues. These include high availability and point-in-time recovery for Postgres data store, and platform engineering support via API-first Render integration.

Cautions
- **Product or service:** Render lacks, or has limited implementations of, some common features and capabilities. These include native integration with developer tools such as Visual Studio Code, identity and access management features, and integration with underlying hyperscaler services.

- **Marketing execution:** Render has not generated widespread awareness of its platform among enterprise software engineering leaders and purchasing teams. It faces the significant challenge of educating prospective customers about its offering's unique benefits in a market dominated by megavendors.

- **Overall viability:** Render will need to grow its market share, expand into new regions and offer additional capabilities to remain viable. Prospective customers should monitor Render's financial performance and growth.

Salesforce (Heroku)

Salesforce (Heroku) is a Leader in this Magic Quadrant. It offers Heroku, a pioneering cloud application platform that supports native code deployment using buildpacks. Salesforce also offers AI technologies (Einstein), a low-code application platform (Salesforce Platform) and an API management and integration platform (MuleSoft).

Heroku's operations are geographically diversified, and its clients tend to be small and midsize businesses and large enterprises across various sectors. The company focuses on enhancing its cloud application platform for general cloud-native, polyglot applications and integrating Heroku with the Salesforce portfolio to enhance SaaS capabilities.

Strengths

- **Product or service:** In our customer survey, customers highlighted the simplicity of deploying and scaling applications, requiring few steps. Heroku provides scalable and secure managed environments tailored for modern, cloud-native applications, powered by Heroku Dynos for container-based compute and application life cycle management. Additionally, Heroku's support for traditional web architectures simplifies the transition of legacy applications to the cloud, enabling effortless lift-and-shift migrations without the need for complex infrastructure management.

- **Customer experience:** Heroku's intuitive tooling makes it easy for developers and platform teams to quickly grasp and start using the platform. Heroku offers a wealth of resources, including documentation, tutorials, training programs and certifications.

- **Vertical/industry strategy:** In 2024, while still maintaining a horizontal strategy across industries, Heroku built its sales organization to align with Salesforce's vertical markets (for example, healthcare and financial services). This sales organization includes specialists aligned with regulated industries, where Heroku products like Shield and Private Spaces are most applicable.

Cautions

- **Innovation:** Heroku has been slow to add innovative features to its platform, mainly focusing on stability and incremental improvement. Despite Heroku's reputation for innovation — such as inventing buildpacks and the 12-factor app — it has not announced or released any features in 2024 that will disrupt the market. However, it has a strong roadmap for 2025.

- **Product strategy:** Heroku has been slow to deliver leading-edge capabilities. It still runs on a proprietary container management system — Heroku Dynos — and doesn't support serverless functions. Heroku only joined the Cloud Native Computing Foundation (CNCF) in July 2024 and is just now implementing the new Kubernetes platform, with the goal to release it in 1Q25.

- **Marketing strategy:** Heroku's messaging about its platform is highly technical and targets software engineers, who often lack purchasing authority. This differs from the rest of the wider Salesforce portfolio, which is geared toward line-of-business/functional department leaders. Heroku's messaging appeals to a different buying center than the rest of Salesforce's offerings.

Vercel

Vercel is a Visionary in this Magic Quadrant. It offers a web-focused platform with support for multiple web frameworks and languages. Vercel offers edge compute, which includes a CDN and global runtime, and caching functionality to optimize performance. Vercel also supports automated deployment and autoscaling capabilities.

Vercel's operations are primarily in the U.S. and Europe, with a growing presence in Asia/Pacific. Its clients tend to be small and midsize businesses across various sectors, with a growing number of large enterprise customers. Vercel is investing in AI-centered innovations to improve developer productivity, enhance performance, and increase the stability and scalability of its platform.

Strengths

- **Product or service:** Vercel supports an exceptionally broad set of web frameworks. Its framework-defined infrastructure approach supports complex front-end deployments and enhances developer experience and productivity. Vercel enables customers to automate, optimize and scale their front-end applications.

- **Market understanding:** Vercel recognizes the need for modern web solutions, as many businesses maintain on-premises legacy back-end systems. By offering extended web composition and integration capabilities with existing back-end infrastructure, including a library of templates for common patterns and use cases, Vercel allows organizations to decouple their front ends without fully replacing legacy systems, enabling faster and more scalable development.

- **Innovation:** Vercel supports packages and templates for building and managing AI applications. These include open-source AI software development kits for AI-powered front-end applications, and an AI abstraction layer for AI-powered applications. Vercel has a strong product roadmap and is planning to invest in native support of micro front ends and federated front-end architecture.

Cautions

- **Offering (product) strategy:** Although Vercel provides back-end capabilities like serverless functions with support for back-end frameworks like Next.js, its platform is primarily designed for front-end-adjacent, back-end workloads like server-side rendering. For more complex back-end needs, Vercel customers rely on their existing back-ends or must separately source back-end compute and integrate these components.

- **Geographic strategy:** Vercel primarily targets customers in the U.S, Canada, the U.K., Germany and France, although it is expanding its presence in Asia/Pacific and Australia. Prospective customers should verify if Vercel can effectively serve organizations in their region.

- **Customer experience:** In our customer survey, Vercel customers expressed a desire for enhanced cost management solutions to better control and manage their expenses. They indicated a need for a more granular way to attribute costs to projects and teams.

Inclusion and Exclusion Criteria

To qualify for inclusion in this Magic Quadrant, each vendor needed to meet the following criteria:

Market Participation Inclusion Criteria

- The vendor must meet the market definition of a cloud application platform.

- All features applicable to this inclusion criteria and evaluated in this Magic Quadrant and Critical Capabilities research must be generally available as of **30 June 2024** to all customers and fully documented. Custom development for specific customers will not qualify. General availability means the product or service is available on a public-facing price sheet/card for purchase directly by clients. Providers must be able to furnish the link to a pricing page for their cloud application platform.

- The vendor must sell the solution directly to paying customers without requiring them to engage professional services. The vendor must provide at least first-line support for these capabilities, including the use of bundled open-source software.

- The vendor must demonstrate an active product roadmap, go-to-market and selling strategy for the solution.

- Each vendor must have phone, email and/or web customer support. It must offer contract, console/portal, technical documentation and customer support in English (either as the product's default language or as an optional localization).

Platform Capabilities Inclusion Criteria

Cloud application platforms must provide cloud-based managed applications runtime environments for applications, and integrated capabilities to manage the life cycle of an application or application component. Platforms must also typically enable distributed application deployments and support cloud-style operations — such as elasticity, multitenancy and self-service — without requiring infrastructure provisioning or container management. Cloud application platforms must be enterprise-grade and aimed at enterprise-class projects by providing high availability and disaster recovery, and technical support to customers.

Performance Inclusion Criteria

Each vendor must, by 31 May 2024, fulfill **one** of the following size requirement combinations:

- A platform license and/or subscription revenue of at least $30 million for its cloud application platform over the last 12 months, and at least 100 paying enterprise customer organizations (of at least 1,000 employees) for that platform, excluding other related product offerings.

- A platform license and/or subscription revenue of at least $10 million for its cloud application platform over the last 12 months, and a CAGR of at least 50% in revenue and/or customer base for that platform, excluding other related product offerings.

- A platform developer community of more than 100,000 developers using the cloud application platform across all customers.

The vendor must have direct customers (i.e., not through resellers) within three or more of the following geographies:

- North America

- South America

- Europe

- Middle East and Africa

- China

- Japan/Asia/Pacific

In addition, the vendor must rank among the top 20 organizations in the Customer Interest Indicator (CII) identified by Gartner for this Magic Quadrant. CII was calculated using a weighted mix of internal and external inputs, including:

- Gartner customer search and inquiry volume pricing requests

- Frequency of mentions as a competitor to other vendors that feature in this Magic Quadrant evaluation in reviews for similar use cases on Gartner's Peer Insights forum, as of 31 May 2024.

- Significant innovations in the market, as noted by major publications, product enhancements or introductions, or industry awards.

- Google Trends and web traffic analysis

- Social media followers

Evaluation Criteria

Ability to Execute

Product/Service: This criterion assesses the core goods and services that compete in or serve the defined market, including current product and service capabilities, quality and feature sets, and whether offered natively or through OEM agreements/partnerships. It seeks to understand the vendor's cloud application runtime capabilities, and support for various programming languages and frameworks. Additionally, it evaluates the scalability and availability of the cloud application platform, ability to provide monitoring and observability capabilities, as well as strong security and

governance capabilities. Last, but not least, this criterion seeks to understand the vendor's ability to provide effective cost management tooling.

Overall Viability: This criterion assesses the viability of the organization, including its overall financial health, the financial and practical success of the business unit, and the likelihood of continued investment in the product. It seeks comprehensive information about the vendor's financial status, including venture capital funding, profitability, strategies for economic downturn, investment plans for the next 12 months, annual revenue for fiscal year 2023, and projected revenue for FY24 and FY25. Additionally, it evaluates customer and market engagement, focusing on customer retention rates for calendar year 2023 and the first two quarters of 2024, the largest installation by number of concurrent users, and any relevant business acquisitions in the last 12 months. Lastly, this criterion examines the organizational structure and workforce, including the number of full-time employees dedicated to the product, and any changes in senior management over the past year.

Sales Execution/Pricing: This criterion assesses the organization's capabilities in all presales activities and the supporting structure, including deal management, pricing and negotiation, presales support, and overall effectiveness of the sales channel. It seeks detailed insights into the customer base, such as the top five decision makers in large enterprises who use the product, the current number of customers, segmentation across different sectors, and the longevity of relationships with large enterprise customers. Additionally, it evaluates the pricing models, including variations for different pricing models like pay as you go, long-term commitment and fixed pricing. Lastly, this criterion examines any free or trial offerings associated with the product, providing an understanding of the customer acquisition strategy and how potential customers can evaluate the product before making a purchase decision.

Market Responsiveness and Track Record: This criterion assesses the organization's ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change, including the provider's history of responsiveness to changing market demands. It seeks detailed information about the company's active engagement in open-source communities, the percentage of customers and partners contributing to the solution marketplace, and the year-over-year growth of the partner marketplace. Additionally, it evaluates the mechanisms used to listen and respond to customer needs, providing specific examples of their effective employment. Lastly, this criterion examines the extent of product customization for different markets and the company's ability to innovate by being early to market with platform capabilities that competitors are only now catching up to.

Marketing Execution: This criterion assesses the clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand, increase product awareness and establish a positive identification in the minds of customers. It seeks a clear description of how the product is positioned to development teams, the top reasons for developers to use the product, and the key differentiators that set it apart in the market. Additionally, it evaluates the estimated marketing budget for 2024, major marketing initiatives undertaken in the past year, and strategies for visibility on search engines and engagement with followers/subscribers on various online and social media channels. Lastly, this

criterion examines the physical, virtual/hybrid conferences sponsored or presented at in 2023 and first two quarters of 2024, identifies top competitors and highlights the unique differentiators that set the organization apart from its competitors.

Customer Experience: This criterion assesses the products, services and programs that enable customers to achieve anticipated results, including quality interactions, technical support and account support. It seeks details on training programs for developers, onboarding timelines, success measurement, implementation resources and user training needs. Additionally, it evaluates the customer support structure, dedicated full-time equivalents (FTEs), support availability, SLAs, response times, recent outages and partner involvement, including the options available for enterprises to receive service and support in the event of an emergency system down. Lastly, this criterion examines the organization's customer success program, retention strategies, user community support, ROI measurement, and the metrics and benchmarks used to gauge the effectiveness of the customer success program.

Operations: This criterion assesses the organization's ability to meet goals and commitments, focusing on the quality of its structure, skills, experiences, programs and systems. It seeks detailed information about SLAs, including system uptime, upgrade policies, release timing and the growth rate of FTEs devoted to enterprise technical support, as well as subscriber options for update timing. Additionally, it evaluates staff training, partner employee training, operation and support centers worldwide, onboarding speed, and formal communication processes with customers. Lastly, this criterion examines the differentiation of hosting strategies, and the certifications included with the product offering.

Table 1: Ability to Execute Evaluation Criteria

Evaluation Criteria ↓	Weighting ↓
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	High
Market Responsiveness/Record	High
Marketing Execution	Low
Customer Experience	Medium

Evaluation Criteria ↓	Weighting ↓
Operations	Medium

Source: Gartner (October 2024)

Completeness of Vision

Market Understanding: This criterion assesses the ability of vendors to understand and translate customer needs into innovative products and services, particularly within the realm of software engineering. It focuses on product development, identification of key offerings and adaptation to evolving client requirements for enhanced product viability. Additionally, it evaluates the proficiency of vendors in monitoring market trends, navigating challenges in the cloud application platform market, and anticipating technological disruptions to formulate a forward-thinking strategic vision. Lastly, this criterion considers the commitment to corporate responsibility, including plans for carbon neutrality and active customer engagement through initiatives like a customer council program.

Marketing Strategy: This criterion assesses the organization's ability to deliver clear, differentiated messaging that is consistently communicated internally and externalized through social media, advertising, customer programs and positioning statements. It focuses on how well the organization defines its product/service messaging, positioning and go-to-market strategy, and how skillfully it plans its top marketing initiatives for industry understanding and adoption. This criterion also measures how well the organization has identified its target market verticals and client sizes. Additionally, it evaluates the organization's targeting of specific roles for product marketing, outreach to CTOs, CIOs and software engineering leaders, and differentiation of the product value proposition by persona/buyer. Lastly, it considers the identification and targeting of new partners for 2024.

Sales Strategy: This criterion assesses the organization's ability to implement a sound sales strategy using appropriate networks, including direct and indirect sales, marketing, service and communication. It focuses on the organization's understanding of its sales growth strategies for 2024 and 2025, as well as factors shaping the sales pipeline, projected growth of the sales team, planned initiatives for product adoption, and the impact of market changes on sales strategy. Additionally, it evaluates potential market expansion in the next 12 months, identifying target countries/regions and industries, and the contribution of indirect sales channel partners to revenue. Lastly, this criterion considers detailed information on pricing strategy, including licensing models, discount offerings and the organization's approach to consumption-based charging.

Offering (Product) Strategy: This criterion assesses an approach to product development and delivery that emphasizes market differentiation, functionality, methodology and features aligned

with current and future requirements. It focuses on understanding the cloud application platform offering, including its technical abilities, trained consulting and systems integrator partners. Additionally, it evaluates the user base, detailing the number of developers using free and paid versions, and outlines the vendor's strategy for supporting and contributing to open-source software usage and development. Lastly, this criterion considers the vendor's strategic approach to product development and market positioning, including investment areas, success metrics, methods to avoid commoditization, methods to avoid lock-in, product enhancement strategies, and processes for integrating customer feedback into the product roadmap.

Business Model: This criterion assesses the design, logic and execution of the organization's business proposition to achieve continued success. It delves into the vendor's business model changes concerning the cloud application platform offering, the model's planned evolution over the next 12 months, and the offering's contribution to overall company revenue. Additionally, it evaluates the vendor's partnership strategy, focusing on the percentage of new customers obtained via partners or partner references in the last 12 months.

Vertical/Industry Strategy: This criterion assesses the organization's strategy for directing resources, skills and products to meet the specific needs of individual market segments, including verticals. It seeks a comprehensive understanding of industry-specific go-to-market or technology partnerships, providing insight into strategic alliances and potential synergistic benefits. Additionally, it requires a detailed overview of customer distribution across various verticals, including key customer names and top industry verticals. Lastly, this criterion evaluates major initiatives planned to increase market share in vertical industry segments over the next 12 months, assessing forward-thinking strategies, growth potential and commitment to innovation.

Innovation: This criterion assesses the direct, related, complementary and synergistic allocation of resources, expertise or capital for investment, consolidation, defensive or preemptive purposes. It seeks comprehensive insights into the vendor's innovation strategy, including processes and methodologies, future innovation plans, top differentiating innovations, the proportion of revenue invested in R&D, and strategic partnerships for innovation. Additionally, it requires detailed information on how the vendor differentiates itself in the market with innovative product features and strategic partnerships, providing a clear picture of its competitive edge. Lastly, this criterion evaluates the vendor's commitment to the broader technology community through contributions to open source or open standards related to its product.

Geographic Strategy: This criterion assesses the provider's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside its native region, either directly or through partners, channels and subsidiaries. It requires a comprehensive overview of the vendor's differentiated delivery, sales and marketing strategies for various geographies, as well as its top three initiatives aimed at expanding market share beyond its core region. Additionally, it evaluates how the vendor ensures compliance with data sovereignty requirements, the internationalization/localization capabilities of its offering, and the number of natural languages supported. Lastly, this criterion considers the vendor's current and prospective geographic markets, detailing its physical presence, staff count, customers, channel partners and the number of new customers acquired in each region over the past year.

Table 2: Completeness of Vision Evaluation Criteria

Evaluation Criteria ↓	Weighting ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Medium

Source: Gartner (October 2024)

Quadrant Descriptions

Leaders

Leaders distinguish themselves by offering a platform suitable for strategic adoption and having a clear roadmap. They can serve a broad range of use cases, although they do not excel in all areas, may not necessarily be the best providers for a specific need and may not serve some use cases at all. Leaders in this market have appreciable market share and many referenceable customers.

Challengers

Challengers are well-positioned to serve some current market needs. They deliver a good platform that is targeted at a particular set of use cases, and they have a track record of successful delivery. However, they are not yet adapting to market challenges quickly enough, and may lack a broad scope of ambition.

Visionaries

Visionaries have a clear vision of the future and are making significant investments in the development of unique technologies. Their platforms are still emerging, and they have many capabilities in development that are not yet generally available. Although they may have many customers, they might not yet serve a broad range of use cases well, or may have a limited geographic scope.

Niche Players

The Niche Players in the market for cloud application platforms may be excellent providers for particular use cases or in regions in which they operate, but they should ultimately be viewed as specialist providers. They often do not serve a broad range of use cases well or have a broadly ambitious roadmap. Some may have solid leadership positions in markets adjacent to this market, but have developed only limited capabilities in this market.

Context

The cloud application platform market exceeded $3 billion revenue in 2023, with worldwide spending growing at a double-digit, year-over-year rate of 14.4%. This market is projected to exceed the $5.4 billion revenue mark by 2028, at a five-year CAGR of 12.1% from 2023 through 2028 in constant currency.

For software engineering leaders, the primary objective of using cloud application platforms is to streamline software development by leveraging the platforms' capabilities and automation features. These include structured execution environments for applications that effectively conceal the complexities of underlying infrastructure and computing resources.

The core capability of a cloud application platform is to provide a cloud-native, runtime environment for application code. The vendors in this Magic Quadrant were assessed based on this core capability, as well as additional capabilities, such as serverless functions, containers deployment on abstracted infrastructure, integration with databases, event brokers, content delivery networks (CDNs), edge infrastructure, API gateways, content management services, ERP systems and developer tools.

Software engineering leaders and their teams should recognize the rapid growth and potential of the cloud application platform market and consider investing in these platforms to leverage their benefits for software development and deployment. Furthermore, given the distinct separation between web front-end-focused solutions and comprehensive back-end platforms in the market, adopting a multiplatform strategy can leverage the unique strengths of each platform.

Market Overview

While the demand for application platforms that abstract infrastructure has always existed, there has been a renewed surge of interest driven by the rise of cloud-native applications, Kubernetes complexity and the growing importance of serverless architectures, DevOps, security and AI. In response to this ongoing and heightened demand, Gartner is expanding its coverage of this market by introducing the Magic Quadrant for Cloud Application Platforms.

Cloud application platforms are not merely environments for running applications from native code. Rather, these cloud-based platforms integrate multiple advanced technologies that enhance the deployment, scalability, security, connectivity and observability of applications. Cloud application platforms simplify the complexities of managing containers, Kubernetes deployments and virtual machines. These capabilities drive significant market growth. By addressing challenges in infrastructure management, these platforms enable more efficient application operations in cloud environments.

The potential to streamline software development and deployment using a single platform is appealing to many buyers. Moreover, cloud application platforms simplify infrastructure management and increase operational efficiency, which improves developer experience and productivity. Software engineering teams can focus on developing and deploying innovative software, accelerating their delivery cadence and ensuring that applications scale to meet customer demand.

Cloud application platforms support developers in use cases such as:

- High-volume transactional applications: Developers use cloud application platforms to create and run applications that require high performance, scalability and resilience.

- API-first shared services: Developers use cloud application platforms to create API-first services, enabling support for microservices architectures.

- Decoupled web UI/UX: Developers use cloud application platforms to create modern, interactive and responsive user experiences, progressive web apps or embedded mobile components.

- Cloud migration: Developers use cloud application platforms to migrate legacy stack applications into the cloud without the need to immediately rebuild.

Some customers may seek to avoid vendor lock-in by adopting a multiprovider strategy for cloud application platforms, but this approach is impractical for most organizations — unless the division is made between front-end and back-end needs.

As a software engineering leader, use our evaluation to understand the performance and strategic vision of cloud application platform vendors. Then, identify vendors that closely align with your organization's short-term needs and longer-term strategy.

Use the companion Critical Capabilities for Cloud Application Platforms to determine which products offer the specific capabilities that your organization needs.

Evidence

In formulating its vendor evaluations in this Magic Quadrant, Gartner has drawn on a wide variety of sources. These include hands-on product usage, vendor product documentation, vendor survey data, the Gartner Critical Capabilities for Cloud Application Platforms and other published Gartner

reports, customer survey data, Gartner Peer Insights, secondary market research and many other materials, in addition to the judgment and expertise of the Magic Quadrant authors.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

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