Magic Quadrant for Robotic Process Automation

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By Saleh Rez, Arthur Hils, and more

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Robotic process automation (RPA) remains a popular software market for improving operational efficiency with tactical automation. This Magic Quadrant evaluates 19 enterprise vendors and 3 specialist vendors to help leaders find the best choice for their enterprises to scale automation.

Strategic Planning Assumption

By 2025, 50% of RPA vendors will offer generative AI-assisted automation.

Market Definition/Description

This document was revised on 26 August 2021. The document you are viewing is the corrected version. For more information, see the Corrigenda page on gartner.com.

Gartner defines robotic process automation (RPA) as the software to automate tasks within business and IT processes using software that emulates human interaction with the application user interface. Enterprises use RPA to automate high-volume, repetitive, rules-based tasks, such as data entry, form processing, and data extraction, using the RPA platform's low-code and no-code graphical user interfaces. The script can then be deployed and executed after unattended runtime. The system executes all the designed tasks and records an audit trail.

RPA is used across numerous business functions for tactical task automation. Business and IT users can leverage RPA to:

- Move data in or out of application systems without human interaction (unattended automation). Scripts are triggered by a time schedule or by a predefined event, such as the receipt of a new email or a file in a folder. This kind of task is suitable for RPA, given its automation and complete audit, successfully without human intervention. Unattended automation is used for back-office tasks, such as order processing and data entry.
- Automate tasks with a human in the loop (attended automation). RPA can extract information from systems and monitor processes, alerting and prompting for corrections by a human at the point of need. Typically, attended automation is triggered by a human and executed on a local device.

The most frequently used functions in the market include:

- Screen scraping, with or based from the software of companies Software AG, Microsoft Active Accessibility (MAA), Microsoft UI Automation, Java Application Controls, SAP WinGUI, Windows Ext or manufacturer-specific APIs.
- Ability to record a task and convert it to a script that can be deployed
- Support for human attended and unattended automation
- Ability to orchestrate and administer users, scripts, and the runtime, including configuration, monitoring and security
- Support for multiple bot runtimes, such as desktop, on-premises server, public or private cloud, and virtual machines

The standard capabilities for this market include:

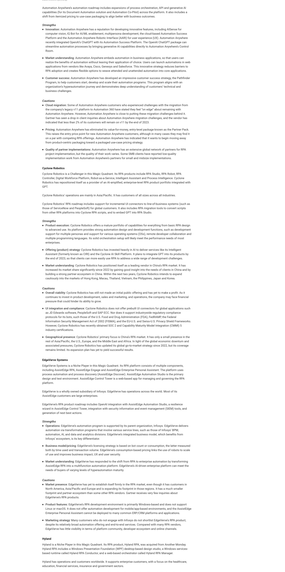
- Support for structured and semi-structured data extraching/ingestion or vendor-specific, low-code implementations (including graphical user interfaces for robot development)
- Support for optical character recognition (OCR) and/or integration with a third-party OCR tool to capture semi-structured data
- Integration with intelligent processing (IDP) features such as image capture, classifications and model training
- Computer vision (or AI, deep or shallow neural networks) to track application UI element changes and update a bot to respond accordingly

The optional capabilities for this market include:

- Workflows for task mining
- API-first automation via connectors, including HTTP/HTTPS/T, SOAP, Open APIs, and others
- A low-code user experience (UX) for creating bot from tools for automation
- Built-in, Kubrion-scale workflow development with guided navigation or shallow neural network features
- Ability to deploy and administer of multiples OCR to manage operations, and input and output benefits

Magic Quadrant

Figure 1: Magic Quadrant for Robotic Process Automation


Source: Gartner
Vendor Strengths and Cautions
Appian
Appian is a Challenger in this Magic Quadrant. Its product, Appian RPA, focuses on complementing the rich business process automation (BPA) capabilities available within the Appian Platform. Appian also offers a low-code application platform (LCAP) and process intelligence capabilities, process mining and discovery, and business process management (BPM) cloud services.
Appian has geographically distributed operations. Its customers tend to be large enterprises in the financial services industry and government.
Strengths
Bot understanding: Appian recognizes the role of RPA in order automation use cases and provides a single implementation solution. Appian's broader platform provides BPM, BPA, LCAP, intelligent document processing (IDP) and machine learning (ML) capabilities, which are a clouded and underpinning for an integrated data fabric. Organizations with an appetite for hyperautomation may benefit from Appian's integrated platform.
Product portfolio: Appian's platform focuses on end-to-end process automation and offers high-value application development capabilities. Its RPA product is suitable for use by citizen developers, but Appian's broader platform caters to RPA product experts RPA. Decision support and low-code are features that make Appian's platform attractive to citizen developers.
Ecosystem: Appian's sales are increasingly partner-driven. Appian now claims to have over 20,000 developers registered on its marketplace, the Appian AppMarket, but over 600 companies, connectors and frameworks to accelerate RPA development.
Cautions
RPA Maturity: Appian's narrative about its RPA and LCAP automation seems overshadowed by BPA offerings. Appian's RPA product is not as mature as other vendors' RPA products. Appian's RPA product is suitable for simple RPA use cases, but Gartner's clients may require Appian's broader process automation tools.
Visibility: Gartner rarely receives inquiries about Appian RPA from buyers, unless they already use other Appian products. Appian's RPA is not well known in the market, and Appian does not have a strong presence in Gartner client inquiries and proposal requests. Appian is meeting limited to broad market, but Gartner expects this to grow as visibility with a wider group of buyers.
Pricing: Appian's pricing is not as competitive as alternative RPA offerings. Although Appian has no open pricing, Gartner's clients have reported that Appian's RPA product is more expensive than competitors' products. Gartner has indicated that the design experience of Appian's RPA lacks the rich functionality of low-code RPA tools and requires a high level of IT skills to develop and maintain automations. Appian's pricing is based on its proprietary language, which does not use BPMN and .NET, unlike many other RPA vendors.
Automation Anywhere
Automation Anywhere is a Leader in this Magic Quadrant. Its RPA product has been rebranded as the Automation Success Platform, which offers capabilities beyond RPA. Automation Anywhere's RPA is available on-premises and in multiple public cloud environments. Automation Anywhere has a wide range of RPA, process mining, process intelligence, digital automation assistance (Automation Co-Pilot), artificial intelligence (AI) and machine learning (ML) tools and analytics. Process discovery is central of workflow management, document automation and intelligence (Intelligent Bot) these are available as additional options.
Automation Anywhere has global operations. Its customer base includes large enterprises and small and midsize businesses (SMBs).
Automation Anywhere's automation roadmap includes capabilities of process orchestration, IDP and generative AI. Automation Anywhere's roadmap includes a new version of its RPA product, Automation Anywhere 360, which will form the foundation for its new offerings in digital worker and business outcomes.
Strengths
Product strategy: Automation Anywhere has a roadmap for developing innovative features, including Intelligent IDP, computer vision, AI Bot for multi-screen automation, multiparty development, the Automation Success Platform and the Automation Anywhere Machine Learning Model Deployment (AARMLD) for user experience (UX). Automation Anywhere has a strong focus on UX, including a new UX for its RPA product, Automation Anywhere 360, which includes automation assistance and guidance for bringing generative AI capabilities through its Automation Co-Pilot and Automation Assistant.
Market understanding: Automation Anywhere embeds automation in business applications, so their users can automate tasks without leaving the application. Automation Anywhere has a strong focus on integration with applications from vendors like Avaya, Cisco, Genesys and Salesforce. This innovative strategy reduces barriers to RPA adoption by enabling users to access attended and unattended automations in their applications.
Customer success: Automation Anywhere has developed an impressive customer success strategy the Intelligent Enterprise Program, which includes a dedicated team, training, and a portal. Gartner's clients have rated Automation Anywhere's customer support and technical support as good.
Cautions
Product maturity: Some of Automation Anywhere's customers also experienced challenges with the migration from the company's legacy v11 platform to Automation 360 have stated they find "savage" about remaining with Automation Anywhere. Automation Anywhere has a strong focus on its new platform, but Gartner's clients have stated that Gartner's clients have stated that Automation Anywhere's development roadmap and delivery are slower than expected. Gartner's clients have stated that it has 21 of its customers will remain on v11 for at least 2021.
Pricing: Automation Anywhere has eliminated its value-from-licensing, which-tied-workload-based on the Partner Pack. This raises the entry price point for new Automation Anywhere customers, although in many cases they may find it is a lower total cost of ownership. Gartner's clients have reported that Automation Anywhere's pricing is based on front-loaded costs purchasing forward a prepaid-year-one-only strategy.
Quality of partner implementations: Automation Anywhere has an extensive global network of partners for RPA implementations, but Gartner's clients have stated that the quality of partner implementations varies. Automation Anywhere's Core Automation Assistant partners for small and midsize implementations.
Cyclone Robotics
Cyclone Robotics is a Challenger in this Magic Quadrant. Its RPA products include RPA Studio, RPA Bots, RPA Controller, Digital Workforce Platform, Robot as a Service, Intelligent Document and Process Intelligence. Cyclone Robotics has a cloud-native SaaS as a provider of an AI-amplified, enterprise-level RPA product portfolio integrated with BPA.
Cyclone Robotics' operations are mainly in Asia/Pacific. It has customers of all sizes across all industries.
Cyclone Robotics' RPA roadmap includes support for incremental UI connectors to line-of-business systems (such as Oracle, Salesforce, Microsoft Dynamics, Workday, and others), and improvements to its Intelligent Document and Process Intelligence tools. Cyclone RPA products, such as Cyclone OPT, use AML (BPMN).
Strengths
Product innovation: Cyclone Robotics offers a native portfolio of capabilities for everything from bots RPA design to analytics, as its platform provides integrated capabilities for process discovery, bot development, bot runtime, and analytics. Process discovery is central of workflow management, document automation and intelligence (Intelligent Bot) these are available as additional options.
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Offering (product) strategy: Cyclone Robotics has invested heavily in its deliver services like Intelligent Document Processing (IDP) and process mining. Cyclone Robotics has a strong focus on its Intelligent Bot, which leverages Cyclone's AI to intelligently identify RPA automation opportunities and recommend bots to be deployed. Cyclone Robotics has indicated that less than 2% of its customers will remain on v11 for at least 2021.
Market understanding: Cyclone Robotics has positioned itself as a leading vendor in China RPA market. It has increased its market share significantly since 2020 by gaining good insight into the needs of Chinese customers, building a strong partner ecosystem in China. Within the next two years, Cyclone Robotics intends to expand customers into the Americas and Europe, Middle East, Pakistan, Oceania, the Philippines and Thailand.
Cautions
Product stability: Cyclone Robotics has still not made an initial public offering and has yet to make a profit. It continues to invest in product development, sales and marketing, and operations. Its customers, in the current market, are willing to accept this.
UI integration and complexity: Cyclone Robotics does not offer product UI connectors for global applications such as JD Edwards enterprise Foundation and EAS. Bots are created in Cyclone Robotics' Studio and deployed to the runtime process. To be bots, such those of Kind of Oracle, Salesforce, Microsoft Dynamics, Workday, and others, Cyclone Robotics has updated its global pre-market strategy since 2022, but its coverage remains limited. Its customers gain the ROI of cold-successful media.
Edgetime Systems
Edgetime Systems is a Challenger in Robotic Process Automation (RPA) Magic Quadrant. Its RPA product, Edgetime Systems, integrating Automation RPA Knowledge Base Management Tool, Knowledge Base Management Tool, Knowledge Base Management Tool,

Salesforce

Salesforce is a Visionary in this Magic Quadrant. Its RPA product is MuleSoft RPA, which includes RPA Manager (a cloud-based control panel integrated with Anypoint Platform), RPA recorder (a business process recorder that can be triggered from RPA Manager), RPA Builder (a Windows-based desktop development environment) and RPA Bot (the runtime).

Salesforce's operations are geographically distributed. Its RPA customers tend to be midsize and large enterprises.

Salesforce's RPA product roadmap includes enhanced UI scraping; native Anypoint Exchange API discovery from RPA Builder; the ability to submit task-mining optimization ideas within the RPA platform; and native IDP for business users supporting prebuilt and custom training models.

Strengths

- **Product portfolio:** Salesforce is a Leader in Magic Quadrants for multiple technologies that complement RPA, including integration platform as a service (iPaaS), API management and LCAPs. In combination with its wider software portfolio, Salesforce's automation capabilities have the potential to support an enterprisewide hyperautomation strategy.
- **Business model:** Salesforce has a strong global partner network for implementations and provides free accelerators in its App Exchange. It enables customers to choose the timing with which to upgrade deployments and provides transparency, in terms of details of releases, updates and patches, via a portal.
- **Viability:** Salesforce has a diverse customer base that values its RPA capabilities. RPA is a clear part of Salesforce's automation and integration product roadmap, as shown by its acquisition of Servicetrace in 2021. Salesforce faces minimal viability risks, compared with smaller competitors that may exit the market or be acquired.

Cautions

- **Visibility:** Salesforce's RPA product has significantly less market visibility than the RPA offerings of its competitors. Most prospective buyers who ask Gartner about Salesforce's RPA already have a large investment in Salesforce's other solutions. Salesforce has communicated its offering vision and future plans to its core customers, but gained little attention outside this group.
- **RPA features and support:** Salesforce's RPA has some gaps in its feature set, such as IDP, autoML and the option to "bring your own script." It runs only on Windows (not macOS or Linux). Additionally, Salesforce's RPA, which is offered on MuleSoft's managed cloud service, does not currently support an on-premises orchestrator. Salesforce offers elevated support at additional cost for its RPA customers. It plans to invest further in 2023 to enable RPA support throughout its customer service organization.
- **Sales execution/pricing:** Salesforce does not offer a free trial to test its solution, although proof of concepts are an option. Prices for Salesforce's entry-point offering can be higher than those of some of its competitors' entry-point offerings. Although Salesforce's entry-point solution is consumption-based, with metric ratios associated with its wide range of automation capabilities, its price may still deter some organizations.

Samsung SDS

Samsung SDS is a Niche Player in this Magic Quadrant. Its rebranded RPA product is the Brity Automation Platform, which includes design studios for technical developers, citizen developers and orchestrators, for both on-premises and cloud deployments. It integrates with Samsung SDS's internal AI Contact Center and visual capabilities.

Samsung SDS's operations are mainly in South Korea. Its customer base is concentrated in South Korea and Asia/Pacific, but it also has some clients in Europe and North America. It competes in all market segments.

Samsung SDS's RPA roadmap includes a generative-AI-driven automation code generator, additional event triggers for its bots, and scheduling settings to support personalized automation.

Strengths

- **RPA scope:** Samsung SDS has a comprehensive product portfolio, including RPA, AI/ML and IDP offerings. It offers packaged solutions and professional services together as bundled products. It provides content in multiple languages. Additionally, it has improved its products' usability in 2023, including that of its step recorder for task mining.
- **Viability:** Samsung SDS's RPA business achieved year-over-year revenue growth of 52% in 2022 (as estimated by Gartner). This growth significantly exceeded the RPA market average and positioned Samsung SDS as the ninth-largest vendor in terms of market share (by RPA revenue). We consider Samsung SDS a financially stable vendor for RPA customers.
- **Partner ecosystem:** Samsung SDS's RPA operations partner with more than 60 service providers, including professional services, support and product engineering providers that offer a broad range of services. Samsung SDS works with its leading consulting partners to offer a paid service that diagnoses and recommends AI-based automation across business functions for its RPA customers.

Cautions

- **Visibility:** Samsung SDS's limited geographic presence may deter organizations outside Asia/Pacific. Although Samsung SDS is expanding its marketing outreach program beyond Asia/Pacific, it lacks the visibility of many other RPA vendors. Gartner clients do not typically shortlist Samsung SDS when evaluating RPA products, and Gartner receives relatively few inquiries about its RPA product.
- **UI integration:** Samsung SDS does not offer prebuilt integrations or UI connectors for enterprise systems such as those of Oracle, Salesforce and ServiceNow, or for IBM mainframes. Samsung SDS offers a richer set of UI connectors for many local applications used in South Korea and Asia/Pacific, but customers outside Asia/Pacific receive less in this regard.
- **SDLC, security and governance:** Samsung SDS's RPA product offers limited support for collaboration between developers and other user personas. It does not support test data generation, monitoring/metering of licensing usage patterns, agile planning tools or integration with third-party agile development tools. Nor does it support key third-party security vaults, such as CyberArk's, or industrywide regulatory compliance protocols such as those of the FDA, FedRAMP, FISMA, and the EU-U.S. and Swiss-U.S. Privacy Shield Frameworks.

SAP

SAP is a Visionary in this Magic Quadrant. Its RPA product, SAP Build Process Automation, is an AI-powered, unified solution for RPA that also offers workflow and business rules management. It is tightly integrated into the SAP Business Technology Platform (BTP) stack and provides an intuitive UX for citizen developers, along with support for rapid development and enterprise-grade security.

SAP's operations are geographically distributed. Its customers tend to be midsize to large enterprises.

SAP's RPA product roadmap features automated business event triggering, AI-assisted development with chat-based recommendations and LLMs, a refreshed UX, and tighter integration with SAP Signavio, SAP Integration Suite (including via open connectors), and other SAP and third-party applications.

Strengths

- **SAP ecosystem:** SAP has a large-scale ERP ecosystem and a global customer base. Customers can benefit from its growing number of crowdsourced components, industry-specific prebuilt assets and connectors, which enable RPA capabilities for both SAP and non-SAP applications. SAP Consulting is incentivized to support process automation customers.
- **Product strategy:** SAP has improved its product by enabling integration with SAP Signavio (a process-mining tool) and embedding intelligence for authoring, execution and unstructured data handling. It has also improved its process design with branches, parallel approvals and subworkflows in Process Builder. It offers over 1,500 automation artifacts in 300 RPA packages and 80 larger process packages across multiple business functions. SAP has a strong vision for end-to-end automation that includes RPA, process mining, BPA and cloud ERP capabilities.
- **Sales execution/pricing:** SAP has made changes to its pricing model. SAP Build Process Automation is included at no extra cost in S/4HANA GROW with SAP and RISE with SAP bundles, and is available to all SAP BTP customers. SAP does not charge extra for AI capabilities. It allows customers to choose from flexible licensing options, such as consumption-based unattended and attended RPA (connection-based); advanced user licenses for process creators; and participant-only licenses for standard workflow users. These models can enable large-scale deployments while supporting diverse user personas.

Cautions

- **SAP-centric focus:** Although SAP Build Process Automation can automate both SAP and non-SAP processes, Gartner customers indicate that they perceive it as SAP-centric. Potential buyers of SAP's RPA need to check the quality of integration with specific non-SAP applications.
- **Market awareness:** Marketing for SAP Build Process Automation typically targets customers looking for comprehensive ERP business solutions including automation technology. SAP's competitors in the RPA market are more visible. Given SAP's relatively limited visibility in this market, customers may struggle to determine the market's perception of its RPA product, support and services.
- **RPA features:** SAP Build Process Automation does not provide on-premises RPA orchestration. It also currently lacks other features commonly offered by its competitors, such as support for macOS and Linux deployments (SAP will add this later in 2023), a tool for calculating ROI, and a wide range of connectors to orchestration engines.

SS&C Blue Prism

SS&C Blue Prism is a Leader in this Magic Quadrant. Its RPA product, the Intelligent Automation Platform, integrates with SS&C Blue Prism Chorus' BPA suite, IDP capabilities, and process intelligence, among others.

SS&C Blue Prism has geographically distributed operations. Its customers include large enterprises and SMBs.

SS&C Blue Prism's RPA product roadmap includes a cloud-native SaaS platform with flexible pricing; integration with the SS&C Everywhere data fabric to connect data with many of SS&C's 150-plus products; and significant enhancements to its application modeler capabilities (including enhanced computer vision to improve screen capture).

Strengths

- **Product portfolio:** SS&C Blue Prism offers a wide range of RPA capabilities, including numerous connectors to enterprise applications and centrally managed automation for highly regulated markets. SS&C Blue Prism has integrated its core RPA product with other products within its intelligent automation portfolio to create a unified platform that could be compelling for enterprise customers. It has also released SS&C Blue Prism Desktop to support attended desktop automation.
- **Business model:** SS&C Blue Prism's business model revolves around the strength of its core RPA product, that product's integration with capabilities across its portfolio (including Chorus BPA), and strategic cloud alliances for multiple clouds, including those of Microsoft (Azure) and Amazon Web Services. SS&C Blue Prism has more than 168,000 active RPA users and a community of over 50,000 users across 5,000 companies.
- **Bundling of solutions:** To simplify the purchasing process, SS&C Blue Prism offers a single, unified offering that includes an orchestrator, development studio, bot licenses, product support, and limited IDP and process-mining capabilities.

Cautions

- **Pricing:** During Gartner inquiry sessions and proposal reviews, some customers have indicated that prices for SS&C Blue Prism's RPA product have effectively increased at the time of contract renewal, mostly due to the inclusion of production support costs. These costs were previously optional but are now mandated by SS&C Blue Prism. Despite this policy change, however, the list price of SS&C Blue Prism's cloud offering has seen high single-digit percentage price decreases for a standard three-year term.
- **Compliance features:** SS&C Blue Prism supports fewer industry regulatory compliance standards than many of its competitors. It currently does not support popular compliance standards such as FedRAMP, FISMA, Payment Card Industry (PCI) and GxP.
- **Embedded automation:** SS&C Blue Prism's embedded automation features are limited to webpages that can be rendered outside the RPA platform. It does not support prebuilt embedded automation for popular enterprise applications such as those of Microsoft, Oracle, Salesforce, SAP, ServiceNow and Workday. Its RPA platform does not yet support runtimes for macOS, Linux or other OSs.

UiPath

UiPath is a Leader in this Magic Quadrant. Its product, the UiPath Business Automation Platform, provides an end-to-end set of hyperautomation capabilities, including RPA, AI, NLP, API automation, process orchestration, low-code app development, process and task mining, IDP, and application testing. Its core RPA product is a cloud-native offering with tailored design studios for professional and citizen developers, in which they can create and consume automations in a secure, collaborative and governed manner.

UiPath has global operations. It serves every buyer segment.

Recent AI enhancements include point-and-click experiences for citizen developers to train ML models, a large-screen model for its AI computer vision technology, and UiPath Communications Mining to enable robots to read and perform tasks based on unstructured data or messages. The company's short-term product roadmap includes a native generative AI co-pilot for creating apps and automations with natural language prompts.

Strengths

- **Product strategy:** UiPath has a strong brand and greatly influences the market with its narrative about AI-powered automation. It continues to evolve rapidly from a pure RPA tool vendor into an enterprise automation platform provider that combines RPA, AI, NLP, API automation, IDP, process and task mining, process orchestration, low-code app development, and application testing. It also offers prebuilt automation solutions for finance, insurance, healthcare, manufacturing and other industries.
- **Viability:** UiPath has a strong presence and a strong ability to execute in the RPA market. It is by far the largest vendor in terms of RPA-specific revenue. With a large partner ecosystem and global customer demand, UiPath has a compelling vision for building a stable platform that can meet customers' automation needs.
- **Customer ecosystem:** UiPath has a diverse customer base of more than 10,000 enterprises across all industries. Customers who need to automate industry-specific processes can use UiPath's sizable RPA-specific partner ecosystem. This ecosystem provides industry experience, benchmarks and precreated assets to augment industry capabilities available from the UiPath Marketplace.

Cautions

- **Product strategy:** UiPath could improve some of its complementary technologies, such as its products for IDP, process mining and test automation, and its LCAP. Although these technologies work well enough for customers who want to standardize on UiPath's platform for a unified automation strategy, some customers have indicated that their mature hyperautomation practices and complex workflows require capabilities beyond what UiPath offers.
- **Pricing:** Some UiPath customers with legacy on-premises pricing arrangements have reported significant cost increases, although this greatly depends on the quantities deployed. To simplify its diversifying portfolio, UiPath has introduced deployment-agnostic licensing, known as Flex, as well as usage-based pricing for serverless cloud RPA, IDP, AI and task mining.
- **Partner services:** Some customers have reported concerns about the delivery quality provided by some of UiPath's recommended partners. UiPath has one of the largest RPA partner ecosystems, so quality may vary between its more than 5,000 systems integrator partners. UiPath is revising its partner program to place more emphasis on the quality of its partners, rather than their quantity.

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

- EdgeVerve Systems
- Hyland

Dropped

- WorkFusion: This vendor is not included in this Magic Quadrant because its RPA strategy and capabilities do not align with Gartner's inclusion criteria. Also, WorkFusion no longer focuses primarily on selling RPA. However, it maintains its base of RPA customers.

Inclusion and Exclusion Criteria

To qualify for inclusion in this Magic Quadrant, vendors had to:

- Demonstrate a clear and active go-to-market and sales strategy, primarily for RPA software, as demonstrated by their website, reviews on Gartner's Peer Insights forum, social media communications, and direct or indirect marketing materials that explicitly mention RPA.
- Sell RPA software directly to paying customers without engaging professional services. Vendors had to provide at least first-line support for their RPA capabilities. They must not sell their RPA product solely to, and for the use of, its professional services and consultants.
- Offer a commercially supported enterprise offering — in other words, vendors must not offer their platforms as open-source software.

All vendors also had to demonstrate presence in multiple regions, with at least 30 paying RPA customers (unique logos) each in at least two of the following regions as of 31 January 2023:

- North America
- Latin America
- Europe, the Middle East and Africa
- Asia/Pacific, including Japan and China

They also had to have:

- A minimum consolidated market relevance index (MRI) score greater than 1.5 (see Note 1).

In addition, vendors had to satisfy one of the following three criteria:

- At least $55 million in revenue in the financial year 2022 (FY22) from sales of RPA software licenses, excluding revenue from professional services, consulting and any systems integrator support (see Note 2).
- Either year-over-year revenue growth of at least 20% in FY22 from sales of RPA software licenses, (excluding revenue from professional services, consulting and systems integrator support), or at least 500 paying RPA customers with a consolidated MRI score greater than 2.5.
- A minimum consolidated MRI score greater than 4.

Vendors also had to offer the following capabilities natively within their RPA platform or product as of 31 January 2023:

- Screen-scraping capabilities, with at least five UI connectors from the following list:
  - Selenium IDE
  - Microsoft Active Accessibility
  - Microsoft UI Automation
  - Java application connector
  - SAP WinGUI
  - Windows GUI
  - Mainframe emulator
- Enterprise IT capabilities, including disaster recovery environments, high-availability support, CI/CD, SDLC management and multipersona collaboration within the RPA software.
- Support for RPA script development with standard programming languages or vendor-specific low-code representations, including graphical development.
- Ability to record tasks and convert them into scripts that can be deployed.
- Support for both attended and unattended automation.
- Ability to orchestrate and administer users, scripts and the runtime, including configuration, monitoring and security (a central orchestrator or control panel/administrative component is essential).
- Ability to deploy bots in all of the following environments:
  - Desktops
  - Virtual machines
  - Public and private clouds

We excluded vendors that:

- Did not offer integration via screen scraping.
- Offered only PaaS or back-end services without a desktop runtime component, an orchestration component and front-end development tool/integrated development environment to build the scripts/automation.
- Required a specific third-party component or product, or a white-labeled product, to support core RPA capabilities.
- Only sold their RPA product as licensed software along with development/professional services, where the product was used exclusively by the vendor's consultants/service providers.
- Did not offer a commercial enterprise RPA offering (that is, they offered a platform only as open-source software) or that would retire their platform by the end of 2023.

Evaluation Criteria

Ability to Execute

Gartner evaluates how well vendors' processes, systems, methods and procedures enable them to be competitive, efficient and effective.

Table 1: Ability to Execute Evaluation Criteria

Enlarge Table

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

Source: Gartner (August 2023)

Completeness of Vision

Gartner also evaluates how well vendors demonstrate understanding of the RPA market's current and future direction — including in relation to innovations, customer needs and competition — and the degree to which their vision aligns with Gartner's. This includes vendors' ability to anticipate market forces and create new market opportunities.

Table 2: Completeness of Vision Evaluation Criteria

Enlarge Table

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

Source: Gartner (August 2023)

Quadrant Descriptions

Leaders

Leaders have an insightful understanding of the RPA market, a reliable track record, the power to influence the market's direction, and an ability to attract and retain customers.

In the RPA market, Leaders demonstrate understanding of enterprise customers' needs and of opportunities to expand functionality and add new products and services to their core RPA offerings. Simply put, a Leader must have a market-leading vision and the ability to deliver on that vision.

A Leader may not always be the best choice for every customer. A focused, smaller vendor can sometimes provide superior support and commitment. Other vendors may provide a specialized capability that is essential for some organizations, such as enhanced security or specific features or functions (required, for example, by call centers and individual desktop use cases). A vendor that focuses on RPA for a specific vertical market or a limited geographic area may not be a Leader in the overall market, but it may be a competitive option within its chosen market or area.

Challengers

Challengers excel at attracting a large customer base, but are often limited to one part of the market.

In the RPA market, a Challenger may have a strong following for attended RPA, but lack traction, commitment or sophistication in the unattended RPA market. A Challenger must demonstrate sustained excellence in execution and a significant following — a combination that few vendors have achieved in this dynamic, nascent market.

A Challenger may become a Leader if it adopts an aggressive, innovative strategy to expand its focus to encompass the entire market. It would also need to demonstrate exceptional insight into the market's direction and continue to execute excellently.

A Challenger may alternatively become a Visionary by sacrificing growth and instead focusing on developing innovative, differentiating features and capabilities.

Visionaries

Visionaries are a market's innovators. They propel a market forward by responding to emerging customer demands and offering customers new opportunities to excel.

Visionaries must also show insightful understanding of market trends and innovative strategies for marketing and sales, as well as for product and business management. Typically, these vendors appeal to leading-edge customers, even if they have minimal mainstream presence or name recognition. A Visionary's ability to deliver sustained, dependable execution in the mainstream enterprise market has yet to be tested sufficiently.

In the RPA market, Visionaries may invest in leading-edge hyperautomation offerings, including RPA, that are not yet readily adopted by mainstream enterprise customers. Visionaries excel in understanding the demands of enterprises that are looking for fully inclusive automation support, as they often provide related tools like AI, chatbots and process management.

A Visionary could eventually grow to become a Leader. Alternatively, a Visionary may become a Niche Player if it decides to limit its target market by focusing on its core competencies, technologies or existing customers. Equally, a Visionary could become a Challenger by developing its specialties in order to advance in terms of execution.

Niche Players

Niche Players typically specialize in a limited vertical or functional area, or have a strong product that is limited to fewer parts of the market or only one part.

In the RPA market, Niche Players also include vendors that focus on other software markets, but that are moving into the RPA market.

In the RPA market, Niche Players:

- Focus primarily on related tools, rather than RPA capabilities — for example, process discovery or ML tools.
- Have yet to demonstrate excellent execution and success in terms of visibility, market share and buyer interests.
- Have limited geographic reach.
- Exhibit an unclear vision.
- Focus only on a subset of use cases.

Niche Players often represent the best choice for a specific category of customer or a particular use case. They typically offer specialized expertise, focused support practices, flexible terms and conditions, lower costs, and greater commitment to a particular market segment and its customers.

In this fast-evolving market, opportunities exist in all directions. Some Niche Players are poised to improve their execution and evolve into Challengers. Others may become Visionaries by developing innovative solutions that attract interest beyond their niche segments. Still others may strengthen and broaden their businesses to become Leaders.

Context

RPA automates repetitive tasks by emulating transactional steps currently taken by humans, mainly via orchestrated UI interactions.

RPA platforms translate a human process or task into RPA software language to create a script to follow (commonly known as a "robot" or "bot"). Additionally, a runtime is allocated to execute the script by a control dashboard/orchestrator.

Software engineering leaders can develop bots programmatically or by using low-code/no-code GUIs native to the RPA software platform.

Market Overview

The RPA software market reached $2.8 billion in 2022, up from $2.3 billion in 2021 (see Market Share Analysis: Robotic Process Automation, Worldwide, 2022). This market, once the fastest-growing software segment, was the eighth-fastest-growing software segment in 2022.

Although the RPA market's annual growth of 22% far exceeded the average worldwide software market's growth of 11%, the RPA market's expansion has slowed during the past few years — from 62% in 2019, to 39% in 2020 and 31% in 2021.

The RPA market included more than 60 vendors as of 31 January 2023, but is becoming more consolidated and competitive.

We discern the following key trends in this market.

RPA Is Evolving Into a General-Purpose Automation Platform

As a technology platform, RPA software has changed entirely in the past five years. It is evolving from a screen-scraping tool with minimal workflow capabilities into a general-purpose automation platform.

All RPA vendors now offer a spectrum of capabilities that extend far beyond the realm of orchestrated screen scraping. Many RPA products now offer task mining, process mining, BPA, IDP, conversational AI, low-code UI development, workflow orchestration and decision automation. Task mining enables automation of employees' desktop interactions. Process mining helps identify potential process candidates for RPA. BPA facilitates orchestration and workflow automation of complex end-to-end processes.

API-First and Cloud-First Automation Are Growing

Behind every automation lies some form of integration. While screen scraping remains an important method of integrating complex and legacy systems of record, API-first automation has become equally popular, due to the rise of SaaS and other web-based applications. At the same time, improvements to microservice orchestration, containerization and "deploy anywhere" capabilities are making cloud-first automation approaches quite popular in the RPA market.

Vendors like Appian, IBM, Microsoft, Salesforce, SAP and ServiceNow are setting a new norm for cloud-first automation platforms by offering cloud-only orchestration. Automation Anywhere, SS&C Blue Prism, Pegasystems and UiPath are positioning their cloud-first capabilities to complement their existing on-premises RPA products.

Customers Are Building a Platform Ecosystem for Hyperautomation

Application leaders are going beyond tactical automation to deliver greater efficiency, efficacy and business agility. RPA technologies play an essential role in hyperautomation — a discipline that helps combine several technologies in an orchestrated manner to deliver end-to-end, intelligent, event-driven automation.

No single vendor currently offers the best capabilities across every category of automation technology. Hence, most enterprises are building an ecosystem of hyperautomation capabilities that draws on the strengths of multiple vendors' products.

ChatGPT and Other LLMs Are Driving AI-Generated Automation

As is evident in every aspect of business and IT, ChatGPT and LLMs are profoundly impacting automation.

Almost every RPA vendor has either already experimented, or plans to experiment, with including GPT models in their products or enabling APIs to known GPT vendors such as OpenAI. They are also offering direct capabilities, such as automatic email generation, prompts within workflow design, more accurate IDP model training, process-mining analytics and AI-driven development of RPA scripts. Many RPA vendors will launch incremental capabilities in the next one or two years, making AI-generated automation an important capability.

Note 1: Market Relevance Index (MRI) Score

When evaluating RPA vendors for inclusion in this Magic Quadrant, Gartner calculated an overall market relevance index (MRI) score for each vendor on a scale of 1 (lowest) to 5 (highest), based on a combination of factors, such as:

- Gartner client inquiry presence
- Number of Peer Insights reviews on gartner.com
- Social media presence
- Number of publicly visible job postings
- Search trends on third-party search engines

Note 2: Annual Revenue and Customer Numbers

When evaluating vendors for inclusion in this Magic Quadrant, we examined their revenue and customer numbers in FY22 (or, failing that, the calendar year 2022) for RPA software licenses only (excluding professional services, maintenance, free trials and other non-RPA software licenses).

SaaS subscription revenue included contract value for a calendar year, but excluded any services included in an annual contract.

For multiyear contracts, we included only the contract value for the first 12 months.

All revenue was converted to U.S. dollars on a constant-currency basis to neutralize the effect that foreign exchange rates can have on revenue.

The default accounting standard used was generally accepted accounting principles (GAAP).

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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