Magic Quadrant for Enterprise Low-Code Application Platforms

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Initiatives: Software Engineering Strategies

> Organizations are increasingly adopting LCAPs to enable fusion team development with IT and business to quickly deliver new solutions and modernize business capabilities. Applications and software engineering leaders should use this research to compare and contrast leading vendors in the global market.

This Magic Quadrant is related to other research:

Critical Capabilities for Enterprise Low-Code Application Platforms

View All Magic Quadrants and Critical Capabilities

Additional Perspectives

- エンタプライズ・ローコード・アプリケーション・プラットフォームのマジック・クアドラント
  (13 December 2021)

- Summary Translation + Localization: Magic Quadrant for Enterprise Low-Code Application Platforms
  (22 October 2021)

Strategic Planning Assumption

By 2025, 70% of new applications developed by enterprises will use low-code or no-code technologies, up from less than 25% in 2020.

Market Definition

A low-code application platform (LCAP) is used to rapidly develop and deploy custom applications by abstracting and minimizing hand coding. At a minimum, an LCAP must include low-code capabilities (such as a model-driven or graphical programming approach with scripting) to develop a complete application consisting of user interfaces, business logic, workflow and data services.

Enterprise LCAPs can be used to create enterprise-class applications that require:

- High performance

- High availability and scalability

- Disaster recovery

- Enterprise security

- API access to and from enterprise and third-party cloud services

- Application usage monitoring

- Service-level agreements (SLAs)

- Technical support and training from the vendor

Enterprise LCAPS should provide one-step application deployment, execution and management using declarative, high-level programming abstractions.

Advanced capabilities offered by some enterprise LCAPs include:

- Front-end user experiences beyond web user interface (UI)

- Complex business process automation and management

- Event-driven architecture

- AI-augmented development techniques

- Application composition

Magic Quadrant

Figure 1: Magic Quadrant for Enterprise Low-Code Application Platforms

Source: Gartner (August 2021)

Vendor Strengths and Cautions

Appian

Appian is a Challenger in this Magic Quadrant. Its LCAP offering is the Appian Platform. Appian's market differentiation is based on its full-stack low-code automation capabilities focused on complex case management and business processes. It offers design studios for professional and citizen developers for greater collaboration between business and IT by including workflows, approvals and change management for different developer personas.

Appian's operations are based in North America and Europe, and it has an increasing presence in the APAC region. Its customers tend to be large enterprises, mostly in the finance and government sectors.

Strengths

- **Business logic and workflow**: Appian provides strong business process management (BPM) capabilities. Appian Process Modeler is a business process model and notation (BPMN)-compliant visual designer that allows users to build out complex process flows while minimizing coding. Appian Automation Planner can discover automation opportunities and manage the full life cycle of automations. It also enables users to build a prioritized backlog of automation opportunities, track ROI, and drive collaboration between IT and business teams.

- **Security and quality of service**: Appian provides automatic security scanning on all design objects to check for proper configuration. It also alerts users about security concerns and allows designers to immediately correct the configuration.

- **Platform ecosystem**: Appian's component store is the Appian AppMarket, which includes more than 600 listings, the majority of which are supplied by partners and customers. Appian adds about 30 new or updated listings to the AppMarket each month. In order to drive more engagement with its component store, Appian plans to invest in sales and marketing to expand its library of system integration (SI) applications and components from strategic partners.

Cautions

- **Product:** The Appian platform requires deeper professional developer expertise when solving highly complex problems and business flows. Some Gartner Peer Insights reviewers stated that they needed to build workarounds for better flexibility, which limited their ability to use the platform's out-of-the-box functionality for task management and UI designs. Citizen developers may find it challenging to use without additional support.

- **Business model:** Appian has been offering the fixed price and delivery time Appian Guarantee implementation services, but Gartner has seen little interest from clients. Now, it is finally releasing a free Appian Community Edition and an Appian Unlimited licensing option to generate more adoption and usage. While these additions may generate interest, it remains to be seen whether they will translate into faster business growth.

- **UX design:** Customers stated that they found Appian's UI limiting and restrictive, making it difficult to implement their own UX standards.

Creatio

Creatio is a Niche Player in this Magic Quadrant. Its LCAP offering is Studio Creatio. Its market differentiation is based on its robust workflow automation and no-code capabilities. Enterprises can combine Studio Creatio with Creatio's CRM SaaS offering to rapidly build, manage, optimize and automate customer-facing workflows.

Creatio's operations are geographically distributed, with a presence among small and midsize enterprises in the EMEA and North America regions. Its major customers tend to be from the banking, finance, insurance, manufacturing and professional services sectors.

Strengths

- **Market understanding:** Creatio displays a strong understanding of customer requirements, as evidenced by its focus on increasing IT productivity, enabling citizen developers and governing collaborative application development. Its LCAP can foster closer business-IT alignment and reduce time to market for new digital capabilities.

- **Marketing strategy:** Creatio continues to strengthen its position as an LCAP vendor by focusing its marketing activities on low-code development, including its Accelerate series of events, low-code marathons, white papers and webinars.

- **Industry strategy**: Creatio has customers across various industries and plans to expand into new verticals by launching solutions for industry-specific use cases. The vendor has also updated its go-to-market strategy by introducing vertical specializations across its sales and partner teams.

Cautions

- **Product**: Although Creatio supports C# and JavaScript, Creatio the platform provides limited built-in coding extension capabilities for professional developers to build and customize complex applications. Rather, its platform focuses on extending its SaaS solutions and creating business process workflows. It provides basic application testing, user experience designing, security and DevOps capabilities.

- **Innovation**: Creatio does not provide capabilities such as artificial intelligence (AI)-assisted development, automated testing, event-based integrations or advanced application and infrastructure monitoring. To compete with leading LCAP vendors, Creatio is upgrading its UI design capabilities to support Angular and Flutter.

- **Business model**: Most of Creatio's customers are small and midsize enterprises, and its existing CRM SaaS customers comprise most of its LCAP customer base. Further, Creatio is not unique in its focus on CRM SaaS and needs to differentiate itself from other large LCAP competitors. To further expand its presence, Creatio recently raised an investment round of $68 million.

Kintone

Kintone is a Niche Player in this Magic Quadrant. Its LCAP offering is the Kintone platform. Kintone's market differentiation is based on two factors: a no-code approach and collaboration features, which enable citizen developers to jointly build workflows; and its large partner ecosystem, which offers a wide range of extensions and plug-ins. Kintone continues to enhance its integration and security capabilities for its marketplace.

Kintone's operations are mostly focused in Japan, with a small direct presence in several other APAC countries and in the U.S. Its clients tend to be small and midsize enterprises, with many clients in the manufacturing and retail sectors.

Strengths

- **Sales execution and pricing:** Kintone increased its customer base and license revenue significantly during the past year, driven by business demand for no-code development and a very aggressive pricing model. Its channel partners also played a significant role in this growth, mainly in Japan, China and several other countries in the APAC region.

- **Customer experience:** Kintone received positive customer experience ratings on Gartner Peer Insights relative to other LCAP vendors. Its ratings for evaluation and contracting and for integration and deployment have increased year over year.

- **Overall viability:** Both Kintone and its parent company, Cybozu, are profitable and capable of funding future expansion. Kintone has established a large partner ecosystem, and its large customer base provides a robust user support community.

Cautions

- **Innovation:** Kintone does not plan to offer native AI-assisted development capabilities on its platform. Compared with other vendors in this Magic Quadrant, it lags in supporting advanced professional development features, intelligent automation, integration and UX capabilities.

- **Industry strategy:** Kintone does not provide targeted solutions for industry-specific use cases. It does offer industry-specific templates. The vast majority of the applications developed on the platform are for employee-facing use cases only.

- **Operations and geographic strategy:** Kintone's geographic reach is limited. It has yet to gain significant market traction outside of Japan, despite being in some markets like China and the U.S. for many years.

Mendix

Mendix is a Leader in this Magic Quadrant. Its LCAP offering is the Mendix Platform. Mendix is a subsidiary of Siemens. Its market differentiation is based on its support for fusion teams, support for multicloud and on-premises deployments, and cloud-native services for multiexperience development.

Mendix's operations are largely based in Europe, but its headquarters is in the U.S. and it has an increasing presence in APAC regions. Its customers are distributed across all sizes of enterprise, mostly in the finance, professional services and manufacturing sectors.

Strengths

- **Innovation:** Mendix continues to provide advanced enterprise low-code capabilities that benefit new use cases, such as the Internet of Things (IoT) and digital twins. These include Data Hub for data and event services, and MxAssist Performance Bot, which proactively detects modeling and architectural anti-patterns that can impact app performance.

- **Product:** Mendix scored highly across most key capabilities, especially on UX design, integration support and governance. Its Gartner Peer Insights rating for product capabilities also affirms this. The vendor's support for fusion teams via different editors simplifies citizen development for more sophisticated enterprise applications.

- **Viability:** Mendix shows high growth over the past year. It is also owned and promoted by multinational conglomerate Siemens, which makes Mendix equivalent to larger vendors in terms of its long-term viability.

Cautions

- **Sales execution:** Mendix provides a sophisticated platform at a premium price, which often exceeds that of competing LCAP solutions. It has, however, updated its pricing strategy in 2021, generating renewed interest among some prospective customers.

- **Marketing strategy:** Mendix's go-to-market strategy tends to rely heavily on Siemens since the acquisition. While this connection is driving much of Mendix's growth, it may only go so far. Gartner speaks with clients who see Mendix as primarily driven by Siemens, such as for industrial use cases. To improve its broader marketing strategy, Mendix is making an effort to build new marketing partnerships with Tencent and to build renewed efforts with SAP.

- **Geographic strategy:** Mendix has had less success expanding its market presence outside of North America and Europe compared with some of its competitors. However, the vendor has increased the size of its Japan, Singapore and China offices to build a stronger presence in the APAC region.

Microsoft

Microsoft is a Leader in this Magic Quadrant. Its LCAP offering is Microsoft Power Apps, which includes entitlements for Power Automate and Dataverse. Together, these form part of the Power Platform. Microsoft's market differentiation is based on its complete Power Platform offering that, with Power BI for business analytics and Power Virtual Agents for chatbots, complements Power Apps with Microsoft Office 365, Dynamics 365 and Azure services. Power Apps has evolved from a tool geared toward citizen developers to also focus on enabling fusion team activities between business and IT users.

Microsoft's operations are geographically diversified, and it has clients across all industries and enterprise sizes. We estimate that Microsoft Power Apps has the largest user base of any LCAP, mainly due to the widespread enterprise use of Office 365 and Dynamics.

Strengths

- **Innovation:** Microsoft has an exclusive license from OpenAI to commercialize Generative Pre-trained Transformer 3 (GPT-3) into Power Apps and apply it to its new open-source Power FX expression language. This enables developers to simply generate queries and logic through natural language statements. This AI-driven development approach could be a game changer for the LCAP market.

- **Market understanding and responsiveness**: We have seen a significant increase in client interest and usage of Power Apps to increase development agility and speed. Microsoft has effectively positioned Power Apps to connect citizen developers with professional developers by linking Power Apps to Azure, Visual Studio Code and GitHub. It has also expanded IT admin controls for tenantwide governance, including deeper analytics and more granular control over data loss prevention policies.

- **Business model and overall viability:** Microsoft has used Microsoft 365 and Teams to drive widespread usage of Power Apps at a pace unmatched by other LCAP providers. Gartner Peer Insights reviews cited preexisting relationships as the No. 2 factor for selecting Microsoft's product. Given the synergistic nature of these products, the long-term viability of Power Apps is strong.

Cautions

- **Pricing:** A free version of Power Apps is available with some Office and Dynamics license tiers, but Gartner clients have reported governance concerns about pricing complexity whenever they've expanded their usage of the full version of the platform. This is particularly true when external connectors and additional end users on per-app or per-user plans are introduced to the implementation.

- **Marketing execution:** Microsoft continues to rename and repackage its Power Apps components (for example, rebranding Common Data Service as Dataverse). Some Gartner clients with current Power Apps implementations have stated that the name changes are confusing and that it is difficult to assess the potential impact of these changes.

- **Business logic and workflow:** We have seen an increase in clients wanting to use Power Apps and Power Automate for complex business process automation, which stretches the limits of the tools. Although Microsoft has added Process Advisor for process mining, other LCAPs provide stronger capabilities for end-to-end business process management orchestration.

Newgen

Newgen is a Niche Player in this Magic Quadrant. Its LCAP offering is the NewgenONE Digital Transformation Platform. Newgen's market differentiation is based on its breadth of capabilities for automating complex processes at scale. It uses modern microservices-based architecture and artificial intelligence/machine learning (AI/ML) to deliver business applications with process automation and content management capabilities.

Newgen's operations are mainly based in APAC, but it has a growing presence in EMEA and North America. Its clients tend to be large and midsize organizations in the financial services, insurance and government sectors.

Strengths

- **Business logic and workflow:** Newgen provides a robust platform to automate complex business processes. It follows BPMN 2.0 and decision model and notation (DMN) standards for process modeling and decision modeling, respectively. It also offers AI-enabled document processing capabilities such as intelligent data capture, document classification and automated document generation.

- **Sales execution and pricing:** Newgen continues to offer flexible licensing options, including perpetual, subscription and value-based pricing (that is, pricing associated with business value metrics or outcomes). The platform is also sold by its global system integrator partners.

- **Customer satisfaction:** On Gartner Peer Insights, Newgen customers expressed a high degree of satisfaction with the quality and availability of the vendor's end-user training. Evaluation and contracting are also rated relatively high for this market.

Cautions

- **Platform ecosystem:** The ecosystem around Newgen's platform continues to lag behind its competitors. The vendor's marketplace is essentially a partner-enablement portal that consists of a few prebuilt applications, training materials and implementation guidelines.

- **Product:** The Newgen platform has limited native support for testing of applications built on the platform. Its low-code capabilities for customizing applications are limited compared with the Leaders in this Magic Quadrant.

- **Geographic strategy:** Newgen's primary customer base is in India, the Middle East and Africa. However, it now has a growing physical presence and a number of customers in the North America and Europe regions. Prospective clients in the U.S. and Western Europe need to evaluate Newgen's local support and partner abilities to meet their requirements.

Oracle

Oracle is a Challenger in this Magic Quadrant. Its LCAP offering is Application Express (APEX), part of the Oracle Database business. Its market differentiation is based on its use of Oracle Autonomous Database for scalability and high availability (in the cloud or on-premises), its use of SQL as the expression language and its low entry costs, including a free tier.

Oracle's operations are based in the U.S., but it is globally represented across all regions. Its customer base is primarily large enterprises across all vertical sectors.

Strengths

- **Overall viability:** Oracle is the third-largest vendor in application infrastructure and middleware services, and its database remains the leading database solution for enterprises. APEX leverages Oracle's strength in database services and sizable market share to compete.

- **Sales execution and pricing:** Oracle provides APEX as a value-added service to its database customers, along with APEX Cloud Service (which is priced per resource). As a result, APEX is the standard choice for the large community of Oracle Database users.

- **Geographic strategy:** Oracle is a multinational vendor that provides widespread support for its solutions worldwide. It fosters an active, international APEX user community with hundreds of thousands of developers and many consulting and hosting partners.

Cautions

- **Product:** While APEX's relationship to the Oracle Database can be beneficial, it can also constrain the user's ability to perform common tasks such as third-party database access and business process orchestration. Customers' success with APEX can vary based on their use case.

- **Industry strategy:** Oracle APEX has no strategy for industry-specific products, nor does it provide support for vertical markets. Partners generally fill the void to meet industry needs, but these providers are mainly small in size.

- **Innovation:** Oracle has been slow to implement features on APEX that are commonly included in other LCAPs. For example, a graphical application logic editor is not currently available and native mobile app support is not on the roadmap. APEX connects users with advanced Oracle Database features, but use of these features ties the user's application to the Oracle Database. Support for workflow capabilities and server-side JavaScript as an extension language is lagging that of other competitors.

OutSystems

OutSystems is a Leader in this Magic Quadrant. Its LCAP is the OutSystems Platform. Its market differentiation is based on its capability to enhance developer productivity for building modern enterprise applications. OutSystems provides robust security, multiexperience development and AI-augmented development capabilities to enable faster application development.

OutSystems' operations are primarily in Europe and North America, but it has an increasing presence in APAC. It has a high percentage of both small and large enterprise customers, and they tend to be in the banking, finance, insurance and professional services industries.

Strengths

- **Product:** OutSystems offers advanced low-code capabilities such as AI-augmented development, native but proprietary continuous integration/continuous delivery(CI/CD), application testing, enterprise agile planning, and governance capabilities to support rapid development of enterprise-grade applications.

- **Innovation:** OutSystems plans to introduce capabilities for automated unit testing using AI, native API management, enhanced observability experience (tied to infrastructure and application metrics) and an intelligent data mesh to facilitate seamless data ingestion and cataloging.

- **User experience:** In addition to providing robust capabilities for designing user journeys, OutSystems provides its own UI design framework for designing standardized, accessibility-ready UIs. It also enables utilization of popular design systems and provides native support for chatbots and voice UIs.

Cautions

- **Business logic and workflow:** Although OutSystems has rolled out case management and AI document process functionalities, the platform lacks capabilities for complex decision modeling, document-centric processes and process optimization use cases. Its process automation features are still evolving, with new components like Machine Learning Builder for the next best actions.

- **Industry strategy:** OutSystems has no industry or vertical focus and instead targets specific industries through partners, independent software vendors and marketplace components. Customers seeking industry-specific domain expertise, native integrations or solution accelerators may find that other LCAP vendors offer more robust industry solutions.

- **Pricing:** Some Gartner clients continue to voice concerns about complex pricing, despite OutSystems' new, simplified pricing model. Its pricing is based on user tiers (different rates for external versus internal users), along with platform editions that vary in price based on their capabilities. Gartner Peer Insights indicates a slight improvement to OutSystems' evaluation and contracting ratings, but pricing and contract flexibility remain the vendor's lowest ratings.

Pega

Pega is a Challenger in this Magic Quadrant. Its LCAP is a part of the Pega Infinity platform, which also competes in intelligent business process management suite (iBPMS), multiexperience development platform (MXDP), CRM and robotic process automation (RPA) markets. Its market differentiation is based on the new Pega Cosmos design system, which uses the React framework, allowing citizen developers to configure the UX in a more intuitive manner. It has also introduced multitenant storage and backing services (such as Apache Kafka and Cassandra, Elasticsearch, NoSQL and MongoDBAtlas) to help clients scale up and scale down.

Pega's operations are geographically distributed and its customers tend to be large enterprises in the banking, finance and insurance, telecom and government sectors.

Strengths

- **Business logic and workflow:** Pega's strength lies in low-code development for process and workflow automation using the Pega Infinity platform. Rules-driven, straight-through processing or human-in-the-loop automations assist automation of even highly adaptive processes. Pega's AI decision fabric supports A/B/n, adaptive analytics and multivariate testing to drive successful process outcomes.

- **User experience design:** Pega Cosmos has added a digital experience API (DX-API) that allows users to implement external design systems like Sketch, Material and Fluent while using Pega's model-driven authoring capability. Users can take UX functions and embed them into other applications using the DX-API. Starter kits are provided for Salesforce Lightning, React, Angular and Vue.

- **Product:** Pega's enhancements to its Infinity platform align with customer needs. Its cloud-native, multitenant, microservices-based architecture can scale up and scale down, helping clients address use cases more cost-effectively. The Process Fabric hub leverages this architecture to deliver cross-application composability across an organization's complex portfolio of applications.

Cautions

- **Sales execution and pricing:** Pega has had modest customer growth for its LCAP — albeit targeting large enterprises. High pricing continues to be cited as a barrier for adoption, especially for smaller organizations. Some Gartner client conversations and Peer Insights reviews have mentioned that Pega's licensing model can be complex to understand.

- **Customer experience:** Pega's platform is for complex enterprise needs, and its model- and case-driven approach can sometimes overwhelm clients that don't have a knowledgeable team. A few Gartner Peer Insights reviewers also noted that Pega's knowledge repository needs expansion and improvement, and that finding technical solutions to platform problems and obtaining detailed information on bugs is challenging.

- **Marketing and sales strategies:** Market awareness of Pega's LCAP and low-code capabilities continues to trail that of many other vendors in this Magic Quadrant. While Pega has increased marketing spend and doing more grassroots outreach within its community, its strategies have not translated into broader traction.

Quickbase

Quickbase is a Niche Player in this Magic Quadrant. Its LCAP offering is the Quickbase platform. Its market differentiation is based on its no-code approach, which enables citizen developers and fusion teams to solve operational inefficiencies. Quickbase continues to enhance its integration and automation capabilities with its Pipelines technology.

Quickbase's operations are mostly focused in North America, with a small presence in the Europe and APAC regions. Its relatively large client base tends to comprise smaller enterprises, but it has been targeting more midsize and larger enterprises. Quickbase has many clients in the manufacturing, professional services and technology sectors.

Strengths

- **Customer experience:** Quickbase is one of the highest-rated LCAP vendors on Gartner Peer Insights. In particular, its ratings for integration and deployment, and for services and support, have increased year over year.

- **Viability:** Quickbase is profitable and has a strong capital reserve to fund its expansion. In 2020, it transitioned to a new leadership team to steer its next phase of growth, with a focus on extending its partnerships and channels.

- **Sales execution and pricing:** Quickbase has grown its license revenue at a healthy pace during the past year. It has added many new customers, including a greater share of large enterprises and larger deals. Its simplified pricing model — with both user-based and value-based pricing, depending on the use case — has helped drive this growth.

Cautions

- **Innovation:** Quickbase does not provide some of the features that other LCAP vendors offer, such as native AI services and AI-augmented development. It has improved its integration, automation and UX capabilities, but these features continue to lag those of the Leaders in this Magic Quadrant.

- **Offering strategy:** Quickbase is at a turning point in its platform evolution, and it is still solidifying its offering strategy. It is expanding its no-code tooling that is designed primarily for citizen developers to focus more on supporting IT and fusion teams. However, it is unclear whether Quickbase will deliver the depth of LCAP capabilities needed to service professional developers.

- **Operations and geographic strategy:** Quickbase's geographic reach is mostly limited to North America. It currently has few customers outside of this region, and is building a channel to grow and support customers outside North America through a mix of partners and in-region resources.

Salesforce

Salesforce is a Leader in this Magic Quadrant. Its LCAP offering is the Salesforce Platform. Its market differentiation is based on the Salesforce SaaS platform — one of the largest in the world — and its vibrant marketplace and community. Its LCAP tools range from no-code visual designers to coding with its Apex language and JavaScript.

Salesforce's operations are geographically distributed, and its clients tend to be large enterprises that are already using its CRM products.

Strengths
- **Industry strategy:** Salesforce offers 12 industry cloud solutions, all of which use its LCAP capabilities for extensibility. Many partners also use the Salesforce LCAP to create industry-specific modules and applications for customers.

- **Market responsiveness:** Salesforce consistently unveils new capabilities in three annual releases (Spring, Summer, Winter) and releases patches throughout the year. It also tends to release platform capabilities into developer preview and beta stages in advance of general availability. New capabilities for Einstein Automate and Salesforce Functions demonstrate its alignment with market demands.

- **Platform ecosystem:** The Salesforce marketplace (AppExchange) and its community (Trailhead) comprise an ecosystem that is unrivaled in the LCAP market. The Salesforce ecosystem is a major value-added resource for customers looking to adopt its LCAP.

Cautions
- **Innovation:** Other leading LCAPs provide AI-augmented development, yet Salesforce does not offer this capability in its platform. Its newer investments in low-code DevOps tooling also lag some of the Leaders in ease of use. When Salesforce announces innovations, it can take nearly a year before these features are fully released.

- **Business logic and workflow:** The Salesforce platform has a fragmented approach to supporting logic and workflow. The enhanced Salesforce Flow tool is at the core of its approach, but Einstein Automate is a loose collection of tools, including Einstein bots, industry workflows from Vlocity OmniScript and add-ons in AppExchange.

- **Pricing:** On Gartner Peer Insights, Salesforce received its lowest ratings for pricing and contract flexibility, for which there was no improvement in 2020. Some Gartner clients have expressed concern over Salesforce's relatively high prices and its myriad options, which can be complex to navigate as the application use cases grow.

ServiceNow

ServiceNow is a Leader in this Magic Quadrant. Its LCAP offering is App Engine and Creator Workflows, part of the Now Platform. ServiceNow's market differentiation is based on the wide set of platform capabilities that power its popular IT service management (ITSM) and other SaaS offerings, particularly its support for operational workflows.

ServiceNow's operations are geographically distributed, and its customers tend to be large enterprises, primarily IT organizations that are also ServiceNow SaaS customers.

Strengths
- **Innovation:** ServiceNow has a proven record of technology adoption and consolidation within its platform, most recently adding IoT and process optimization. Together with its built-in integration service, App Engine continues to be competitive for a wide range of workflow-driven use cases.

- **Viability:** As a rapidly growing SaaS vendor, ServiceNow has invested heavily in its LCAP over the past several years. Its customer base continues to grow and it is leveraging App Engine for new customer and employee workflow use cases.

- **Market responsiveness:** ServiceNow has successfully focused on encouraging customers to think of it as a low-code platform provider. Its ability to establish an identity as an LCAP provider is driving increased adoption among its existing customers.

Cautions
- **Industry strategy:** ServiceNow has customers across multiple industries, but most of its LCAP customers began primarily in IT departments. However, it is beginning to encourage adoption by other lines of business.

- **Business model:** ServiceNow's model of selling App Engine to its SaaS customer base has gained traction, but it is starting to run into increasing competition. Apart from SI partners bringing in ServiceNow, the vendor has not expanded its business model to drive App Engine to non-ServiceNow SaaS customers.

- **Pricing:** ServiceNow has revised its pricing model in each of the past four years. Some Gartner clients stated that these frequent pricing changes were confusing when renewing their contracts, and some have cited concerns about its high annual fee increments.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

No new vendors were added this year.

Dropped

We updated our 2021 business and go-to-market inclusion criteria because clients are demanding greater long-term stability from their enterprise LCAP vendor. Additionally, there are even more LCAP vendors that have grown to meet the business inclusion criteria from 2020. This has led us to raise the bar for inclusion to ensure a reasonable number of vendors to evaluate.

Based on the changes, we dropped the following vendors from this year's evaluation because they did not meet one or more of the updated minimum requirements. These, along with other enterprise LCAP vendors, should be part of a broader evaluation list for organizations because they often provide compelling value and some have differentiating product capabilities:

- AgilePoint

- AuraQuantic

- Betty Blocks

- Oracle (Visual Builder)

- ProntoForms

- TrackVia

- Zoho

Inclusion and Exclusion Criteria

To qualify for inclusion, vendors must:

1.   Demonstrate a go-to-market strategy with specific pricing for its low-code application platform for cross-industry or general-purpose application development:

- The LCAP must not be used only or mainly for building specific industry applications, and it must not be only a product bundled within some other solution or platform.

- The LCAP must support development and deployment of applications by professional developers in both central IT and line of business — not just for citizen developers.

2.   Provide an LCAP offering with both no-code and low-code capabilities to:

- Develop, version, test, deploy, execute, administer, monitor and manage the applications and their relevant artifacts.

- Embed data storage features without relying on additional procured services (i.e., includes a database).

- Support the design of data schema and application logic.

- Create rich application UIs (i.e., not only a forms builder or building an administration UI).

- Enable the invocation of external third-party services via APIs or event topics.

- Support some automation of platform patching and versioning.

- Provide single-step deployment across environments (development, test, staging, production).

■ Access a platform repository or marketplace for sharing components, modules, connectors and templates.

3. Offer an enterprise LCAP aimed at enterprise-class projects that provides:

■ High availability and DR

■ Secure access to applications

■ Technical support to customers

■ Third-party application access to application logic or data, via APIs or event topics

In addition to the above market and technical criteria, each vendor must meet the following business criteria:

1. **Revenue:** The vendor must have revenue of at least $50 million for LCAP licenses and subscriptions in the past year ending 31 March 2021.

2. **Growth:** The vendor must have at least 20% year-over-year growth in revenue for the previous year for LCAP licenses and subscriptions, excluding professional services or other related product offerings, in the past year ending 31 March 2021.

3. **Customer base:** The vendor must have at least 100 paying enterprise customer organizations (those with at least 1,000 employees) for its LCAP offering, excluding other related product offerings, as of 31 March 2021.

4. **International presence:** The vendor must have direct customers (i.e., not through resellers) in three of the following geographies:

■ North America

■ South America

■ Europe

■ Middle East and Africa

■ China

■ Japan/Asia/Pacific

We exclude vendors for any one of the following reasons:

- Require a specific, licensed, third-party component or product that is not already resold into their platform — that is, branded, sold and supported directly by the vendor.

- Only sell their platform with, and for the use of, their professional services and consultants.

- Require the purchase and/or installation of other unrelated products or platforms offered by the same vendor (such as a CRM application or content management system).

- Did not market a generally available product prior to 2020 that was described as a distinct LCAP offering (e.g., a SaaS vendor that provided a low-code tool as part of its SaaS license only and separated it out in 2020).

- Do not offer a commercially supported enterprise offering — that is, only offer the platform as open-source software.

Evaluation Criteria

Ability to Execute

Gartner's weightings for Ability to Execute emphasize product and sales execution/pricing criteria. The weighting for customer experience was increased from the prior year; while the weighting for marketing execution was decreased.

Table 1: Ability to Execute Evaluation Criteria

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

Source: Gartner (August 2021)

Completeness of Vision

Gartner's weightings for Completeness of Vision emphasize offering/product strategy and innovation criteria. The weightings for market understanding and business model were increased from the prior year. The weighting for marketing strategy was decreased.

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	Low

Source: Gartner (August 2021)

Quadrant Descriptions

Leaders

Enterprise LCAP Leaders demonstrate both strong execution (particularly in terms of business performance) and a strong vision (in terms of product and go-to-market strategies). These vendors stand out in a highly competitive, global market and serve a wide range of organizations and application use cases with their robust LCAP offerings. This year's Leaders are Microsoft, Mendix, OutSystems, Salesforce and ServiceNow.

Challengers

Enterprise LCAP Challengers demonstrate strength in execution but lack the vision of Leaders (especially in offering and go-to-market strategies for broader use cases and markets). These vendors have shown strong execution in their respective focus areas and are expanding their customer base. However, they have not demonstrated the vision to expand their offering beyond their core customers to serve different types of buyers and needs. This year's Challengers are Appian, Oracle and Pega.

Visionaries

Enterprise LCAP Visionaries demonstrate a strong vision, but less so in execution. This year, there are no vendors in the Visionaries quadrant. From last year, Pega has moved into Challengers, and other vendors did not qualify from a business inclusion criteria perspective. There are many of these smaller vendors not in this Magic Quadrant that have compelling vision, and they ought to be alternatives if business financials and operations are not priorities for evaluation.

Niche Players

Enterprise LCAP Niche Players are vendors that focus on a specific area of the market or have a regional geographic footprint. While they have not demonstrated a strong vision or Ability to Execute relative to other vendors we evaluated, qualifying for this Magic Quadrant is an accomplishment in itself (as we only evaluated 12 vendors out of the hundreds that market their products as LCAPs). Niche Players can offer good value for their technology and can be more suitable for specific application use cases, as they tend to specialize in a particular industry or area instead of providing a broader set of business capabilities. This year's Niche Players are Creatio, Kintone, Newgen and Quickbase.

Context

As organizations demand new digital solutions and application capabilities, software engineering leaders cannot afford to depend on long-term, traditional application development approaches. As a result, more organizations are adopting and using LCAPs — a trend that has been further accelerated by COVID-19 disruptions. Even conservative organizations that have previously resisted modernization and automation are using LCAPs to move to the cloud, address skills and resource shortages, and achieve faster time to deployment.

Application and software engineering leaders:

- Analyze your use cases and business needs carefully to deliver the best results from an LCAP (see Critical Capabilities for Enterprise Low-Code Application Platforms).

- Adopt a technology-agnostic approach by leading with business requirements and then layering in the technical components.

- Improve existing business processes before implementing an LCAP. Optimize those processes first.

- Define all immediate requirements and anticipate longer-term needs for the next two to three years.

- Create a high-level scope document and review with the internal teams.

- Learn about LCAP options by utilizing a free version to become familiar with the developer experience and platform functionalities.

- Strategize on how to fit the enterprise LCAP solution into the organization's existing architecture, especially in terms of integration effort.

- Evaluate cost versus functionality. Compare products with similar capabilities and prices.

- Understand and communicate the potential pitfalls of using LCAPs to business stakeholders.

- Evaluate the maturity of the LCAP's developer and partner community support.

- Train professional and citizen developers prior to app development and provide ongoing self-learning programs, instead of only relying on the LCAP vendor or its partners.

Market Overview

The enterprise LCAP market is part of an overall low-code development technologies space, which is expected to reach $29 billion in revenue by 2025 (with a compound annual growth rate [CAGR] of more than 20%). Specifically, the LCAP segment is projected to expand from $4.45 billion to $14.38 billion between 2020 and 2025, with a CAGR of 26.4%.

The rapid increase in enterprise adoption and usage of enterprise LCAPs is driven by three key trends:

- **Democratization:** On average, 41% of employees in an organization are business technologists — that is, employees who report outside of IT departments and create technology or analytics capabilities for internal or external business use. LCAPs empower diverse fusion teams to deliver innovation.

- **Hyperautomation:** Hyperautomation involves the orchestrated use of multiple technologies, tools or platforms. LCAPs have emerged as a key component of successful hyperautomation, with 13% of business technologists indicating low-code development tools are among the three tools used the most (based on frequency and volume) to support automation initiatives over the past 12 months.

- **Composable business:** Organizations are adopting application composition technologies that enable fusion teams to implement composable applications. LCAPs are one of the key technologies that drive greater composability of application services, functionality and capabilities.

The vendors in the Leaders quadrant have responded well to customer demands, showing a high level of business and technical execution and vision across industries and international markets. As a result, leading enterprise LCAP vendors are pulling ahead of the competition. These vendors are also applying their platforms to deliver new solutions that address challenges related to COVID-19. For example, Salesforce and ServiceNow were able to quickly create and release new solutions for developing return-to-work applications; while others are using their LCAPs to support public service use cases for government and healthcare customers.

In addition to the five Leaders in this Magic Quadrant, seven other vendors qualified for inclusion (out of the hundreds of vendors that market their platforms as LCAPs). In 2021, there are three Challengers and four Niche Players. Challengers are established vendors seeking to expand from their customer bases and build upon their core strengths. Niche Players tend to be vendors that operate within a particular region or provide more focused capabilities for specific use cases. There are no vendors in the Visionaries quadrant. Historically, these were smaller vendors with compelling visions, but none qualified from a business criteria perspective this year.

Acronym Key and Glossary Terms

Fusion Team	A fusion team is a multidisciplinary team that blends technology or analytics and business domain expertise and shares accountability for business and technology outcomes. Instead of organizing work by functions or technologies, fusion teams are typically organized by the cross-cutting business capabilities, business outcomes or customer outcomes they support. Fusion teams do not have a prescribed reporting structure. Team leaders or members may report to either dedicated IT departments or business areas outside of IT. Fusion teams often start as Agile project or Scrum teams and gradually adopt a product management discipline to oversee a capability end to end, from strategy to delivery and continuous enhancements.

Evidence

The 2020 Gartner Digital Friction Survey was conducted via an online survey platform from January through March 2020, with a total of approximately 4,500 employees who used technology in their daily work. The survey was developed collaboratively by a team of Gartner researchers and was reviewed, tested and administered by Gartner's Quantitative Analytics and Data Science team. To determine the most impactful drivers of digital friction, we used regression-based maximum-impact analysis to assess the impact of over 130 factors, ranging from organizational practices to leadership behaviors and mindsets. Maximum impact shows the largest amount of improvement in reducing digital friction that an organization can realize by improving each factor.

The 2021 Gartner Reimagining Technology Work Survey was conducted via an online platform in March 2021 among more than 6,000 employees across functions, levels, industries and geographies. The survey was developed collaboratively by a team of Gartner researchers and was reviewed, tested and administered by Gartner's Quantitative Analytics and Data Science team. The survey examined the extent to which employees outside of IT were involved in customizing and building analytics or technology solutions, the types of activities they performed, the teams and structures they worked in, and the types of support they received.

The 2021 Gartner Hyperautomation Survey was conducted online during March 2021 among 558 business technologists from North America (n = 226), Europe (n = 146), LATAM (n = 78) and APAC (n = 108).

To be qualified to answer the survey, respondents needed to:

- Have created, built or coded analytics or technology capabilities on their own or with input from others in the past 12 months;

- In the same time period, have used at least one of the tools to produce analytics or technology capabilities for work. Twenty-one tools were considered under four categories: application development tools, automation tools, integration tools, and data science and AI tools.

Results of this study do not represent global findings or the market as a whole, but reflect sentiment of the respondents and companies surveyed.

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.

Document Revision History

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

Table 1: Ability to Execute Evaluation Criteria

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

Source: Gartner (August 2021)

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