IDC PERSPECTIVE

Evolving Agentic Testing — Leveraging UiPath with User Reference Summary Context

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Incorporating AI Assurance for Adaptive Execution

IDC research indicates 91% of organizations are piloting, using, or expanding AI/ML software testing use (1H25). Dramatic increases in software created by AI code assistants that require remediation, along with the proliferation of AI agents and emerging AI agent fleets, create an imperative for augmenting software quality processes and tools with AI. Multimodal platform and embedded software deployments, accessibility, and UX needs also benefit massively from AI and ML testing.

Key Takeaways

- High-quality, high-velocity software delivery enables innovation and business execution, yet software quality and testing are persistent bottlenecks for delivery and deployment.
- Key current areas of focus for leveraging AI testing include test process improvement, UX validation, test case creation, root cause analysis, test prioritization, synthetic test data creation, anomaly detection, and self-healing.
- AI agents can enable dynamic test execution, intelligent decision-making, and contextual exploration of applications.
- Agents can leverage feedback loops and machine learning, learning from prior defects and outcomes, to refine future test focus and accuracy.
- AI agents can execute tests, analyze failures, generate defect summaries, and trace bugs to changes in code, improving root cause analysis and developer productivity.

Recommended Actions

- Leverage of test automation tools in conjunction with AI and ML support agentic testing and workflow can create efficiencies of scale, improving quality and delivery speeds and business agility.
- Assess key areas of challenge for your organization and initiate AI testing for targeted areas that map best to demand and quick benefit.
- Benefit from scalable and parallel execution: agents can test multiple features, integrations, or devices in parallel, improving speed and coverage for releases.
- Shift from test writing to oversight: testers guide, review, and tune agentic outputs rather than manually crafting and maintaining scripts, allowing more focus on strategic quality goals.
- Leverage agents to generate and run tests rapidly from requirements, logs, or observed behavior to help teams accelerate development and delivery.

Source: IDC, 2025

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SITUATION OVERVIEW

Agentic testing and artificial intelligence (AI) help address testing inefficiencies and bottlenecks, which have remained a substantial barrier to releasing quality software faster. This is especially true as environments become more complex and flexible, with dispersed, hybrid teams, competitive pressures, and economic and geopolitical volatility, which also benefit from and demand AI assurance. Current IDC research shows that 91% of organizations are either piloting, currently using, or expanding use of AI and machine learning (ML) in conjunction with software testing (1H25).

High-quality software drives and enables business innovation and successful execution. This push for software quality also underpins DevOps initiatives and increased deployment velocity. IDC research shows that generating high-quality applications is the top driver for scaling DevOps, followed by improved productivity and faster deployments.

Even as our systems and operations are increasingly digital and automated, the costs and risks of software downtime and defects in production environments are higher than ever. Downtime, defects, and lack of usability and accessible visual user experiences impact organizations and their reputations, as well as concerns about business and process relevance in shifting environments. These also benefit from AI and agentic testing. Responding to these challenges mandates agile, adaptive responses to dynamic change and investment in continuous testing, effective processes, and agentic testing.

Increasing demand and constrained availability during a time of economic and geopolitical volatility will contribute to ongoing benefits of incorporating AI into testing; when the use of automation for testing is successful, the resulting gains in efficiency and quality can increase efficient staffing needed for testing.

This is a key opportunity since IDC research shows a lack of maturity with regard to test automation. Despite demonstrated cost savings and increased efficiencies, on average, organizations have automated only 46% of their applications, implying that 54% of applications require manual intervention. Lack of automation is a primary reason that developers state they are unable to do the work they need to do, followed by lack of modern development tools.

Drivers for Agentic Testing to Increase Efficiency

Expanding use of AI-based code assistants to generate software carries opportunities and imperatives for software testing. IDC research has found that 72% of developers revised more than 40% of their automatically generated code. So even as organizations

seek faster development via copilots to increase efficiency, software testing and quality are a necessary prerequisite, driving further demand for testing.

Combined factors increasing demand for agentic testing and software quality include:

- Compressed cycle times and increasing velocity for software deployments with maturing no-code DevOps approaches and the need for digital execution require continuous testing and AI leverage.
- Multimodal, cross-platform application delivery across varying form factors increases complexity and demands effective, nuanced testing approaches, complemented by AI/ML.
- A massively growing quantity of applications necessitates efficiencies of scale for testing to help ensure quality, relevance, and company performance for digital and other environments.
- Customer experience quality and accessibility drive engagement — a foundation of excellent user experiences, business process workflow context, and digital quality enable successful business execution.

Rapidly expanding adoption of AI by developers for faster code generation, combined with low-code and no-code approaches, will drive additional uptake of test automation, process, and organizational strategies for mixed human and digital workforces, as test automation providers augment existing capabilities for AI and ML.

AI, Agentic, and Machine Learning Support for AI Assurance

AI testing encompasses both the use of artificial intelligence to enhance software testing processes and the evaluation of AI systems themselves to help ensure reliability, accountability, fairness, and security. As AI becomes increasingly embedded in enterprise applications, testing approaches must adapt to address the characteristics of these systems.

AI testing methodologies span a range of techniques. AI-powered test automation supports test generation, maintenance, and defect prediction, improving coverage and reducing manual effort. Self-healing tests can automatically adjust to application changes, minimizing maintenance overhead. Visual and cognitive testing enables nuanced validation through pixel-level analysis and fuzzy logic. Fairness, ethics, and accessibility testing — often absent from traditional quality assurance (QA) — help address bias and compliance requirements. Continuous monitoring pipelines can identify potential emerging failures in both data and model outputs.

Agentic testing represents a significant advancement within AI testing, leveraging increasingly independent AI agents to help design, execute, adapt, and refine software tests. This approach can support automation in complex and dynamic environments,

reducing manual test maintenance and enabling broader and smarter coverage. Agents are evolving to help analyze usage data, risk areas, and business logic to generate high-impact tests and to be able to adjust strategies in real time based on outcomes and system feedback.

Benefits of agentic testing can include faster test creation and release cycles, self-healing capabilities that can minimize flaky failures, scalable parallel execution, and continuous learning that can improve test quality over time. AI agents can also enhance insights and analytics by tracing bugs to code changes and generating defect summaries, improving root cause analysis and developer productivity.

Core features of agentic testing can include adaptive test execution, simulation of real-world scenarios, goal-oriented reasoning, and shifting from manual test writing to strategic oversight. These capabilities can contribute to resilient, intelligent test orchestration and support agile software delivery and cost savings with staff efficiencies, shifting testing teams from activities such as manual testing to strategic execution.

Machine learning plays a role in enhancing AI testing by automating, optimizing, and improving the efficiency and accuracy of software testing processes. As part of AI-powered testing, ML contributes to smarter and more adaptive quality assurance strategies.

Key areas for machine learning in AI testing include test case prioritization and optimization, where ML analyzes historical test data to focus efforts on high-risk areas and streamline test suites. ML also supports defect prediction by identifying likely fault zones based on past defect patterns, enabling earlier detection and targeted testing.

ML algorithms facilitate automated test generation from software requirements and user behavior, reducing manual effort while improving coverage. Performance and anomaly detection are enhanced through ML models that monitor system behavior and can proactively identify bottlenecks or failures. Self-healing tests benefit from ML by adapting scripts automatically when UI changes occur, minimizing maintenance overhead.

Visual testing is strengthened by ML-based tools that detect UI inconsistencies across platforms, while ML-driven API testing enables automated test case creation and monitoring based on traffic patterns. In continuous integration and DevOps environments, ML supports quality judgments by analyzing new code and identifying testing gaps. ML also contributes to realistic data generation for testing, simulating production environments without exposing sensitive information. Users can leverage ML for smart test impact analysis, automatic test generation, and defect detection.

Machine learning can significantly reduce manual testing effort, decreasing testing time and costs, improving fault detection accuracy, and helping maintain test relevance in fast-evolving software environments, making AI-powered testing smarter and more efficient.

AI, agentic, and machine learning testing play a critical role in expanding test coverage, reducing maintenance burdens, and mitigating emerging risks associated with fairness, security, and adversarial threats. As AI adoption accelerates, robust and adaptive testing strategies will be essential to ensure trustworthy and resilient systems.

UiPath Test Cloud Overview

UiPath products in the context of agentic software testing and quality include UiPath Test Cloud, launched in 1Q25 (see *UiPath Launches Agentic Automation and Test Cloud, Leveraging Agentic Testing for AI Assurance and Optimization*, IDC #lcUS53549825, May 2025), and related components, Test Manager, Studio, Orchestrator, Robots, Automation Cloud, and Autopilot. Headquartered in New York City and founded in 2005, UiPath has over 3,868 employees worldwide, of which about 90 solely support Test Cloud (augmented by other teams) and approximately 3,000+ automated software quality (ASQ) customers as of 4Q25. UiPath's dominant position for enterprise automation is a foundation for its overall portfolio and provides differentiation for its software testing capabilities.

UiPath's Test Cloud is made up of tightly integrated components:

- Test Manager is a web application to manage the testing process, including assigning automation to test cases and test cases to requirements, dashboards and reporting, automation execution, and manual testing.
- Studio is used to create and design automated tests via a low-code workflow editor. Prebuilt automation activities are also available from the UiPath Marketplace.
- Robots execute automated test cases on multiple machines in parallel.
- Automation Cloud provides cloud access to the UiPath portfolio.
- Autopilot is an integration of generative AI, specialized AI, and automation that allows users to automate work using natural language. Autopilot for Test Cloud will accelerate test life-cycle phases, generate tests from requirements, and surface actionable insights from execution results.
- UiPath benefits from Test Cloud, shipped 1Q25, which expands agentic test automation capabilities with Autopilot for Testers and Agent Builder.

Natively, UiPath Test Cloud supports functional and regression testing at the UI-level, API-level, and on mobile devices. With UI-based and API-based automation at its core,

Test Cloud supports testing of more than 190 technologies, from legacy systems to mobile applications and devices, as well as virtualized systems with UiPath AI Computer Vision technology. For testing outside of Test Suite's native capabilities, such as security testing, UiPath leverages integrations. Test Manager enables integration with existing ALM tools such as Jira, Xray, ServiceNow, Azure DevOps, SAP Solution Manager, and qTest. Finally, Test Manager is also integrated with CI/CD pipeline tools via plug-ins and provides an SDK that can enable integration with other test tools.

As part of an enterprise automation platform, Test Cloud serves both process automation testing and software application testing needs. Built on well-established automation technology, the convergence of process and test automation permits the sharing of skills, experience, and automation components across the enterprise.

The breadth, depth, and preeminence of UiPath's market-leading automation portfolio provide a solid foundation for the company's testing portfolio. An open architecture and API integration strategies position UiPath to expand and augment its testing portfolio functionality and offer the benefits of broad, supported products that are popularly adopted and dominant in the market. At the same time, businesses are increasingly dependent on automation. Demand is growing for testing business-critical automation components, capabilities that have become an increasing focus with the rise of no-code development, which UiPath is well positioned to address. UiPath has a differentiated opportunity to leverage its portfolio synergistically for software testing efficiency and to address demand for process automation testing, augmented by its agentic automation strategy, announced at its user conference 4Q24 and expanded in 1H25.

UiPath Release Update Summary — September 2025

UiPath's September 2025 release introduces advancements in agentic testing, emphasizing a shift from traditional scripted automation to adaptive, goal-driven testing. UiPath's Test Cloud platform integrates agents, people, and robots to help support dynamic, context-aware testing that evolves with changing environments.

Key investment areas include enhanced support for enterprise applications such as SAP, performance testing for nontechnical users, and scalable test case design and management. Governance features have been expanded to support regulated industries, with audit-ready capabilities and integration with SAP RISE compliance.

The Healing Agent is now integrated into Test Manager, enabling automation resilience through real-time adaptation to UI changes. Additional features include AI-infused search and filtering, accessibility testing, and real-time insights dashboards. Portfolio management tools help identify obsolete tests and optimize test coverage.

UiPath introduced AgentBuilder for creating custom low-code test agents and Agentic Chat for natural language interaction with Autopilot and third-party agents. Testing on macOS is now fully supported, including native automation for Safari and cross-platform coverage.

Agentic orchestration capabilities allow users to model end-to-end test flows with BPMN/DMN, incorporating human oversight and policy enforcement. Event-sourced engines support resilient execution and dynamic rerouting for long-running test processes.

Performance testing enhancements include reuse of existing UI tests, guided scenario generation, and scalable infrastructure for both cloud and on-premises environments. Assisted manual testing enables business users to execute manual tests via Autopilot without scripting, supporting in-sprint validation and reducing maintenance overhead.

The Autonomous Test Agent feature allows agents to help validate requirements independently, explore applications contextually, and generate actionable outcomes, including repeatable automations and issue reports.

AI agent implementations include targeted testing based on code changes, SOX control testing for compliance, test optimization for anomaly and flakiness detection, reuse detection for workflow consolidation, and synthetic data generation for regulated environments.

UiPath differentiates itself by offering custom AI agent creation, full macOS testing support, scalable agentic performance testing, and execution via computer-use agents. Future investment areas include expanding the agent ecosystem, agentic API testing, autonomous exploration, context engineering, active learning, and support for pro-code agents.

IDC sees UiPath's differentiators across several areas:

- **Production-grade automation:** Many customers achieve high automation rates within one year of implementation, according to IDC research. UiPath is capable of automating nearly any application, interface, or API. In addition, it provides AI computer vision that can enable customers to expand their automation into some complex use cases, like point-of-sale systems, mainframe interfaces, and virtualized (Citrix) environments.
- **AI technology and governance:** UiPath serves enterprises that run automations in production. As such, it provides a trust layer to help ensure the security of automation and AI models and LLMs. In addition, UiPath is HIPAA compliant and FedRAMP certified.

- **UiPath offers a common IDE:** This serves both technical testers who want coded automation and business testers who want low- and no-code automation, and the two can be reused and coexist within the same workflow.
- **Established community and free training:** There are 3 million+ active participants — a network of experts, users, and partners for collaboration.
- **Collaborative, enterprisewide automation:** Organizations that standardize on UiPath benefit from reusable libraries, workforce flexibility, reduced training costs, reduced cost of automation operations, and reduced redundancy.

Previously, moving into 2H25, UiPath offered general availability of Autopilot for UiPath Test Suite. Specifically:

- **AI-Powered Test Generation:**
  - Evaluate requirements for clarity, completeness, and consistency.
  - Generate step-by-step manual tests from requirements, including documents and diagrams.
- **AI-Powered Test Automation:**
  - Generate coded or low-code test automation from any text, including manual test steps and code comments.
- **AI-Powered Test Insights:**
  - Generate real-time test insights without prebuilt reports, considering test execution results, execution logs, and so forth.
  - Note that UiPath offered additional Autopilot capabilities and launched UiPath Performance Testing.

In May 2025, UiPath announced its agentic automation strategy and the launch of Test Cloud, marking a significant step in integrating AI agents into software testing and process automation. The platform enabled collaborative workflows between people, robots, and AI agents, supported by orchestration tools like UiPath Maestro and customizable agent creation via Agent Builder. Autopilot for Testers enhances test design and execution, while the AI Trust Layer helps ensure governance and security. These capabilities align with IDC's view that agentic testing is essential for scaling AI initiatives and improving software quality. UiPath's approach supports end-to-end automation, flexible architecture, and reuse across enterprise environments, positioning the company to address growing demands for AI assurance and adaptive testing.

Overall, we see UiPath evolving its capabilities for ASQ and synergistic areas including AI at a rapid pace, and expect ongoing, significant growth and adoption as the benefits become clearer to a maturing customer and prospect base with growing demand for increased testing and software quality efficiency and execution moving into 2026.

User Reference Summaries

As context for the adoption of UiPath products, IDC spoke with several customer references, including a software simulation provider and a major bank.

Software Simulation Company Evolves Test Automation with UiPath

One of the companies with whom IDC spoke is a software simulation provider, specializing in industries such as aerospace and manufacturing, with approximately 7,000 employees and $3 billion in annual revenue. The interviewee leads global automation initiatives across IT, finance, legal, and other business functions.

Testing Challenges and Strategic Shift

Historically, this company relied heavily on manual testing across its business applications, including Salesforce, Oracle (finance), and HR systems. This approach created bottlenecks in speed, agility, and defect detection, particularly as the company transitioned to cloud-based development and frequent release cycles. Manual testing could not keep pace with development velocity, resulting in production issues and delayed feedback.

Adoption of UiPath

UiPath was introduced for process automation in 2015 and expanded into testing in recent years. After evaluating both open source and commercial test automation options, the company selected UiPath for its scalability, low-code capabilities, and alignment with functional and regression testing needs. Deployment began in February 2025, and by September, 155 test cases had been automated. Implementation was handled internally by a team of six contractors using a low-cost, offshore staffing model.

Testing Strategy and Implementation

The company focused on enabling manual testers to build their own automations rather than replacing them. Testing is distributed globally, with teams in Europe and India. The company purchased 30 testing licenses, 5 developer licenses, and 5 Test Manager licenses, with plans to expand to over 50 licenses. Total investment across UiPath product lines exceeded $1 million.

Agentic and Autonomous Testing Goals

The company is exploring agentic testing to reduce manual test case creation and improve development agility. It plans to leverage natural language processing and autonomous agents to create more straightforward test scenarios. There is also interest in expanding cloud testing and integrating AI for test generation and analysis.

DevOps and ALM Integration and Efficiencies

UiPath is integrated with Azure DevOps (ADO) for CI/CD pipelines and release automation. Regression testing is now performed for every release, improving coverage and reducing post-release defects. Manual regression testing previously took hours; now it is reduced to minutes per cycle.

The company avoided hiring additional manual testers, saving an estimated $300,000–$400,000 annually. Regression testing efficiency increased fourfold, with faster execution and earlier bug detection. Test execution time was reduced from 30 to 40 minutes per case to 5 to 10 minutes for full regression suites.

Automation efforts are managed under a center of excellence (COE), which reports to the VP of Business Applications and Transformation. The COE covers process automation, desktop governance, and monitoring.

The company recommends that peer organizations focus on process alignment rather than tool selection by itself. It is important to understand whether the goal is speed, coverage, and/or value and to choose tools that meet those needs; prioritization should be based on strategic fit and business objectives.

Bank Adoption of UiPath Testing Tools: GenAI and AI Agent Integration

Overview

An international bank with around 6,000 employees and about $2.6 billion in revenue has progressively adopted UiPath's testing capabilities, transitioning from traditional test automation to GenAI-enhanced testing and, more recently, agentic test automation. This evolution reflects a strategic shift toward increased efficiency, scalability, and alignment with business requirements, particularly for synthetic test data generation and test orchestration. Process change, leverage of governance, security, and human-in-the-loop (HITL) approaches supported this transition, which is being managed by the bank's center of excellence (COE).

Initial Challenges and Evaluation

The bank encountered reliability and usability issues with its portfolio system's user interface, where existing software testing tools failed to provide sufficient visibility or adaptability. The company was already using UiPath for RPA and intelligent process automation (IPA), and evaluated UiPath's testing tools, which offered improved UI recognition and resolution capabilities, enabling users to access and test previously obscured content. A trial license was initiated, followed by internal security approvals and cloud deployment.

GenAI Adoption

UiPath's GenAI capabilities enabled the bank to generate test steps and executable code directly from business requirements stored in Jira. This integration reduced manual effort and improved alignment between business and technical teams. GenAI was particularly effective in translating business language into test logic, automating test case creation from Jira inputs, and enhancing prompt efficiency through Copilot optimization, reducing AI unit consumption by ~50%.

Transition to Agentic Automation

The bank's agentic journey began with UiPath's Agent Builder and Maestro. Agents were designed to autonomously generate synthetic test data for its complex, core portfolio banking systems involving hundreds of relational tables. Key agentic capabilities included planning and executing multistep workflows, handling REST calls for entity creation, and escalating issues to business users via Jira, for HITL validation. This shift can enable engagement with business users directly — not merely testers and developers — to help manage test data quality, improving relevance and reducing latency in test cycles. The company's center of excellence (COE) is encouraging this direct collaboration with business stakeholders, who have subject matter expertise and context. The bank is now saving six to eight days per month when creating test data, as compared with its previous template-based approach, where the teams had to start from scratch each time and any changes required significant effort. This new agentic prompt-based strategy enables efficiency and flexibility. Another key advantage is a "shift left" approach, where developers use prompts to model test data early in the software life cycle, generating higher-quality code sooner and fewer failed test cases. Developers are now requesting test data early in the process since the system can provide test data assets. And business departments can order test cases with business data that are built centrally.

Infrastructure and Deployment

UiPath's cloud-based infrastructure helps facilitate secure, scalable deployment. The bank transitioned from Automation Cloud to Test Cloud, streamlining approvals and reducing onboarding time from one year to one month. Deployment of agents via Studio was described as "a matter of minutes," with centralized governance and version control support from UiPath. While the bank maintains an investment in legacy test cases, UiPath is used in a complementary fashion. UiPath's strengths lie in newer use cases, particularly those involving GenAI and agentic automation, according to company team members.

Organizational Enablement and Governance

The bank employs a structured enablement model: Developers submit use cases for agent licenses, use cases are evaluated for strategic fit and efficiency potential, and success stories are tracked to justify license expansion. This model helps ensure targeted investment and measurable outcomes, balancing cost and quality.

The deployment began with 12 licenses and has expanded to around 24 currently. Teams are geographically dispersed, with centralized testing and outreach to decentralized development hubs. The bank implemented KPIs to measure operational efficiency and quality improvements. Necessary cultural change accompanied the technical transformation, focusing on collaboration between developers and business users, treating stakeholders as customers, and fostering open innovation.

Challenges included limitations with on-prem LLMs, lengthy security approvals for cloud deployment, and the need to optimize prompts for cost and performance, which GenAI easily accomplished.

Benefits and Outcomes

- **Efficiency gains:** Agentic automation demonstrated productivity improvements by a factor of 100 compared with manual test case creation (and compared with a factor of 10 for GenAI).
- **Cost optimization:** Prompt refinement and AI unit management reduced operational costs.
- **Quality enhancement:** Early testing and business-driven validation improved defect detection and reduced rework.
- **Scalability:** Synthetic test data generation supported performance testing across distributed environments.
- **Cultural impact:** The initiative fostered open innovation, stakeholder engagement, and cross-functional collaboration with business stakeholders.

Key Products Used

- **UiPath Studio:** Cloud-based development environment
- **UiPath Maestro:** Business process orchestration
- **UiPath Test Manager:** Centralized test management and reporting
- **UiPath Test Cloud:** Secure cloud test execution environment
- **Agent Builder:** Agentic automation framework

Strategic Considerations

- **Shift-left enablement:** Testing is integrated early in the life cycle, including requirements and design phases.

- **Business alignment:** Agents can interact directly with business users and business logic, reducing translation errors.
- **Security and compliance:** SOC 2 and encryption standards were critical for cloud adoption.
- **Management:** Licensing tied to validated use cases and performance metrics helps support governance.

Advice to Peers and Forward-Looking Plans

The team advises peers to treat stakeholders as customers, maintain a clear strategy and passion, understand their company's differentiated value proposition and market position, remain flexible to respond to dynamic competitive change, and leverage AI to open out innovation.

The banking team plans to extend agentic testing into security testing and DevSecOps and to educate teams on prompt security risks. They aim to evolve toward an agent-driven testing ecosystem longer term, with appropriate HITL.

The bank also plans to evolve agentic automation beyond test data generation to broader business scenarios, including trading simulations and UI-driven workflows. Desired enhancements include deeper integration of agents with Test Manager, support of MCP interfaces, and expanded orchestration capabilities. Overall, the team has dramatically increased capacity and execution efficiency so far by leveraging agentic testing and workflow.

Challenges/Opportunities

Organizational and process change are the biggest barriers to adoption of test automation and effective software quality strategies, and the shift to AI and agentic testing involve new business and work models with digital agents combining with human staff. At the same time, the pressures to improve code quality and software deployment velocity and the obvious benefits to efficiency, cost savings, and speed of execution combine to increase engagement.

UiPath has significantly evolved its product capabilities over the past 12–18 months and has plans to push forward moving into 2026. At the same time, while the company's testing portfolio continues to rapidly evolve for ASQ and is expanded in key areas such as performance testing and AI, agentic, and ML capabilities, it relies on third-party and/or open source integration to provide capabilities such as application security testing. Similarly, though the need is pressing, testing for process automation and RPA for software testing itself is still evolving, and UiPath is differentiated as one of the only vendors in the market combining process automation tools, process automation

testing, and ASQ. In that context, market awareness is continuing to expand substantively, as enterprise adoption increases.

UiPath's open architecture is a key benefit, as are partner integrations in areas not yet addressed by the platform. We see additional investment and continued expansion of the UiPath ASQ portfolio.

UiPath is evolving its capabilities for agentic testing and agentic workflow, ASQ, and synergistic areas at a rapid pace. We expect ongoing, significant growth and adoption moving into 2026, with a maturing customer base and demand increases for software quality and testing to support high-velocity software releases.

ADVICE FOR THE TECHNOLOGY BUYER

Agentic testing and workflow, AI, and ML dynamically augment organizations' ability to deploy high-quality and functional software to their employees and customers with speed to drive business innovation and strong business results. Traditional testing processes have often generated friction in streamlining software development and delivery, especially as organizations establish hybrid infrastructures and more complex, interconnected IT environments. The need for more extensive and robust testing of new applications and features has run up against staffing limitations and challenges with ensuring quality using manual-based testing processes. As a result, more organizations have turned to AI and ML in conjunction with automated testing platforms to streamline, optimize, and improve software quality substantially. IDC research has observed the impact of direct testing efficiencies and efficiencies related to process automation driven by leverage of AI testing.

With effective governance, processes, and execution, benefits include efficiencies of scale, higher-quality applications and services, and improved business operations. Deep and intelligent automation of application testing means that less staff time is required for quality assurance and infrastructure management, while end users and customers can gain faster delivery and higher performance of new software. These kinds of benefits combine to create a compelling value proposition.

IDC recommends that organizations assess their current use of test automation tools in conjunction with AI, agents, workflows, and ML to evaluate providers and adopt automated software quality capabilities, moving from manual approaches to automated, continuous, and agentic testing and AI assurance (in conjunction with effective AI governance by design and appropriate HITL strategies).

LEARN MORE

Related Research

- *UiPath Launches Agentic Automation and Test Cloud, Leveraging Agentic Testing for AI Assurance and Optimization* (IDC #lcUS53549825, May 2025)
- *Worldwide Automated Software Quality Market Shares, 2024: Enabling Software Velocity with AI Assurance* (IDC #US52252525, June 2025)
- *Worldwide Automated Software Quality Forecast, 2025–2029: Enabling AI Assurance Drives Growth* (IDC #US52253025, June 2025)
- *Leveraging AI to Augment Automated Software Quality: Assessing Emerging AI Agents and Agentic Workflow* (IDC #US52787024, December 2024)
- *UiPath Evolves Portfolio for Agentic Automation Future with Governance and Quality Strategy at FORWARD Conference* (IDC #lcUS52767124, December 2024)

Synopsis

This IDC Perspective is one in a series of IDC studies that examine agentic testing and leverage of both AI and ML for automated software quality (ASQ) solutions, providing vendor analysis and customer reference context for technology adoption and end-user buyer decision-making. We discuss UiPath's agentic testing as part of its intelligent process automation (IPA) portfolio, including its most recent updates moving into 2026, following its earlier product launches. UiPath's overall positioning, breadth, and focused product capability position the company for meeting pressing user needs across the emerging AI and ML testing landscape. We discuss UiPath relative to trends in user adoption demand for combined agentic testing and scaled enterprise execution ranging from performance testing to business application and accessibility testing. We do so in the context of a volatile economy in unprecedented ways with tariffs, ongoing flexible work, geopolitical upheaval, and unpredictability evolving into 2026–2027. We also include a summary of customer references, including a software simulation provider and a global bank.

"IDC sees adoption of AI and ML for testing, including agentic testing for AI assurance, enabling dynamic execution for high-quality software, innovation, and adaptive responsiveness to dynamically changing environments," said Melinda Ballou, research director, AI Assurance, ALM, Quality, and Portfolio Strategies service, IDC. "Our 2025 research shows that around 91% of organizations are piloting, using, or expanding use of AI for software testing. Key areas of focus include test process improvement insights, visual testing, test case creation, root cause analysis, test prioritization, and synthetic test data. As code creation increases rapidly with the use of code assistants, the role played by agentic testing increases dramatically. It is in part due to these trends that

IDC has chosen to prioritize this area as one of several areas of focus for a series of end user–oriented updated vendor analysis that include customer summaries."

ABOUT IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

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