

Magic Quadrant for Enterprise Low-Code Application Platforms

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Enterprise low-code application platforms deliver high-productivity and multifunction capabilities across central, departmental and citizen IT functions. We evaluate 18 LCAP vendors to help guide you to the appropriate platforms for your needs.

Strategic Planning Assumption

By 2023, over 50% of medium to large enterprises will have adopted an LCAP as one of their strategic application platforms.

Market Definition/Description

IT leaders are facing mounting challenges around application delivery. Developer shortages and skill-set challenges are impacting their ability to deliver increasing levels of business automation in a rapid and reliable fashion. In response, the vendors of low-code application platforms (LCAPs) have been improving the ease at which business applications can be delivered, providing broader capabilities requiring smaller and less specialized teams of developers.

An LCAP is characterized by its use of model-driven or visual development paradigms supported by expression languages and possibly scripting to address use cases such as citizen development, business unit IT, enterprise business processes, composable applications and even SaaS applications. These platforms are offered by vendors that may be better known for their SaaS offerings, or their business process management (BPM) capabilities, as well as specialist vendors for rapid application development. The primary goal is increased application development productivity with reduced skill-set requirements for developers.

Gartner formally defines an application platform as “a product or suite of products that offers development, deployment and execution capabilities for any of user experience, business process, business logic, and data.”

An LCAP is an application platform that supports rapid application development, deployment, execution and management using declarative, high-level programming abstractions such as model-

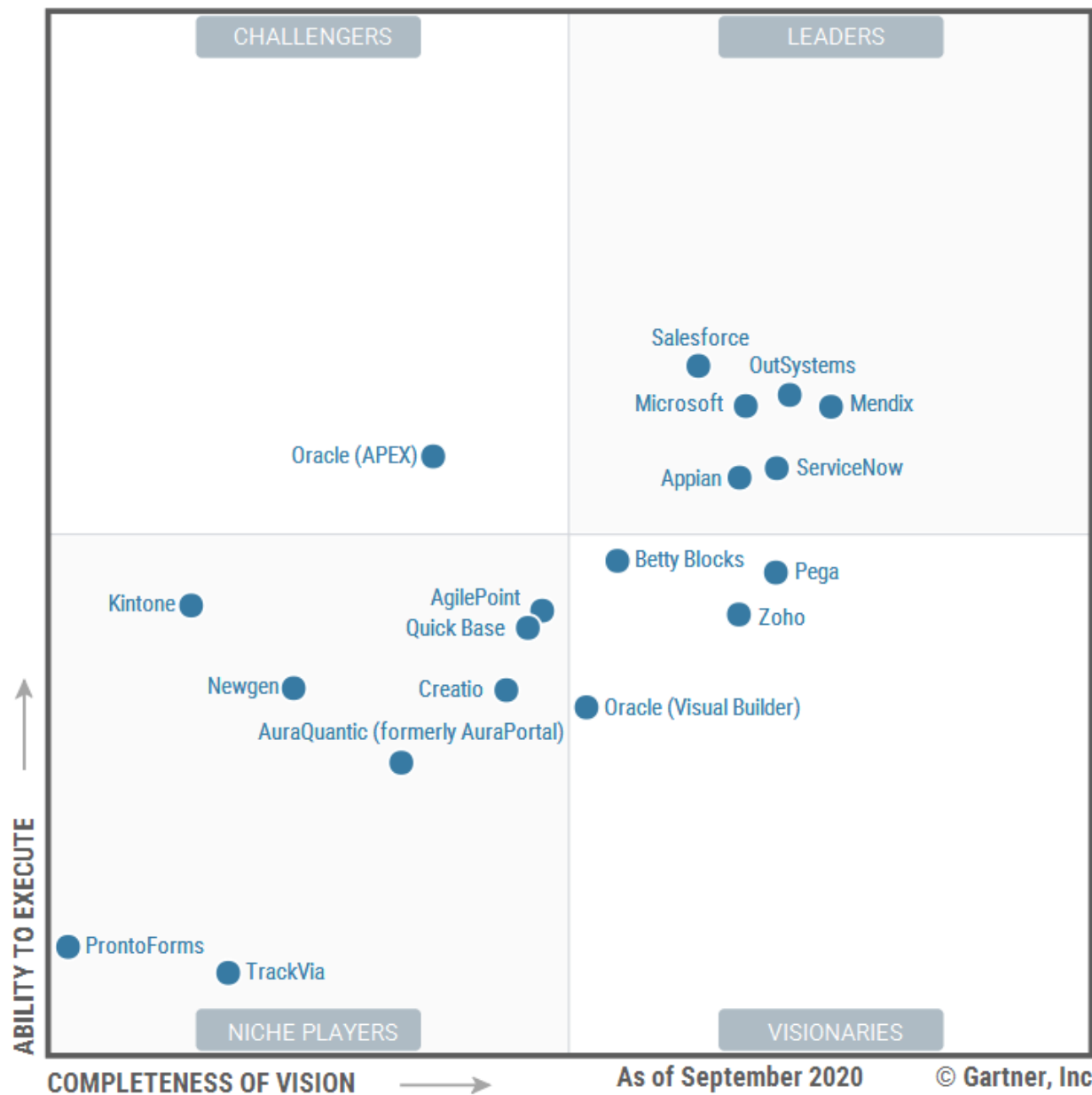
driven and metadata-based programming languages, and one-step deployments. LCAPs provide and support user interfaces (UIs), business processes and data services.

An enterprise LCAP supports enterprise-class applications. Enterprise-class applications require high performance, scalability, high availability (HA), disaster recovery (DR), security, service-level agreements (SLAs), resource use tracking, technical support from the provider, and API access to and from local and cloud services.

Note that Gartner defines a no-code application platform as an LCAP that only requires text entry for formulae or simple expressions. The LCAP market therefore includes no-code platforms. Furthermore, “no code” is not a sufficient criterion for tasks like citizen development, as many complex tooling configuration tasks are “no code” but still require specialist skills.

Magic Quadrant

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



Source: Gartner (September 2020)

Vendor Strengths and Cautions

AgilePoint

AgilePoint is a Niche Player in this Magic Quadrant. Its LCAP product AgilePoint NX (version 7 was assessed here) is broadly focused on process-centric application development. Its operations are geographically diversified and its clients tend to be large and range across multiple sectors, with some emphasis on manufacturing, government and financial services. AgilePoint has added webhooks to allow external systems to subscribe to a wide range of events, eForm options for third parties like Microsoft SharePoint and Office 365, and AI-driven process routing for complex orchestration. Its 2020 roadmap includes distributed LCAP for edge computing, low-code integration of blockchain into existing apps, and further AI-driven application development.

Strengths

- **Product:** AgilePoint's product offers a drag-and-drop graphical application designer, which includes a full stack of capabilities such as forms, processes, data models, portal pages and customized mobile apps. Additional automation options are available through partnerships with robotic process automation (RPA) vendors such as UiPath and Blue Prism.
- **Platform ecosystem:** To assist developers, AgilePoint offers prebuilt libraries such as popular process patterns, 70 predefined integrations and 700 process activities. AgilePoint also participates in other vendor ecosystems; it appears, for example, on the Salesforce AppExchange and Microsoft AppSource stores.
- **Innovation:** AgilePoint eForms provides a cross-platform alternative and replacement for Microsoft InfoPath, simplifying Microsoft data collection for those who don't want to invest in Power Apps. In addition, it has added AI-driven process flows to provide dynamic workflows, and is starting its journey toward low-code edge computing and support for digital twins and the Internet of Things (IoT).

Cautions

- **Overall viability:** AgilePoint is a relatively small and self-funded company with a successful legacy from the BPMS market area, but it will need to further invest in growth and brand recognition to compete against the much larger vendors in the LCAP market.
- **Business model:** AgilePoint's participation in the Microsoft and Salesforce ecosystems for some of its business means it can also be competing against those ecosystems' hosts in the LCAP market. Although AgilePoint adds some differentiation such as process-centric characteristics with these vendors, such advantages will likely reduce over time as these partners add their own business process capabilities.
- **Marketing strategy:** Although AgilePoint is growing well, and has an appropriate partnering strategy, it has less LCAP market visibility than many other vendors in this Magic Quadrant. While its strategy to extend to the IoT and edge could be successful as a move toward specialization, it also has the potential to compound its Niche Player status. AgilePoint is,

however, ramping up its marketing in this area, with broader outreach via social media and direct/indirect partner channels.

Appian

Appian is a Leader in this Magic Quadrant. Its LCAP (version 20.1) offers low-code app building, rich multiexperience capabilities, business process orchestration, automated decisioning, AI/ML and RPA. The platform focuses on complex processes such as end-to-end case management and other applications requiring sophisticated automation, rules and analytics. Its technological differentiators include full-stack automation capabilities, prebuilt no-code integration with various AI services, and end-to-end life cycle support for DevOps. Appian has operations in every major world region, with a focus on large enterprises. Its 2020 roadmap includes enhancements to AI-service integration, DevOps capabilities, RPA and expanded AI support for application development.

Strengths

- **Product:** At the core of Appian's LCAP strength is its rich process-driven application development. Appian's ability to offer a complete stack of low-code automation tooling that can handle complex workflows, business rules and case management along with RPA is a key differentiator. Added to that, it offers low-code tools to build multiexperience apps to enable customer and employee experiences.
- **Market understanding:** Appian brings in a complete end-to-end solution for its customers by enabling low-code capabilities to build business applications, perform complex process orchestration, and automate routine repetitive tasks with RPA. Customers looking for a full-stack automation platform should consider Appian's LCAP.
- **Overall viability:** In a crowded market with many small, privately owned vendors, Appian stands out as a stable, publicly traded company with a focus on low-code technology. Although smaller than many of its competitors, Appian has many enterprise customers and government agencies running its platform, which should ensure its long-term viability in this market.

Cautions

- **Application development:** Some of Gartner's Peer Insight reviewers found that Appian's low-code development product is more suitable for professional developers. Appian's proprietary expression and scripting language is typically an inhibitor for "citizen developers" building algorithmic expressions. Although Appian has built some collaborative features to support multiple personas — including both citizen and pro developers — Gartner has not yet seen much adoption.
- **Sales execution and pricing:** Appian pricing has been observed as highly variable in Gartner inquiries. Recently, the vendor has made some changes with a simplified basic subscription model, an annual "Quick Start License" and other options that may allay customer concerns in future.

- **Business model:** Appian has a high proportion of professional services revenue associated with its LCAP business. While some of these services are likely legacy business process reengineering consulting, and others related to large projects associated with its targeting of larger enterprises, the proportion of services to product revenue implies more specialist developer requirements.

AuraQuantic (formerly AuraPortal)

As of 1 September 2020, AuraPortal has changed its name to AuraQuantic.

AuraQuantic is a Niche Player in this Magic Quadrant. It provides low-code and BPM development tools for automating business operations. Its business is mostly focused in the EMEA and LATAM regions, and its clients tend to be midsize organizations with a majority in the banking and insurance sectors. AuraQuantic's LCAP provides a process-centric application platform with multiple separate graphical editors for different functions such as portals and SQL scripts. Future plans include adding AI-based decision management, RPA and AI assistance for developers. It also expects to invest in expanding its community and marketplace.

Strengths

- **Process and business logic:** Coming from a BPM background, AuraQuantic has sophisticated support for process and decision management. It undertook an early transition into low-code development tools and provides a good platform for citizen developers to build extensible process- or data-centric applications.
- **Market understanding:** AuraQuantic aims to help its customers to achieve greater productivity through automation. It is constantly improving its offering by evolving its UX (forms) design and runtime, augmenting decisions and application development with AI, and adding process mining features. AuraQuantic has strengthened its position within the Microsoft-centric market segment, increasing its visibility in the Microsoft partner community.
- **Industry strategy:** AuraQuantic is enhancing its support for the government, financial services, insurance and healthcare industries. Utilizing its strong knowledge of the financial services industry, AuraQuantic is providing specific solutions and associated marketing campaigns around web and mobile case management, lending, and risk and compliance solutions, as well as improving customer journeys for its clients.

Cautions

- **Product:** Support for multiple developer personas is limited. AuraQuantic provides a comprehensive and easy-to-use process and data model designer, but currently has a limited library of components to support citizen developers, with additional components a roadmap entry. There is only limited support for professional developers outside of creating integrations.
- **Platform ecosystem:** The AuraQuantic marketplace is very basic compared with other vendors in this Magic Quadrant, and is not monetized. The restricted choice of application templates and connectors limits the value of the marketplace to developers and discourages contributors.

AuraQuantic currently offers limited process patterns. Enterprises and independent software vendors (ISVs) looking for a vibrant ecosystem may need to consider alternatives.

- **Overall viability:** AuraQuantic is a small vendor, relative to most others in this Magic Quadrant. Its historic focus is on BPM rather than the faster-growing LCAP market. While the vendor shows some strength in territories like LATAM, a lack of brand awareness could impact long-term growth elsewhere. A future rebranding may help address this if marketed accordingly.

Betty Blocks

Betty Blocks is a Visionary in this Magic Quadrant. Its LCAP is mainly focused on citizen development. Its operations are mostly focused in Western Europe and the U.S. Its clients cross different enterprise sizes and primarily target B2B use cases. Betty Blocks is known for its technology innovation and is targeting ease of development, component (“block”) reuse and governance. It has enhanced its container deployment, developer environment and extensions mechanism, and is planning autogenerated user experiences to speed application delivery.

Strengths

- **Product strategy:** Betty Blocks has successfully identified and delivered on two of the major drivers for low-code-based productivity — composable applications maximizing reuse, and simplicity of development (composition) of applications. These enable reuse and speed of development and its “blocks” mechanism encourages ecosystem development.
- **Innovation:** Betty Blocks continues to innovate around technologies such as container-based distribution and deployment, GraphQL for external application integration, and cloud-native extension mechanisms. This innovation approach includes rapidly iterating where technologies don’t prove effective, such as moving from serverless functions to container-based code for extensibility.
- **Sales execution:** Betty Blocks continues to grow and extend its customer footprint, despite increasing competition in citizen development from other vendors. Part of the reason for this is a more aggressive pricing model, although like many other LCAP providers this may evolve in the future.

Cautions

- **Marketing strategy:** Betty Blocks’ citizen development marketing strategy faces growing competition, in particular from the “quasi freemium” model and ubiquity of Microsoft Power Apps. Its ecosystem may not be able to compete with such larger established vendors. For now, Betty Blocks continues to grow in part by exploiting the Microsoft Partners program in the U.S.
- **Geographic strategy:** While Betty Blocks has some APAC customers, its growth in 2019 was solely from EMEA and the U.S., making it less likely to be adopted for some worldwide enterprise initiatives, and potentially reducing its overall growth.

- **Industry strategy:** Betty Blocks' Block Store remains unmonetized, potentially reducing ISV and OEM ecosystem growth. This means that while its LCAP users are from across all industries, and Betty Blocks claims a vertical-driven focus across its marketing and sales, any vertical market growth is more likely to be organically driven rather than partner-led.

Creatio

Creatio (formerly bpm'online) is a Niche Player in this Magic Quadrant. Its LCAP offering is Studio Creatio, which provides low-code process management and process-based application development for its CRM SaaS business, as well as other use cases. Creatio's operations are global with a strong presence among small enterprises in the EMEA and North America regions. In 2019, Creatio added a free edition, additional AI services and higher performance mobile support. It is planning to enhance the extensibility of its platform by adding a UI based on the Angular framework, further AI support for process and application development, and is expanding its ecosystem.

Strengths

- **Market understanding:** Creatio has a good understanding of customer priorities for LCAP and its support for SaaS for customers is evident in its "Everyone a Developer" messaging. It recognizes the need to increase IT productivity, reduce time to market and increase business IT collaboration. Creatio targets business developers with reduced technical skill requirements.
- **Sales execution:** Creatio has showcased a decent growth in this market. This is driven by value for money, with attractive pricing for B2C users for its portal offering and simplified per-user pricing for B2E users. Creatio sales are supported by a strong global network of more than 700 partners that sell its products across 110 countries and 14 different languages.
- **Market responsiveness:** Creatio Studio has evolved low-code development features in response to customer needs. These include allowing nontechnical business developers to create their own custom machine learning (ML) models and an intuitive drag-and-drop case designer capability. The vendor has also developed its Creatio Academy and Community services to train and engage with developers and expand its ecosystem.

Cautions

- **Product:** Creatio provides basic support for handling data schemas and validations, but lacks enterprise features such as multicloud/multiregion deployments and seamless autoscaling of applications. These can be important for some enterprise use cases.
- **Innovation:** In terms of integration capabilities and more recent innovations such as AI-enhanced application development, Creatio lags the Leaders in this Magic Quadrant. Although it has more than 70 out-of-the-box connectors on its marketplace, few of them are for popular enterprise applications such as SAP.
- **Overall viability:** Creatio is not as large as some of the vendors in this Magic Quadrant, and its focus on CRM SaaS is shared by several other larger LCAP vendors. As larger vendors enter the LCAP market, Creatio will need to grow faster to remain viable.

Kintone

Kintone is a Niche Player in this Magic Quadrant. Its LCAP is mainly focused on workforce collaboration applications for business units. Its operations are mostly focused in Japan and the Pacific Rim region, and its clients tend to be small and midsize organizations. Kintone targets simple-to-build B2E applications, which may also be provided by partners through various app stores, or by the business users themselves. It is focusing on expanding further in the U.S. using Amazon Web Services (AWS) infrastructure, and is making improvements for citizen developers in the core areas of data, communications and workflows.

Strengths

- **Overall viability:** Kintone is continuing to grow and is the leading revenue generator for its parent corporation Cybozu, a leading Japanese collaboration platform business. In addition to Japan, Kintone's LCAP serves 15,000 customers across Asia (including China), Australia and North America.
- **Business model:** Kintone focuses on a collaboration model and supports thousands of partners and developers, creating a highly successful ecosystem across Asia. It is doubling its sales resources to increase adoption, helped by over 350 partners providing applications or plug-ins. Some partners operate their own Kintone app stores, and the overall partner ecosystem generates more than half of Kintone's revenue.
- **Marketing execution:** Kintone focuses on its business value and brands itself as a “business workstyle” company, rather than “technology” company. It is focusing on thought leadership around its collaboration features and has run a number of successful events across Asia and the U.S.

Cautions

- **Market understanding:** Kintone continues its narrow focus on collaboration applications by citizen and business unit developers, with weak support for professional developers and IT use cases requiring sophisticated architectures. The company is missing some enterprise certifications like SOC (System and Organization Controls) and PCI (Payment Card Industry) required by certain LCAP users.
- **Product:** Kintone does not have a strong integration focus, relying on third parties for connectivity to other services, and REST APIs to access external databases. The tool is not ideal for complex business processes or business decision logic, and does not support headless applications. Governance of developers and applications is also basic relative to other vendors in this Magic Quadrant.
- **Innovation:** Kintone's roadmap does not prioritize the current LCAP trends such as AI data services, AI-based development or user experiences like chatbots. Kintone users — even citizen developers — could be disadvantaged in future by these omissions.

Mendix

Mendix (a subsidiary of Siemens) is a Leader in this Magic Quadrant. Its LCAP is the Mendix Platform, which offers no-code and low-code development tools based on a model-driven, cloud-native platform architecture. It has recently added Mendix Data Hub for low-code integration and two private cloud service options — Mendix Cloud Dedicated and Mendix for Private Cloud. Mendix has offices mainly in North America and Europe, and most of its customers are in those regions. Its customers span a variety of industries. Mendix has a partnership with SAP to supply a tightly integrated LCAP with SAP HANA (also sold by SAP).

Strengths

- **Product:** Mendix offers robust capabilities to address needs across integration, workflow, event processing and use of AI to support development. In particular, its event processing supports events as first-class citizens, providing the infrastructure for publishing, consuming and managing business events. Mendix Assist, now in its second generation, uses ML to integrate real-time, in-product, AI-assisted contextual next-step suggestions.
- **Innovation:** The recently released Mendix Data Hub component allows its developers to more easily discover, assemble and orchestrate data and business capabilities, using the same Mendix visual modeling tools that it uses to build business logic and application data models. Mendix is also one of the few LCAP vendors with advanced multiexperience development capabilities supporting highly customizable mobile apps, chatbots and IoT app use cases.
- **Market understanding:** Mendix's LCAP supports visual and model-driven development across a broad spectrum of developer profiles. The platform provides a separate design-time environment for citizen developers (Mendix Studio) and a more robust development environment for professional developers (Mendix Studio Pro). This dual approach optimizes collaboration of fusion teams across business units and IT, and support for the composable enterprise vision.

Cautions

- **Sales execution and pricing:** Mendix shifted its sales to focus on the large enterprise segment. It has done well there, but its overall customer growth is not as high as other vendors in this fast-growing market. Gartner Peer Insight scores for Mendix's pricing and contract flexibility are relatively low compared with other vendors in this Magic Quadrant. Mendix is planning new pricing and packaging to address this by the end of 2020.
- **Industry strategy:** Mendix has been late to offer industry-specific solutions with its LCAP, with only a recent introduction of an Industry Solutions team. The vendor mostly relies on its parent company Siemens for specific targeted solutions and partner ISVs for industry applications in its marketplace.
- **Marketing execution:** While the acquisition by Siemens has elevated the market's awareness of Mendix, Gartner has not seen Mendix reaching as wide an audience as other Leaders in this Magic Quadrant, particularly outside of Europe and North America. Companies looking to

evaluate Mendix should investigate its regional presence and support from local partner resources.

Microsoft

Microsoft is a Leader in this Magic Quadrant. Its LCAP consists of Microsoft Power Apps, which includes entitlements for Power Automate and the Common Data Service. Together, these form part of the Power Platform (which adds Power BI for business analytics and Power Virtual Agents for low-code chatbots). Microsoft's operations are in locations worldwide. Its customers are in a variety of industries and of varying sizes. Power Apps operates in canvas and model-driven modes, and Power Automate provides business logic and integrations. Innovations on Microsoft's roadmap include support for Power Apps in Microsoft Teams to deploy solutions and templates, enabling remote workers, and expanding AI and RPA accessibility.

Strengths

- **Product strategy:** Microsoft enables fusion teams with no-code and advanced pro developer capabilities. Microsoft offers one of the simpler design-time tools in Power Apps, one that is used for designing canvas apps and that employs a drag-and-drop approach with an expression language that feels like Microsoft Excel. This makes it well-suited to citizen developers and business unit developers.
- **API and integration services:** Power Apps and Common Data Service (CDS) have a rich set of APIs and OData endpoints available to perform full create, read, update and delete (CRUD) operations on data to support integration with third-party iPaaS. There are more than 300 data connectors available including cloud-service database connectors that cover Azure SQL, Azure Cosmos DB, Amazon Redshift and cloud-hosted versions of the on-premises systems.
- **Innovation:** Ready-to-consume AI models allow developers to consume rich AI capabilities in their apps and flows without configuring and training a model. Prebuilt models are available to extract text from images, extract specific elements from text, categorize text, identify languages, and to perform key phrase extraction and sentiment analysis. AI Builder provides no-code support for data and visual AI models, available as an extension to Power Apps.

Cautions

- **Market responsiveness:** In 2019, Microsoft saw wide adoption of Power Apps, in part due to availability within the vendor's popular Office and Dynamics offerings. In October 2019, Microsoft changed these entitlement conditions, a change that disrupted many clients and appeared to confuse business partners. Microsoft grandfathering of prior license rights for deployed customers has helped in some situations.
- **Sales execution and pricing:** Power Apps' pricing model and entitlement rules, especially across entitlements for features in Office 365 and Dynamics 365 plans, are complex enough to require a 17-page licensing guide. Customers also pay extra for features such as AI Builder and

the B2C portal. Customers should consider how their licensing and costs may change as their platform usage grows, and be aware of the potential for further license changes.

- **Process and business logic:** Power Apps supports workflows, but the interface for business process flows is separate and only available in model-driven apps. More complex process orchestration may require the use of separate products such as Microsoft Azure Logic Apps. Additionally, the BPMN notation standard in Power Automate is only supported through tight integration with Microsoft Visio.

Newgen

Newgen is a Niche Player in this Magic Quadrant. It is primarily a content management and BPMS vendor whose LCAP is provided by its process-centric development platform. Newgen's primary geographic market is APAC, but it has demonstrated 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. In 2019, Newgen added support for DevOps, progressive web apps (PWAs) and integrated RPA. Newgen further plans to add a framework for vendor-agnostic bot orchestration, enriched application templates for PWAs, and extend its integration modeler with metering and monitoring.

Strengths

- **Product:** Newgen provides a robust platform to automate business processes. It provides a web-based tool that can be used to develop PWAs, a visual editor for designing complex processes and decision rules, and a master data management (MDM) module for comprehensive data modelling. It also provides an AI-enabled content management system (CMS) as part of its offering.
- **Sales execution and pricing:** Newgen has flexible licensing and deployment options, including software-only, full SaaS and private cloud application managed service. The vendor tailors its licensing to client requirements through perpetual, subscription and value-based pricing (that is, pricing associated with business value metrics or outcomes).
- **Sales strategy:** Selling an LCAP as part of a process automation and content management strategy means Newgen can deliver wider enterprise value. This should make adoption easier for customers of these other services.

Cautions

- **Platform ecosystem:** Newgen's marketplace is essentially a partner-enablement portal that consists of a few prebuilt applications, training materials and implementation guidelines. Enterprise users or partners cannot source or add application or process templates for faster development or monetization. However, a publicly available developer community and portal is on the roadmap.
- **Application development:** The Newgen platform is a combination of various independent components including a CMS, a process builder and a mobile app designer. The experience of building applications across these various components is inconsistent.

- **Geographic strategy:** Newgen's primary customer base is in India, the Middle East and Africa. It aspires to grow in the U.S. and Western Europe through both direct presence and partners. Prospective clients in the U.S. and Western Europe need to evaluate Newgen's local and partner abilities to meet their requirements.

Oracle (APEX)

Oracle Application Express (APEX) is a Challenger in this Magic Quadrant. Oracle is well-established in the database and business applications markets. Its APEX product is mainly focused on data-oriented applications created by Oracle SQL developers. Its operations are geographically diversified and its clients are Oracle DBMS customers, although Oracle reports good solution sales to the small and midsize business (SMB) market. APEX has added high-performance user experiences for data search across large datasets, and the ability to access data from any external REST-enabled source. Oracle is increasing the rate of investment in APEX with JavaScript server-side components and other relational DBMS data sources planned. Oracle's alternative LCAP offering — Oracle Visual Builder — is based on its service-oriented architecture technology stack and is discussed separately.

Strengths

- **Overall viability:** Oracle is a large and successful DBMS and SaaS vendor. The former ensures a large and ready audience for APEX, and a large developer base of developers that use SQL and its procedural language extension (PL/SQL) to exploit it. A subset of this is also a large and active community of APEX users.
- **Sales execution and pricing:** Oracle has multiple ways to consume and purchase APEX, but it is also a free service for Oracle Database and Oracle Cloud users. For most users, its net cost is included in their DBMS platform costs. This makes APEX excellent value for any Oracle Database platform user. Oracle is extending APEX usage as it sells solutions to new markets like the SMB market.
- **Marketing strategy:** Oracle markets APEX as the low-code application tooling for Oracle DBMS subscribers, extending their data-oriented applications to powerful web and mobile applications, and is an ideal upgrade for Oracle Forms applications. APEX applications can be extended through JavaScript, Java and SQL to access all the advanced features of the Oracle Database platform.

Cautions

- **Market understanding:** Most LCAPs provide multifunction application capabilities for reduced-skill development. Oracle provides separate suites with differing editing metaphors for integration, BPM and business rules, as well as Oracle Visual Builder as a service-focused LCAP. APEX users who require such capabilities can access them through separate licenses and REST API calls (or coordination of shared data tables). While this separation of concerns ensures best-of-breed support, it requires additional configuration and developer skill requirements outside of APEX.

- **Business model:** Oracle's use of its database platform as the core engine for APEX makes APEX consumption dependent on use of its DBMS. While this remains a large market, Oracle's market share is reducing. However, Oracle is still a market leader in DBMS, and APEX is being extended to support additional languages and to access other data sources.
- **Innovation:** While Oracle's roadmap for APEX is extensive, it is focused on catching up on capabilities like server-side JavaScript support that are already generally available elsewhere in the market. Its main function as a SQL RAD tool is of specialist interest to most low-code consumers, even though SQL and PL/SQL is not difficult to learn. Advanced features of the Oracle Database platform generally require SQL code to access.

Oracle (Visual Builder)

Oracle Visual Builder is a Visionary in this Magic Quadrant. Oracle is well-established in the database and business applications markets, as well as in Java Enterprise Edition (JEE) pro-code tooling. Its Visual Builder product is mainly focused on professional developers customizing Oracle SaaS products for multiexperience, as well as consumers of the wider Oracle Integration Cloud stack. Its operations are geographically diversified. Visual Builder provides services access and coordination with a multiexperience front end. Oracle's vision is of a unified DevOps and low-code stack, released recently as Visual Builder Platform. Oracle's alternative LCAP offering — Oracle APEX — is based on its RBMS technology and is discussed separately in this research.

Strengths

- **Overall viability:** Oracle is a large and successful DBMS and SaaS vendor. The latter increasingly relies on Visual Builder as the primary development and extension mechanism, and Oracle SaaS is a major growth engine for Oracle. Therefore, Visual Builder will be increasingly employed for Oracle SaaS development and customization, and potentially for those customers constructing new SaaS.
- **Product:** Visual Builder includes the Oracle JET engine for mobile and web development, and provides ready access to multiexperience UIs. The paradigm of event-driven "action chains" to provide advanced user experiences, on top of a full REST API and catalog access, alongside developer automation tooling (including DevOps and test-case generation) is instrumental in Oracle's Visionary placement in this Magic Quadrant.
- **Pricing:** Almost uniquely among the vendors presented in this Magic Quadrant, Oracle's pricing for Visual Builder is resource-based and therefore dependent only on consumption — with no dependency on user counts or other metrics that can discourage adoption. This makes Visual Builder much more accessible for new use cases.

Cautions

- **Market understanding:** Oracle's policy of separating out specialist products for standard LCAP functions (such as business processes and often integrations) means that Visual Builder customers need to learn and license additional components for these capabilities. Indeed, the majority of Visual Builder users acquire it as a component of Oracle Integration Cloud (which

itself is not an LCAP). This puts Visual Builder into the category of more specialist tooling compared with the more multifunction offerings that increasingly are embedding those capabilities.

- **Marketing execution:** Oracle does not make much effort to market Visual Builder. Its recent release of Visual Builder Platform was communicated as a blog post, and Gartner inquiries for it are rare. So while Oracle appears to recognize the vision of SaaS plus PaaS, it seems reticent to promote itself in this area. It also fails to market the advantages and differences of its two separate LCAPs (see also Oracle APEX), likely causing reduced adoption.
- **Platform ecosystem:** Visual Builder provides easy component access to its business objects and Oracle SaaS services, but Oracle does not promote a rich third-party ecosystem for its customers and partners to market to and share. This means that, despite an advantageous pricing model and multiexperience capabilities, Oracle Visual Builder provides a less-rich target audience for potential OEMs.

OutSystems

OutSystems is a Leader in this Magic Quadrant. Its LCAP is the OutSystems platform, which supports cloud, on-premises and hybrid solutions. OutSystems focuses on enterprise application development for agile and continuous customer delivery. Its operations are primarily in Europe and North America, but it also has an increasing presence in APAC. Its customers mainly come from those regions and tend to be large enterprises across service, product and public sector organizations. OutSystems is enhancing its DevOps and data management capabilities by adding builders for workflow and UX to make development easier.

Strengths

- **Application user experience:** OutSystems UI is a built-in user interface framework containing multiple templates and UI patterns. It provides a comprehensive set of accessibility-ready, customizable app building components. The company's Live Style Guide feeds from the branding and UI customizations that are specific to the customer and is used as a live library of UX patterns available for use by the developer. Customers can also create their own UI patterns from the ground up and reuse them.
- **Developer persona and software development life cycle (SDLC) support:** Multipersona developer experience provides a standards-based architecture that is secure and scalable. This ensures that all citizen-developed apps that are deployed are robust and can seamlessly be evolved by a pro developer as complexity increases. A full-stack visual low-code language helps facilitate knowledge transfer and promotes collaboration between nontechnical and pro developers in fusion teams.
- **Architecture:** Applications can work with various services and data sources, both from OutSystems or from a range of on-premises or cloud-based services from third parties. This ensemble of services constitutes the data fabric, providing loosely or strongly coupled APIs to perform transactions and data sources that enable the mashup of data across services.

Through its Architecture Dashboard, OutSystems provides interdependency analysis and code pattern analysis across application components and versions.

Cautions

- **Application development:** While OutSystems has developed Workflow Builder to address the use case of citizen development, it is still not generally available. This new capability is yet to be proven, but is required for the vendor to catch up with other competitors that have more established offerings for citizen IT support.
- **Process and business logic:** OutSystems' LCAP is increasingly used for automation of business processes and supports accelerators for data design including Excel import, as well as a relational model designer and a selection of templated schema. However, it is not yet competitive in all aspects of process-centric application development, especially with regard to aspects such as complex decision modeling and process optimization.
- **Product strategy:** OutSystems tends to be favored by professional developers, rather than citizen developers, while most LCAPs target a more mixed developer persona. In the area of technical support, Gartner Peer Insights reviewers have been generally positive, but a few have given OutSystems comparatively low scores for the level of support provided.

Pega

Pega (Pegasystems) is a Visionary in this Magic Quadrant. Its LCAP is a component of the Pega Infinity platform, which offers built-in iBPMS, MXDP, CRM and RPA capabilities. Pegasystems has operations across the world and a focus on large enterprise customers. Pega Infinity is mainly aimed at business process automation that requires web, mobile and conversational apps. Pega has invested in making its platform microservices-based and enhancing its serverless messaging. Its roadmap includes a complete UI upgrade and a desktop application focused on nontechnical business users. Additionally, the vendor has announced a serverless and distributed process management solution.

Strengths

- **Overall viability:** Pega has grown steadily as a public company for many years and the Pega Infinity platform has a solid track record. Pega also has a large ecosystem that includes a broad array of implementation partners with strong business and industry capabilities across the world. It has a strong North American presence and a rapidly increasing customer base in Europe and APAC. Prospective customers should feel confident about the viability of Pega and its platform.
- **Innovation:** Pega has introduced Process Fabric, a business portal to coordinate user access to processes and applications. It also provides a UI design system and was an early provider of citizen developer governance tooling.
- **Product offering:** Pega Infinity extends its LCAP with process-driven development, case management, augmented analytics, rules management and RPA services. This combination of included technologies is attractive to large enterprises that want end-to-end, intelligent and

event-driven process automation. Pega enables unified multipersona developer experiences with Pega App Studio and Dev Studio. It also supports other user roles such as data scientists with Prediction Studio.

Cautions

- **Product strategy:** Pega's marketing efforts have yet to succeed in redefining the Pega brand for the LCAP market. Pega built a product strategy centering around its flagship process platform, and most of its customers use Pega Infinity for end-to-end complex process automation that depends on sophisticated iBPMS needs. Pega's focus on combining too many different features catering to different markets is confusing and dilutes its focus on the needs of LCAP buyers.
- **Sales execution and pricing:** Users of Gartner's client inquiry service that are also Pega customers talked about an unpredictable utility pricing model often resulting in higher than expected cost of operations. They also mentioned additional budget requirements for significant professional services to ensure successful deployment.
- **Business model:** Pega's business model supports a large, if declining, consulting business to help customers fully implement its major features. In addition, Pega's pricing involves add-on fees for some abilities, such as AI assistance for developers and disconnected mobile support. That this can result in relatively high per-user pricing is confirmed by users of Gartner's client inquiry service.

ProntoForms

ProntoForms is a Niche Player in this Magic Quadrant. Its LCAP is the ProntoForms platform, which offers no-code development tools for building mobile apps and web forms that can be deployed on a Universal Windows Platform (UWP) app. It has added more support for customer-facing forms and adjusted its pricing to support site licensing for larger deployments. ProntoForms has offices in Canada, and most of its customers are in North America. Its customers span a variety of industries but are focused on field service and frontline work.

Strengths

- **Application development:** The ProntoForms platform has an intuitive no-code, web-based tool that uses a drag-and-drop approach to app building — ideally suited to nontechnical citizen developers. It focuses on mobile app development and offers robust capabilities in this area, such as offline data synchronization, bar code scanning, push notifications and SMS support.
- **Vertical strategy:** ProntoForms targets the app requirements of field service and frontline worker for its LCAP. It has a strategic partnership and integration with ServiceMax. It is also one of the few LCAPs that supports Windows client application and UWP apps, which are still utilized by field service organizations.
- **Sales execution and pricing:** ProntoForms has shown good growth numbers in terms of new customers added, although most of these are smaller enterprises. Its pricing model is relatively

simple based on its B2E focus, and is based on either the number of users, the volume of transactions, or an enterprise site license based on large numbers of users.

Cautions

- **Product strategy:** Although ProntoForms has demonstrated success in its targeting of field service apps for its LCAP, its overall strategy is lagging many of the vendors featured in this Magic Quadrant. For example, it lacks any significant presence outside of North America, only deploys on AWS, and does not support headless, API-driven services on its platform. Companies that need multicloud support or to create headless applications may find better options elsewhere.
- **Innovation:** Compared with other vendors in this Magic Quadrant, ProntoForms has not shown significant innovations in its LCAP. Advanced capabilities such as AI-augmented development, integrated multipersona developer experience, and governance capabilities for citizen development and collaboration are lacking — and are also not evident on ProntoForms' immediate roadmap. Companies needing more advanced functionalities should evaluate other vendors in this Magic Quadrant.
- **Operations:** ProntoForms mainly operates in North America, and while it has customers in other parts of the world, Gartner does not see the company being competitive outside this geography. It also lacks service implementation partners to help deliver applications if needed. In Gartner Peer Insights reviews, ProntoForms' lowest score was for quality and availability of end-user training. For these reasons, companies should carefully evaluate the fit of its operational resources.

Quick Base

Quick Base is a Niche Player in this Magic Quadrant. Its LCAP is the Quick Base platform, which offers low-code integration, workflow and app development capabilities underpinned by a proprietary in-memory database. The vendor acquired Cloudpipes in 2019, and that technology is released as Quick Base Pipelines. Quick Base has offices mainly in the U.S., but has an emerging presence in Bulgaria for European operations. The majority of its customers are in North America, with a small percentage in EMEA and APAC. Its customers span a variety of industries, but the manufacturing and professional services segments make up a high proportion of its business.

Strengths

- **Market understanding:** Quick Base has started to expand beyond its citizen development focus by targeting more complex application use cases and enterprise IT organizations. Its acquisition of Cloudpipes has further expanded its integration and automation capabilities, which are important in this market. Quick Base's LCAP is now more prepared to help unite business and IT teams to integrate and build workflow-driven business applications.
- **Application development:** Quick Base's LCAP has a strong focus on ease of use for the developer experience. Now, with its Pipelines component, it has added no-code integration and

automation features. Adding business logic can be done visually through triggers or actions, but can be also scripted for more complex use cases.

- **Customer support:** Quick Base garners a relatively high score for service and support in Gartner Peer Insights reviews. In particular, its quality of technical support, which is included with its base offering, received high marks. Quick Base now also offers 24/7 support for international customers.

Cautions

- **Geographic strategy:** Expansion beyond North America is still a work in progress for Quick Base. It will not have extended its data centers outside of the U.S. into Europe until later in 2020, lagging many of the vendors in this Magic Quadrant. Quick Base has established an R&D center in Bulgaria, but its go-to-market strategies are still in development through service partner channels. Also, it is working on improvements in the platform to support internationalization and regional requirements around the world.
- **Ecosystem:** Quick Base has a public application exchange where customers, developers and partners can share apps and solution components. However, the site can be difficult to navigate, and many of the applications serve the needs of small businesses.
- **Innovation:** Over the past year, Quick Base has solidified its operations, but still lags behind many in innovation. The acquisition of Cloudpipes has provided a catchup on integration and workflow features, but the vendor's LCAP trails competitors that have already added AI assistance to their tooling, advanced mobile app capabilities, and multipersona developer support.

Salesforce

Salesforce is a Leader in this Magic Quadrant. Its Salesforce Platform is broadly focused on development of business applications of various levels of complexity, use cases and developer skills. Its operations are global, and its LCAP clients tend to be large enterprises across industries with existing investments in Salesforce solutions. The company's strategy is to expand its LCAP support for integration, orchestration and composition, and to unify its runtime technologies for shared development and governance.

Strengths

- **Overall viability:** The continuing strong growth of the overall Salesforce business, and its industry-leading ecosystem of partners, provide strong drivers for adoption of the company's LCAP offering. Well-executed business leadership enables the company to grow through acquisitions without disrupting its core investments in customer experiences.
- **Business model:** The continuing popularity of Salesforce SaaS offerings with both existing and new customers has formed a strong channel for the company's platform services, including its LCAP. Hundreds of native AppExchange partner applications have extended the Customer 360

Platform. Most customers of Salesforce SaaS or AppExchange-delivered, partner-built SaaS use Salesforce Platform capabilities to extend and customize the application experiences.

- **Innovation:** Salesforce is building a unified development and governance environment that bridges multiple Customer 360 Platform technology stacks (Heroku and Apex). This promises to deliver a broad, multipersona development experience that empowers customers of different skills to operate based on shared IT goals within business-IT fusion teams. New mobile features in Salesforce Platform have also advance Salesforce's multiexperience capabilities.

Cautions

- **Architecture:** The fundamental architecture of the Salesforce Platform (formerly Force.com) differs from the newer forms of distributed-cloud-native infrastructure. Modernizing it without affecting customers may be a challenge and business users may face new requirements for maintenance of their production applications.
- **Integration:** Despite the acquisition of MuleSoft in 2018, Salesforce's LCAP is still lacking low-code support for integration and API management, and its process management is relatively limited. Both of these abilities are essential to modern application design and delivery.
- **Market strategy:** The vast majority of Salesforce Platform users are also users of Salesforce CRM, and most of them rely on CRM data in their new applications. Because of this, Salesforce Platform remains mostly applicable to clients using Salesforce SaaS.

ServiceNow

ServiceNow is a Leader in this Magic Quadrant. Its Now Platform App Engine (Orlando release) is broadly focused on customizing ServiceNow SaaS and building new enterprise workflow applications. ServiceNow's operations are geographically diversified and its clients tend to be enterprise scale. In the past year, the vendor has created a Guided App Creator for citizen developers, introduced the new Now Design System and user experience, and improved its chatbot services. ServiceNow is expected to add more process, automation and citizen development support in forthcoming releases, and continue to enhance its related integration and AI products.

Strengths

- **Overall viability:** ServiceNow is a popular SaaS provider whose Now Platform supports both its SaaS and App Engine; the latter is both developed and used by its own developers. ServiceNow's continued strong year-over-year growth (31%) makes it a low-risk selection as an LCAP vendor.
- **Innovation:** ServiceNow was among the first to deliver an integration platform for LCAP users (IntegrationHub) and provide asset management and real-time monitoring. These are IT service management requirements that have driven wider platform development, but are also useful for other workflow applications. The vendor's future roadmap includes new automation and metrics design abilities that are usually the domain of BPMS and enterprise architecture vendors.

- **Platform ecosystem:** ServiceNow has encouraged third parties (including IBM) to deliver the ServiceNow applications that now make up nearly one-third of new business for App Engine. As well as the usual common data model abilities, there is an app store supported by 700 software vendors and a component store serving 400,000 registered developers.

Cautions

- **Sales execution and pricing:** ServiceNow is on its third pricing model in as many years, as it struggles to identify the ideal formula for customer value. Gartner Peer Insights scores for its evaluation and contract negotiation are at the low end of the range for vendors in this Magic Quadrant. App Engine customers need to be wary of some separate, additional costs such as premium connectors for IntegrationHub, but other services like Now Intelligence (AI) are included in the price.
- **Marketing strategy:** ServiceNow has traditionally marketed itself as a SaaS-first vendor with LCAP as a means of customization or extension of its SaaS offerings, with its LCAP providing more of a SaaS customization service. Its recent platform-first initiative, which highlights Now Platform and the services that run on it, may correct this in future, but a client based entirely on App Engine is still rarely seen by Gartner.
- **Process and business logic:** While App Engine increasingly competes with iBPMS for business workflows, its Flow Designer has been considered less graphical than many of its competitors. This can make application complexity more difficult to understand, but a new Process Automation Designer from Summer 2020 will improve its usability.

TrackVia

TrackVia is a Niche Player in this Magic Quadrant. Its LCAP product is mainly focused on low-cost, process-driven citizen development. Its operations are mostly in the U.S. and Europe, and its clients tend to be small to midsize companies with less than 1,000 employees targeting B2B applications. TrackVia focuses on simplicity of development and targets replacing Microsoft Excel as a typical use case. Its roadmap includes better support for offline use, UI updates and enhanced workflow support.

Strengths

- **Market understanding:** TrackVia is a small vendor that understands the need to focus on key strengths, which in its case means low-code solutions for specific markets and use cases. For TrackVia, this includes a focus on financial services, manufacturing and cannabis production. The latter clearly indicates the company's ability to react to new and niche market conditions and scenarios.
- **Application development:** TrackVia provides a low-cost platform focusing on ease of development that can deliver sophisticated applications involving web, mobile and business processes. It can provide mobile solutions for field operations and exploits Apache Groovy for extensions.

- **No-code application development:** TrackVia's focus on simplicity of application development using a low-code, process-centric approach enables it to address citizen, business unit and IT development.

Cautions

- **Overall viability:** TrackVia has been acquired by Primus Capital, a private equity company. Its size and growth are at the bottom end of the inclusion criteria for this Magic Quadrant. Customers need to understand that this combination may force TrackVia to change strategy in future, although at this time there is no change.
- **End-user experience:** TrackVia provides a BPM-type, portal-style user experience for all applications or processes that are allocated to the user. This lack of application independence may be a limitation for some use cases, although TrackVia is planning to improve the UI according to its roadmap.
- **Product strategy:** TrackVia eschews the need for an app store or template ecosystem, which limits the LCAP platform's ability to evolve to the capacity of TrackVia to deliver improvements internally, and discourages reuse across different teams. While TrackVia is exploring some advanced topics like AI-assisted development, it is less advanced in supporting AI functions for data stored on the system or explicitly supporting multiple developer personas.

Zoho

Zoho is a Visionary in this Magic Quadrant. Primarily a SaaS vendor for SMEs, its LCAP offering — Zoho Creator — is focused on enabling citizen and professional developers to build business applications faster. Its operations are global, and most of its customers are smaller organizations in North America and the EMEA region. Zoho added a process blueprint design capability and data AI services in 2019, and also provides separately a serverless function PaaS for extending Creator applications. The vendor is expecting to add RPA, more collaborative development features, a test automation suite, and AI-augmented application development support.

Strengths

- **Product:** Zoho Creator is a mature platform that supports diverse developer personas for multiexperience application development. To empower nontechnical citizen developers, it provides graphical process, data and UI designers. For professional developers, it provides a low-code application development language, Deluge, along with support for Java, JavaScript, XPath and Node.js. Its comprehensive feature set is comparable with the largest LCAP vendors included here.
- **Market understanding:** Zoho has long acknowledged the need for, and role of, low-code development for its customers, and the need for business applications outside of its SaaS offerings. Zoho provides enterprise-class features such as multiregion and multicloud/on-premises deployments and backups, vertical and horizontal autoscaling, and rich application performance monitoring. It also plans to add the necessary governance abilities to establish developer guardrails to administer fusion teams.

- **Innovation:** Zoho displays an innovative focus on the LCAP market with its existing AI features, together with serverless functions for pro-code extensions. Its process blueprint is indicative of the merger of business-process-centric and low-code development features. Zoho's roadmap is extensive compared with other vendors in this Magic Quadrant, and addresses automation (including RPA), multiexperience (including augmented and virtual reality), collaboration, testing and governance.

Cautions

- **Business model:** Zoho remains entrenched in the smaller enterprise market, despite its enterprise features, and is largely unseen in larger Gartner clients. It supports customers with a relatively small professional services arm for application delivery, and is still in the early stages of attracting large solution provider partners, although it does have many smaller partners.
- **Marketing execution:** Zoho's marketing reflects its business model and lacks visibility with potential enterprise customers. It has invested in promotional activities including events (Zoholics) and content (Decode), but as yet has struggled to increase its mind share among enterprise customers for LCAP.
- **Process and business logic:** While Zoho Creator provides visual process and decision models, it does not support the relevant enterprise standards such as BPMN that would allow collaboration with other enterprise tooling. However, it plans to add more BPMN-based elements and practices to the platform in future, and supports business logic in serverless functions.

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

- **AuraQuantic:** A vendor from the iBPMS market that satisfies our criteria for LCAP.
- **Newgen:** A vendor from the iBPMS and CMS market that satisfies our criteria for LCAP.

Dropped

- **K2:** This vendor is focusing instead on the case management market.
- **Kony:** This vendor was acquired and is focusing now on the multiexperience development platform (MXDP) market.

Inclusion and Exclusion Criteria

To qualify for inclusion, each vendor must:

1. Demonstrate a go-to-market strategy with specific pricing for its low-code application platform (LCAP) for cross-industry application development, and not specific vertical markets and not included in some other capability or wider market.
2. Provide application platform capabilities that:
 - Include tools to develop, version, test, deploy, execute, administer, monitor and manage the applications and their relevant artifacts.
 - Support the design of data schema and application logic.
 - Embed data storage and user interface (UI) features without relying on additional procured services (i.e., includes a database).
 - Enable the invocation of external third-party services via APIs and/or event topics.
 - Support some automation of platform patching and versioning.
3. Provide rapid application development. Each vendor must:
 - Provide a low-code or no-code approach to development of UIs, business logic and data definitions.
 - Support development and deployment of applications by developers in both central IT and line of business.
 - Include single-step deployment.
 - Include an application component repository for sharing components, integrations or applications.
4. Be enterprise-grade and aimed at enterprise-class projects through the platform providing:
 - High availability and disaster recovery.
 - Secure access to applications.
 - Technical support to customers.
 - Third-party application access to application logic and/or data, via APIs and/or event topics.

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

- **Growth:** The vendor must have **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 last year ending 31 March 2020.

- **Revenue:** The vendor must have revenue of at least **\$12 million** for LCAP licenses and subscriptions in the last year ending 31 March 2020.
- **Customer base:** The vendor must have at least **400 paying customer organizations** for its LCAP offering, excluding other related product offerings, as of 31 March 2020.
- **International support:** The vendor must have added at least 20 new, paying and named enterprise customer organizations for its LCAP in 2019, with at least 10 each within two of the following geographies: North America, South America, Europe, Middle East and Africa, and Asia/Pacific.

We also **excluded** vendors that did not meet our market requirements exactly, using the following criteria:

- Require a specific, licensed, third-party component or product that is *not* already OEM'ed into their platform(s) — that is, branded, sold and supported directly by vendor.
- Only sell their platform(s) with, and for the use of, their professional services and consultants.
- Assume the purchase and/or installation of other unrelated products or platforms offered by the same vendor (e.g., a CRM application or content management system).
- Did not market an offering in 2019 that was described as an application development offering (e.g., a SaaS vendor that provided an LCAP as part of its SaaS license only).
- Do not offer a commercially supported enterprise offering — that is, only offer the platform(s) as open-source software.

Evaluation Criteria

Ability to Execute

Gartner views Ability to Execute as primarily concerned with product capabilities and sales execution and pricing. Due to COVID-19 in 2020, we dropped the customer reference survey from our process and thereby reduced the scoring of customer experience.

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	Medium
Customer Experience	Low
Operations	Low

Source: Gartner (September 2020)

Completeness of Vision

Gartner rates Completeness of Vision as primarily product strategy, innovation and marketing strategy. These are deemed the main drivers for future success.

Table 2. Completeness of Vision Evaluation Criteria

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

Source: Gartner (September 2020)

Quadrant Descriptions

Leaders

LCAP Leaders are those that are demonstrating both execution (technically good product matched to good sales performance) and vision (both product innovation and commensurate marketing strategy). LCAP Leaders include major cloud SaaS providers (Microsoft, Salesforce, ServiceNow), specialist low-code providers (Mendix, OutSystems) and a hybrid process automation and low-code application vendor (Appian). These vendors have strong multifunction capabilities including application process, business logic and user experience, and moderate to strong ecosystems.

Challengers

LCAP Challengers are those that demonstrate strength in execution but only moderate or less vision. The single LCAP Challenger this year is Oracle with its Application Express (APEX) solution, which is widely used and technically competent, but Oracle's vision does not match that of the Leaders or Visionaries in this Magic Quadrant. However, with continued extensions to their vision, Challengers could become Leaders in the future.

Visionaries

Visionaries in LCAP are those that demonstrate strengths in vision, but only moderate or less enterprise execution. LCAP Visionaries include SaaS providers (Oracle Visual Builder, Zoho), a citizen development vendor (Betty Blocks), and a hybrid process automation and low-code application vendor (Pega). These vendors display various approaches to innovation, but do not meet the same execution standards as the Leaders in terms of business levels or business models.

Niche Players

LCAP Niche Players have insufficient vision to be Visionaries, and insufficient execution to be Challengers. They include various and overlapping submarkets: hybrid process automation and low-code application vendors (AgilePoint, AuraQuantic, Creatio, Newgen, TrackVia), citizen development (Kintone, QuickBase), and field operations support (ProntoForms). While niche in the context of this Magic Quadrant, these vendors may be good choices for specific scenarios, domains and ecosystems, and in particular their pricing models are likely to be more relevant to a wider audience.

Context

This Magic Quadrant covers the top 18 vendors and 19 products in the LCAP market. Low-code application platforms cover a wide range of vendors including those that are:

- SaaS-centric vendors, delivering LCAP for SaaS customizations, extensions and net new applications.

- IT-centric, rapid application development LCAP vendors, providing productivity to IT development teams and replacing or supplementing pro-code environments such as native Java EE, .NET or cloud-native platforms.
- LCAP providers for business unit application development, typically focusing on business processes and often using technologies that have evolved from BPMS or iBPMS.
- Citizen IT or development vendors, targeting simpler workflows and data sharing applications, but increasingly overlapping in capabilities with the other LCAP types with a larger emphasis on no-code/configuration mechanisms.

Gartner clients choose LCAP for their increased productivity, and the ability to deliver applications quickly with reduced team sizes including fusion teams using agile methodologies.

Use cases are typically as follows:

- **Citizen development:** Building line-of-business, web-based, data-oriented applications by business citizen developers using no-code development from one day to two weeks. Targets B2E scenarios.
- **Business unit IT application:** Building new enterprise applications involving web, mobile, data, business logic and external services including SaaS services, within eight weeks. Targets B2B and B2E scenarios.
- **Enterprise IT business process application:** Automate long-running, changeable and complex business processes, workflows and case management involving sophisticated business logic, external services and multiple end-user roles. Targets B2E scenarios.
- **Fusion team-developed composite application:** Assemble application experiences from a portfolio of multisourced building blocks such as packaged business capabilities, SaaS, API products in marketplaces, existing data sources, event channels, cloud services and custom local services. These are custom application experiences for specific end-user roles and individuals.
- **Independent software vendor (ISV) mobile and web application for SaaS:** Build SaaS and ISV applications involving rich user experience on web and mobile, including end-user management and billing. Targets B2B and B2C scenarios.

Market Overview

The market for low-code application platforms (LCAPs) continues to grow with a high level of interest from Gartner clients in “low code” for both application development and other application-related uses such as integration and AI services.

Large SaaS vendors such as Salesforce and Microsoft dominate the market, with their SaaS competitors introducing new LCAP entries, such as ServiceNow competitor Cherwell introducing an LCAP offering, or Salesforce competitor Xiaoshouyi promoting its LCAP called IngameApp PaaS.

The overlap with the business process automation vendors continues to grow, reflected in AuraQuantic and Newgen being added to the LCAP Magic Quadrant vendor list for 2020. Some other vendors have specialized away from the general LCAP market, such as K2 moving to case management automation, and Temenos acquiring Kony and refocusing on the MXDP market.

Of the major vendors in the application infrastructure and middleware services (AIMS) market, Salesforce has achieved No. 2 status in revenue based primarily on its Salesforce Platform LCAP, behind only IBM. Salesforce represents a large proportion of LCAP market revenue. Oracle's No. 3 status in AIMS is supported by its two independent LCAP offerings that are given separate attention for this edition of the Magic Quadrant. At No. 4 is AWS, which recently introduced a beta version of its LCAP offering, Amazon Honeycode. Microsoft at No. 5 has Power Apps as its LCAP — a prime component of its Power Platform strategy. SAP and IBM both offer Mendix on their marketplaces. Meanwhile, the perils of low-code lock-in were demonstrated by Google cancelling its App Maker product and acquiring the wholly separate and incompatible AppSheet instead.

Acronym Key and Glossary Terms

2FA	two-factor authentication
3GL	third generation language
4GL	fourth generation language
AD	Active Directory
AI	artificial intelligent
B2B	business to business
B2C	business to consumer
B2E	business to employee
BPM	business process management
BPMN	Business Process Model and Notation
CI/CD	continuous integration/continuous delivery
CRM	customer relationship management
DMN	Decision Model and Notation
HIPAA	Health Insurance Portability and Accountability Act
IaaS	infrastructure as a service
IDE	integrated development environment
IoT	Internet of Things
iPaaS	integration platform as a service
ISV	independent software vendor
ITSM	IT service management
IVR	interactive voice response
JEE	Java Enterprise Edition
LCAP	low-code application platform
LDAP	Lightweight Directory Access Protocol

MDM	master data management
MQTT	Message Queuing Telemetry Transport
MXDP	multiexperience development platform
ODBC	Open Database Connectivity
RDBMS	relational database management system
RPA	robotic process automation
SaaS	software as a service
SAML	Security Assertion Markup Language
SDLC	software development life cycle
SLA	service-level agreement
SMB	small and midsize business
SOA	service-oriented architecture
SSO	single sign-on
TOTP	time-based one-time password
UI	user interface
UX	user experience

Gartner Recommended Reading

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

“How Markets and Vendors Are Evaluated in Gartner Magic Quadrants”

“Critical Capabilities for Enterprise Low-Code Application Platforms”

“Low-Code Development Technologies Evaluation Guide”

“Magic Quadrant for Multiexperience Development Platforms”

“Magic Quadrant for Intelligent Business Process Management Suites”

“Top 10 Trends in PaaS and Platform Innovation, 2020”

“Hype Cycle for Application and Integration Infrastructure, 2020”

“Hype Cycle for Application Architecture and Development, 2020”

“Hype Cycle for Platform as a Service, 2020”

“Technology Attractiveness Index for Process Automation”

“Solution Comparison for Low-Code Application Platforms”

“Market Share Analysis: Application Infrastructure and Middleware Software, Worldwide, 2019”

Evidence

Gartner used evidence collected through vendor surveys, questionnaires, vendor interviews, vendor demonstrations, and sentiment analysis through the Gartner Secondary Research team.

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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