

# The Forrester Wave™: Low-Code Development Platforms, Q2 2016

The 14 Providers That Matter Most And How They Stack Up

by Clay Richardson and John R. Rymer

April 14, 2016

## Why Read This Report

In our 26-criteria evaluation of low-code development platform providers, we identified the 14 most significant vendors — AgilePoint, Appian, Bizagi, Caspio, K2, MatsSoft, Mendix, MicroPact, MIOsoft, Nintex, OutSystems, QuickBase, Salesforce, and ServiceNow — and researched, analyzed, and scored them. This report shows how each provider measures up and helps application development and delivery (AD&D) professionals make the right choice.

## Key Takeaways

### **OutSystems, Appian, Mendix, And Salesforce Lead The Pack; AgilePoint Is On The Edge**

Forrester's research uncovered a market in which OutSystems, Appian, Mendix, and Salesforce lead. AgilePoint is on the boundary between Leader and Strong Performer. K2, Bizagi, Caspio, ServiceNow, and MatsSoft offer competitive options. MicroPact, Nintex, QuickBase, and MIOsoft lag behind.

### **AD&D Pros Are Looking For Speedy Delivery Of Customer Applications**

The low-code development platform market is growing because more AD&D professionals see these products as a way to deliver applications to win, serve, and retain customers. AD&D pros are gaining confidence that low-code development platforms can support fast delivery of even large, complex, and reliable customer solutions.

### **Tooling, Development Process Support, And Free Access Are Key Differentiators**

Three primary factors differentiate low-code development platforms and vendors. First is the breadth of tooling provided; more tooling generally means less coding to deliver apps. Second is built-in support for modern development processes and practices. Third is the availability of free initial access to the platform for experimentation and learning.

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by [Clay Richardson](#) and [John R. Rymer](#)  
with [Christopher Mines](#) and [Claudia Tajima](#)  
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Forrester conducted demo-based product evaluations in February 2016, interviewed 14 vendor companies, and surveyed 42 user companies. The vendors are: AgilePoint, Appian, Bizagi, Caspio, K2, MatsSoft, Mendix, MicroPact, MIOsoft, Nintex, OutSystems, QuickBase, Salesforce, and ServiceNow.

### Related Research Documents

[Low-Code Platforms Deliver Customer-Facing Apps Fast, But Will They Scale Up?](#)

[New Development Platforms Emerge For Customer-Facing Applications](#)

[Vendor Landscape: The Fractured, Fertile Terrain Of Low-Code Application Platforms](#)

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Forrester Research, Inc., 60 Acorn Park Drive, Cambridge, MA 02140 USA  
+1 617-613-6000 | Fax: +1 617-613-5000 | [forrester.com](#)

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## Low-Code Platforms Help Accelerate The Journey To Digital Business

Digital business means different things to different AD&D leaders. But all agree that speedy, iterative delivery of customer-facing software helps separate digital leaders from digital laggards. Speed is crucial in introducing new disruptive products, engaging and responding to customers across different channels, and adapting existing services based on shifting competitive drivers. This relentless focus on “digital speed” is forcing AD&D leaders to reach for new approaches and platforms that enable delivery of new apps in days and weeks, instead of months. This shift is also forcing AD&D leaders to augment coding in programming languages, such as Java and C#/.NET, with new development platforms that emphasize declarative and visual development.

In 2014, Forrester started tracking a rapidly growing software category that we labeled “low-code platforms.” Forrester defines low-code platforms as:

*Platforms that enable rapid delivery of business applications with a minimum of hand-coding and minimal upfront investment in setup, training, and deployment.*

The low-code development platforms market consists of wide range of vendors that provide platforms that support building, deploying, and managing apps through declarative tooling that supports visual drag-and-drop composition.

### Strong Winds Are Shaping The Emerging Landscape For Low-Code Platforms

The landscape for low-code platforms is broad and fragmented. Forrester has identified 42 different vendors and five segments for low-code platforms.<sup>1</sup> The low-code platform segments include: general-purpose platforms, process app platforms, database app platforms, request-handling platforms, and mobile-first app platforms (see Figure 1). For this vendor evaluation, we included vendors from four of the five segments, excluding only vendors from the mobile-first app platforms segment.

The landscape for low-code platforms is still in its early stages, but it’s growing rapidly as new vendors begin to address this use case at a steady pace. Forrester sees three dominant forces shaping the landscape for low-code platforms:

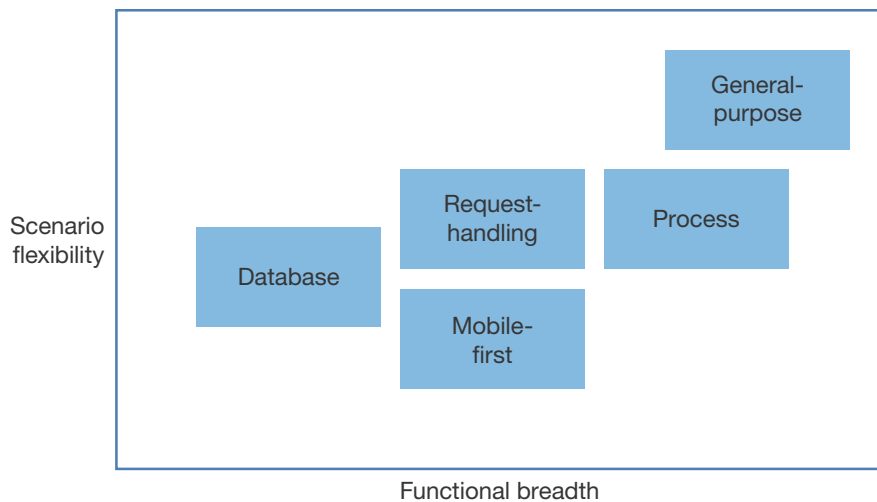
- › **A drive to expand and diversify the developer talent pool.** AD&D leaders are struggling to keep pace with the demand for new apps. And these leaders are attacking this challenge from different directions. In addition to outsourcing development to systems integrators and digital design firms, AD&D leaders are expanding their internal talent pools by bringing in developers with nontraditional backgrounds.<sup>2</sup> We expect to see a steep increase in low-code adoption as AD&D leaders adopt these platforms as an essential tool for building noncritical apps using nontraditional developer talent.
- › **A shift toward general-purpose usage of low-code platforms.** Software shops are ramping up their business cases and investments in development platforms that support the broadest range of app use cases. Expect to see low-code platform vendors from the process-apps, database-apps, and request-handling segments enhance their products and marketing messages to address

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general-purpose use cases. Although the vendors evaluated in this Forrester Wave come from different low-code segments, all are investing to broaden their offerings to support the general-purpose segment.

- › **Increased funding that validates the market for low-code.** Since February 2015, two of the mid-sized low-code vendors, K2 and OutSystems, received new rounds of funding of \$153 million and \$55 million, respectively. Additionally, in March 2016, QuickBase was acquired by Welsh, Carson, Anderson & Stowe, a technology-focused private equity firm.<sup>3</sup> Forrester expects to see continued merger, acquisition, and investment activity in this space as AD&D leaders ramp up adoption and implementation of low-code platforms.

**FIGURE 1** Five Segments Form The Low-Code Landscape**Low-Code Vendors Attack The Need For Code From Different Perspectives**

A burning question we set out to answer during this vendor evaluation: “Which vendors have the deepest declarative tooling, potentially eliminating the need for hand-coding?” What our evaluation uncovered was that vendors employ a wide range of features and approaches to create applications. While all of the vendors we evaluated offer strong features for visually composing apps, we found that the strongest vendors focus on the four features that are most crucial:

- › **Visual configuration of virtual data models and integration.** Data management and data integration consume the most time and resources on development projects. AD&D pros invest in designing data models and coding web services and/or SQL for communicating with data sources, and they also write custom code to maintain data quality across different systems of record. Some

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low-code platform vendors allow AD&D pros to configure virtual data models directly inside of the low-code environment. This approach allows developers to embed data elements directly into forms, workflows, and business logic through drag-and-drop components, instead of requiring custom coding and integration via database APIs or custom web services.

- › **Declarative tooling for implementing business logic and workflows.** AD&D pros can spend significant time and resources hand-coding business logic and workflow actions inside apps. Initial programming of business logic and workflows eats up valuable development time, but making changes to business logic is the real time killer. Some low-code vendors provide features for visually configuring business logic through workflow models, decision tables, and business rules. This approach lifts business logic out of custom code, which makes it easier to change down the road. This approach also allows AD&D pros to collaborate more closely with business analysts and subject matter experts to implement changes to underlying business logic.
- › **Drag-and-drop components for designing responsive user interfaces.** More than ever before, AD&D pros must obsess over their user interface designs. Today, customers and employees expect to access apps from a wide range of devices, putting additional pressure on developers. Low-code vendors employ familiar drag-and-drop, WYSIWYG techniques to speed user interface (UI) creation, but they add automatic generation of UIs for specific devices. Many vendors support responsive design, which automatically adapts forms and UIs based on the user's device and screen resolution. Some low-code vendors also provide form design controls for accessing native mobile device features, such as photo and video capture, geolocation, and mobile wallets.
- › **Guardrails for managing the app development and delivery process.** Our evaluation reinforced the view that low-code extends beyond the need to eliminate hand-coding. Some of the vendors evaluated also provide strong declarative tools to manage the development, delivery, and update processes. These features range from built-in management and tracking of agile projects to automated performance testing and reporting, one-click deployment of apps, and autoscaling infrastructure to meet user demand. While these features don't directly affect or eliminate the need for application coding, they help streamline and speed up the development and delivery process. These features also help make developers more productive and give them time back that they can invest in building apps.

## Low-Code Development Platforms Evaluation Overview

To assess the state of the market for low-code development platforms and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top vendors in the category. After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 26 criteria, which we grouped into three high-level buckets:

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- › **Current offering.** To assess each platform's features, we concentrated on the breadth and depth of each product's declarative tools. Vendors that provide highly declarative tools to speed development of applications and to administer the platform and portfolios of applications scored highest on these criteria. We included criteria to measure each platform's support for modern application development processes. Because deploying applications to public clouds is so important to low-code development platforms, we added criteria for cloud deployment and security certifications as well as for deployment to mobile app stores.
- › **Strategy.** To assess vendor strategy, we evaluated the vendor's plans to add new enterprise customers, address the needs of enterprise AD&D pros, and make its product a strategic platform choice for enterprises. Further, we assessed each vendor's roster of partners to service enterprises, the availability of a free or freemium pricing model, and the vendor's training, community, and materials programs to empower customers to help themselves with the platform.
- › **Market presence.** Three factors indicate each vendor's market presence: the raw number of customers (including enterprise customers), product revenue and growth rates, and the vendor's customer with the largest number of concurrent users in production. Revenue and growth rates are Forrester estimates.<sup>4</sup>

**Evaluated Vendors And Inclusion Criteria**

Forrester included 14 vendors in the assessment: AgilePoint, Appian, Bizagi, Caspio, K2, MatsSoft, Mendix, MicroPact, MIOsoft, Nintex, OutSystems, QuickBase, Salesforce, and ServiceNow. Each of these vendors (see Figure 2):

- › **Offers comprehensive declarative tooling.** *Declarative* is a relative term, covering an array of techniques for defining data, logic, flows, forms, and other application artifacts without writing code. We emphasized model-driven development and visual configuration of mobile apps, user interfaces and web pages, data, integrations, workflow and business process, content and collaboration, reporting and dashboards, security permissions, app scaling, change management, and application deployment.
- › **Has a free or "freemium" model.** Customers value low-code development platforms they can adopt at will for a very low cost and without requiring formal paid training courses to build business apps.
- › **Supports building many different types of business apps.** We selected vendors that take on a wide range of use cases, including database apps, request-handling apps, process-flow apps, and apps that combine all of these.
- › **Primarily targets large enterprises.** The vendors selected are capable of servicing organizations with revenues in excess of \$1 billion in several geographic regions.

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**FIGURE 2** Evaluated Vendors: Product Information And Selection Criteria

Vendor	Product evaluated	Product version evaluated
AgilePoint	AgilePoint NX	6
Appian	Appian Platform	7.11
Bizagi	Bizagi	11
Caspio	Caspio Bridge	9.0
K2	K2	4.6.11
MatsSoft	MATS Platform	7.6
Mendix	Mendix Platform	6
MicroPact	entellitrak	3.20.0.0
MIOsoft	MIOedge	13
Nintex	Nintex Platform	
OutSystems	OutSystems Platform	9 Bali
QuickBase	QuickBase	
Salesforce	Salesforce App Cloud	Winter 16
ServiceNow	ServiceNow Platform	Geneva Release

**Vendor selection criteria**

1. Does the vendor provide platforms with comprehensive declarative tooling, with an emphasis on model-driven development and visual configuration, to dramatically reduce the programming required to deliver applications?
2. Does the vendor provide a free or freemium model that supports low-cost ramp-up without requiring formal paid training courses to build business apps? (Most of the invited vendors provide free/freemium models; we're confident the vendors who don't soon will.)
3. Does the vendor directly address development of a wide range of application scenarios and use cases, including database apps, request-handling apps, process-flow apps, and apps that combine all of these different use cases?
4. Does the vendor primarily target large enterprise companies with revenues in excess of \$1 billion?
5. Does the vendor have a strong enterprise presence, evidenced by client inquiries, revenues, and/or customer counts?
6. Was the vendor's product/service generally available to all customers as of January 1, 2016?

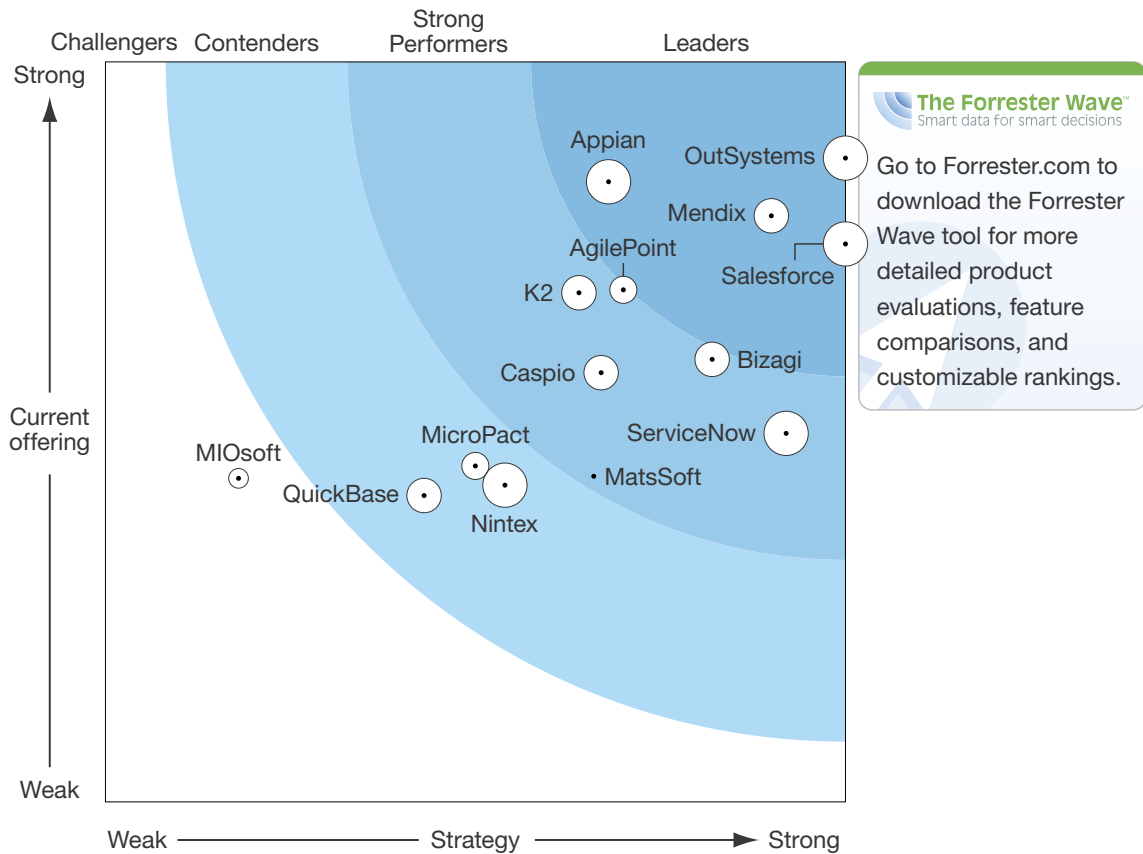
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## Vendor Profiles

This evaluation of the low-code development platform market is intended to be a starting point only. We encourage clients to view detailed product evaluations and adapt criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool (see Figure 3).

**FIGURE 3** Forrester Wave™: Low-Code Development Platforms, Q2 '16





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**FIGURE 3** Forrester Wave™: Low-Code Development Platforms, Q2 '16 (Cont.)

	Forrester's Weighting	AgilePoint	Appian	Bizagi	Caspio	K2	MatsSoft	Mendix	MicroPact	MIOsoft	Nintex	OutSystems	QuickBase	Salesforce	ServiceNow
<b>CURRENT OFFERING</b>	50%	3.46	4.19	2.99	2.90	3.44	2.20	3.96	2.27	2.19	2.14	4.35	2.07	3.77	2.49
Declarative tooling for low-code development	33%	3.22	4.31	3.22	2.10	3.88	3.22	3.97	2.24	1.88	2.42	4.30	2.32	4.03	2.53
Declarative tooling for platform and app admin	33%	3.80	3.52	2.78	2.57	3.00	2.34	4.24	1.91	2.33	2.10	5.00	1.87	3.12	1.65
App deployment and security features	33%	3.35	4.74	2.97	4.03	3.43	1.04	3.68	2.66	2.35	1.91	3.75	2.03	4.16	3.29
<b>STRATEGY</b>	50%	3.50	3.40	4.10	3.35	3.20	3.30	4.50	2.50	0.90	2.70	5.00	2.15	5.00	4.60
Strategy assessment	20%	3.00	5.00	3.00	3.00	4.00	3.00	5.00	3.00	1.00	4.00	5.00	5.00	5.00	3.00
Self-service enablement	15%	3.00	5.00	5.00	5.00	5.00	3.00	5.00	5.00	3.00	5.00	5.00	5.00	5.00	5.00
Partner ecosystem	25%	5.00	5.00	3.00	0.00	5.00	1.00	3.00	3.00	1.00	3.00	5.00	0.00	5.00	5.00
Pricing strategy	40%	3.00	1.00	5.00	5.00	1.00	5.00	5.00	1.00	0.00	1.00	5.00	1.00	5.00	5.00
<b>MARKET PRESENCE</b>	0%	3.00	4.67	3.33	3.67	4.00	1.00	4.00	2.33	2.00	4.33	4.67	4.00	5.00	4.33
Largest number of concurrent users	33%	4.00	5.00	4.00	5.00	3.00	2.00	5.00	2.00	3.00	3.00	5.00	2.00	5.00	4.00
Number of customers	33%	4.00	4.00	3.00	5.00	4.00	1.00	3.00	2.00	2.00	5.00	5.00	5.00	5.00	4.00
Revenue and growth rate	33%	1.00	5.00	3.00	1.00	5.00	0.00	4.00	3.00	1.00	5.00	4.00	5.00	5.00	5.00

All scores are based on a scale of 0 (weak) to 5 (strong).

**Leaders**

- › **OutSystems brings great feature and tooling breadth to low-code platforms.** OutSystems' roots are in Portugal, but the company moved its headquarters to the US two years ago. The vendor's strong performance in our analysis reflects its strong commitment enterprise customers and to low-code tooling for all aspects of application development, delivery, and maintenance. OutSystems Platform's greatest strengths are its broad features and tools for database and process applications, mobile and web user experiences, integration, and collaboration. Customers will find few gaps that require them to code, even when working on integration and custom user experiences — the usual trouble spots for low-code platforms. OutSystems makes it free and easy for customers to get started with its platform.

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OutSystems Platform's primary weakness is its reliance on platform partners and/or customers to provide major cloud-security certifications (for example, SSAE 16 Type II, ISO 27001, FISMA, SOX, HIPAA, etc.), except for PCI. In addition, despite being 15 years old, OutSystems is a medium-sized private vendor with, Forrester estimates, about \$50 million in revenue. OutSystems' growth and market presence among large enterprises are strong, but some global enterprises will view the vendor as being a risky choice for strategic development platforms.

- › **Mendix combines feature breadth and openness.** Mendix is an 11-year-old company founded in the Netherlands and now headquartered in the US. Mendix is notable as the only vendor in this set to base its product on the Cloud Foundry platform, giving it intriguing opportunities to partner with large distributors of that technology to drive enterprise adoption. The Mendix platform's greatest strengths are its incorporation of Agile and continuous delivery methods and its ability to support database and process applications, mobile and web user experiences, integration, and collaboration. It makes extensive use of declarative tooling to create and deliver applications. Mendix also offers a generous free-access program to help customers get started with the platform.

The Mendix platform has few functional weaknesses, the most glaring of which is its lack of security certifications. Mendix relies too heavily on the security certifications of its cloud-platform partners. Also, the vendor's size (\$25 million to \$50 million in revenue) gives pause to some global enterprises. Still, Mendix has about 500 customers, including large enterprises.

- › **Salesforce's low-code platforms are part of a broad developer outreach.** Salesforce is the biggest vendor of low-code application platforms, with an estimated \$600 million to \$700 million in annual revenue from its development platforms alone. Force.com, the Community Cloud, and the Lightning platform anchor this low-code customer base, although Salesforce also has platforms (Heroku), tools (Force.com IDE), and partnerships (with continuous-delivery tool vendors) that address coders.<sup>5</sup> Salesforce's greatest strength as a low-code platform vendor is a feature set allowing customers to extend and enrich their customer data managed by the vendor's software-as-a-service apps. The platform also has a broad range of features and extensive security certifications, and it is supported by a partner roster numbering in the tens of thousands of firms and individual developers.

Salesforce's primary weakness is, ironically, its reliance on code-centric development-process support and deployment. It is not as "low code" as some of the other choices. In addition, this platform lacks customer control over application autoscaling, has no option to install the environment on-premises, and relies on code-centric approaches for custom mobile applications.

- › **Appian leads with compelling developer and process tools.** Appian is the only business process management (BPM) vendor to crack the Leaders category in our Forrester Wave, reflecting heavy investment over the past two years to beef up its platform to better serve developers. Appian's greatest strengths include a full-featured process modeler, mobile and user experience development, and cloud deployment. Appian also provides centralized functionality for managing

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and applying style sheets and branding, with support for pixel-perfect control over user interfaces. Appian has a wide partner ecosystem, which includes strategic partnerships with the largest systems integrators, management consultants, and implementation specialists.

Appian's greatest weakness is a sprawling environment that can be difficult to navigate for developers just beginning on the platform. The platform also lacks built-in functionality for designing and developing business rules using declarative tools, such as decision tables or decision trees.

### Strong Performers

- › **AgilePoint combines intuitive design with strong integration.** AgilePoint was founded in 2003, with a focus on workflow automation and system integration within the Microsoft product ecosystem. Over the last three years, AgilePoint has repositioned its product to target scenarios beyond implementing workflow on top of SharePoint. AgilePoint's greatest strength is its intuitive application development environment, which is easy to navigate and provides comprehensive declarative tooling that makes it easy for novice or expert developers to build new apps. AgilePoint also provides a strong portfolio of configurable connectors and adaptors to access common systems of record, such as Microsoft Dynamics, Salesforce, and SAP. The vendor also provides a multitenant public cloud offering, which AgilePoint hosts and manages in Amazon and Microsoft Azure. The company has more than 1,400 customers using the platform across all versions.

Although AgilePoint provides strong support for connecting to external systems of record, the product is missing a visual modeling tool to create virtual data models that span multiple systems of record. AgilePoint is an emerging vendor in the low-code space, with annual revenues in the \$10 million to \$25 million range.

- › **K2 offers an established platform that excels across mobile, workflow, and data.** K2 is a well-established low-code vendor, with more than 2,000 active customers in more than 84 countries. K2's core strength is support for building complex apps that incorporate mobile, workflow, and data. The company provides a data-modeling environment that allows developers to create virtual data views that bring multiple systems of record together into a single data view. This approach allows developers to create an abstract view of the data, which helps speed development and moves data integration outside of the workflow model. Additionally, K2 provides strong workflow capabilities for modeling and automating processes and assigning tasks to workers.

Although K2 provides a strong process modeling environment, the platform lacks features for modeling business rules through declarative tools, such as decision tables and decision trees. K2 also lacks built-in support for managing the development process. K2 does not provide a self-service model for evaluating the product. The company provides a 30-day trial experience for its cloud offering, which is only available by requesting a trial through the company's website.

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- › **Bizagi provides process guardrails to accelerate developer productivity.** Bizagi, with headquarters in the UK, was founded with a strong focus on business process automation. Bizagi has grown its presence in the market through a freely downloadable BPM modeler, which has received more than 4 million downloads to date. Bizagi's strengths include a market-leading virtual data modeling environment, intuitive forms and user interface design, and workflow modeling. One of Bizagi's most impressive features is a wizard-like environment that helps guide new and experienced developers through building a new app. Bizagi has more than 400 customers and revenues of more than \$50 million.

Bizagi's primary weaknesses are limited support for public cloud deployment and lack of built-in tools for managing the development process. Bizagi's public cloud offering relies completely on Microsoft Azure's public cloud certifications and does not provide any additional certifications on top of the ones that Microsoft provides. Bizagi does not offer any features out of the box for supporting tracking and management of Agile development.

- › **Caspio is expanding from its base in interactive web apps.** Caspio was founded in 2000 to allow businesspeople to create web database applications and easily add them to existing websites. The vendor has since branched out into standalone database applications, adding application-management features and security certifications that will appeal to application delivery pros as well. Caspio's strength remains its concise and facile developer experience, including its responsive-design user experience tools. Caspio is a veteran public-cloud platform vendor with 4,700 customers.

Caspio's weaknesses as a low-code platform are a byproduct of the vendor's focus. Caspio doesn't offer deep integration features but rather relies on partners for that functionality. Workflow is also a gap, and Caspio's mobile application support will be too reliant on mobile web architectures for many customers. Lastly, Caspio's relatively small size will make it seem a risky long-term choice to some large enterprises. However, Caspio's track record of growth and product investment is strong.

- › **ServiceNow targets infrastructure and operations pros who want to deliver apps.** And it shows. ServiceNow is notable for relying on scripting at various stages of its declarative development experience. ServiceNow's target customer — system administrators — may appreciate the use of familiar scripting, but low-code developers will find it burdensome. ServiceNow is a big potential factor in the low-code platform market, with its \$1 billion in annual revenues and, Forrester estimates, about 3,500 enterprise customers. Each of those customers has access to the low-code platform underlying ServiceNow's IT management applications for their own development projects.

The ServiceNow platform's strengths include its security audits, worldwide availability, free subscriptions for individual developers, and potential to open application delivery to technical pros who aren't developers but can nonetheless contribute custom applications to their enterprises.

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- › **MatsSoft targets digital teams that prioritize rapid experimentation.** MatsSoft was founded by a group of software executives with backgrounds in BPM software. These executives came together to launch the MATS low-code platform in 2013. The platform offers strong process modeling and automation capabilities. Additionally, MATS Platform's form and user interface design features help developers quickly build responsive user experiences that automatically resize across different web and mobile devices and resolutions. Digital teams use MATS Platform's rapid design features to build and test new ideas and quickly move new ideas from testing into production.

MATS Platform provides limited support for managing the development process and tracking development projects across different stages of delivery. MatsSoft does not yet provide an online marketplace for apps and components built on the platform. MatsSoft's primary weakness is the company's size, with just 75 to 100 customers and annual revenues of less than \$10 million.

## Contenders

- › **Nintex targets the Microsoft customer ecosystem with robust workflow.** Founded in 2006, Nintex is a prominent name in the Microsoft partner ecosystem. Nintex currently has more than 6,000 customers in 90 countries and about \$75.9 million in annual revenue. The timing of our Forrester Wave analysis was unkind to Nintex, as it prevented us from recognizing big product and business improvements scheduled for spring 2016.

Nintex's strengths come from its tight integration with Microsoft platforms and applications, but the vendor is branching out from that base with independent cloud services as well as services that address Salesforce customers.<sup>6</sup> Nintex provides strong features for building mobile process apps that target employees and partners. Mobile features also support offline access for initiating and completing workflow tasks. Nintex is primarily used for departmental workflow implementations. Although it provides an intuitive workflow modeling environment, the product lacks support for BPM modeling standards. This can be problematic for teams that want to support collaboration and sharing of process models across large enterprises. Nintex applications can be deployed on-premises or in the cloud. For cloud security, Nintex relies heavily on Microsoft Azure's certifications.

- › **MicroPact takes a data-first approach for case-based apps.** MicroPact was founded in 1997, with an initial focus on case management solutions and services targeting government customers. The company evolved its initial frameworks and services to deliver an application platform for building workflow and case management applications. The development platform, called entellitrak, provides strong support for modeling data and business entities. This strong data foundation helps accelerate building sophisticated case-based applications that can be adapted and updated via configuration instead of hand-coding. MicroPact provides strong support for public cloud deployments, with a wide range of cloud certifications for both government and commercial clients.

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While MicroPact focuses strongly on building data-centric and case management apps, the platform lacks breadth in declarative tooling for modeling data, designing workflows, and building forms. MicroPact's low-code platform lacks built-in support for change management and version control and also lacks functionality for app deployment.

- › **QuickBase straddles citizen and pro developers.** QuickBase has attracted more than 6,000 customers (and an estimated \$75 million in annual revenue) based on its strengths as a platform for “citizen developers.” QuickBase also has value for professional developers focused on rapid application delivery, particularly for data-tracking, -gathering, and -reporting applications. In the midst of our research, Intuit sold QuickBase to a private equity firm, which quickly affirmed its commitment to QuickBase's aggressive investment plans for the product and supporting business functions.<sup>7</sup> Time will tell.

QuickBase has strong security controls, a clean, straightforward development experience, an active app store, and strong reporting and dashboard features. QuickBase's primary weaknesses are its lack of a free and easy on-ramp for developers, a declarative workflow tool, and integral application-release support.<sup>8</sup> We expect QuickBase to gain adoption among more app developers and expand its development-process support to serve their needs.

## Challengers

- › **MIOsoft is taking its strength in data-intensive applications to big data.** MIOsoft is a small vendor founded in Madison, Wisconsin, in 1998; it has subsidiaries in Germany and China. The vendor's primary emphasis is on applications that manage large data collections, including data modeling, prep, quality, and movement, strengths it is applying now to Hadoop and device-data applications in addition to relational databases. MIOsoft's integration tools are also strong. The vendor also has a mature public cloud offering, including a range of security certifications, and strong change-management features.

However, MIOsoft has deemphasized investments in tools to create user experiences, instead relying on third parties to own the user experience and connect to MIOsoft's server-side platform. As a result, the developer experience is dated, and most customers will have to adopt an additional product to complete the user experience portions of their applications.



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## Supplemental Material

### Online Resource

The online version of Figure 3 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

### Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution. We evaluated the vendors participating in this Forrester Wave, in part, using materials that they provided to us by January 1, 2016.

- › **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of product features and vendor strategy and performance.
- › **Product demos.** We asked vendors to conduct demonstrations of their products' functionality using a customer onboarding scenario with 10 development tasks. We used findings from these product demos to validate details of each vendor's product capabilities. Videos of the product demos by AgilePoint, Appian, Bizagi, Caspio, K2, MatsSoft, Mendix, MIOsoft, Nintex, OutSystems, QuickBase, Salesforce, and ServiceNow are available from Forrester on request.

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- › **Customer reference surveys.** To validate product value and vendor qualifications, Forrester also surveyed three reference enterprise customers from each vendor, a total of 42 respondents.

### The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave evaluation — and then score the vendors based on a clearly defined scale. We intend these default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve. For more information on the methodology that every Forrester Wave follows, go to <http://www.forrester.com/marketing/policies/forrester-wave-methodology.html>.

### Integrity Policy

We conduct all our research, including Forrester Wave evaluations, in accordance with our Integrity Policy. For more information, go to <http://www.forrester.com/marketing/policies/integrity-policy.html>.

### Endnotes

- <sup>1</sup> Business leaders demand more solutions to win, serve, and retain customers; adopting a low-code application platform is often the response. The market for these platforms is growing fast, but selecting a platform that actually delivers without creating a 4GL-like orphan in the software portfolio isn't easy. Forty-two different suppliers dot the vendor landscape, each with distinct strengths, openness, and prospects for the future. To learn more, see the "[Vendor Landscape: The Fractured, Fertile Terrain Of Low-Code Application Platforms](#)" Forrester report.
- <sup>2</sup> For more on the gap in developer talent and approaches to dealing with it, look for an upcoming report titled "The (Social) Future Of Software Development."
- <sup>3</sup> Source: "Welsh, Carson, Anderson & Stowe Acquires Intuit QuickBase," PR Newswire press release, March 8, 2016 (<http://www.prnewswire.com/news-releases/welsh-carson-anderson--stowe-acquires-intuit-quickbase-300232530.html>).



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<sup>4</sup> We earlier estimated the total size of the low-code platform market and its overall growth rates. See the “[Vendor Landscape: The Fractured, Fertile Terrain Of Low-Code Application Platforms](#)” Forrester report.

<sup>5</sup> IDE: integrated development environment.

<sup>6</sup> Customers typically adopt Nintex to close workflow and automation gaps not addressed by Microsoft’s native workflow products, such as Microsoft Workflow Designer or Biztalk.

<sup>7</sup> On March 8, 2016, Intuit announced it would sell QuickBase to the private equity firm Welsh, Carson, Anderson & Stowe. Welsh, Carson said it would run QuickBase as a standalone software company.

<sup>8</sup> QuickBase offers a free edition to users but not to professional developers.

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