

Testing in The Age of Generative AI

A practical guide to choosing the right
platform for AI-powered continuous testing

Generative AI is here and will transform the way testing is done.

“Most teams utilize 5–10 disparate tools to test different technologies in an enterprise.”

GitLab's 2022 DevSecOps Global Survey



For decades, testing leaders have been striving to maximize automation coverage to boost testing effectiveness and ensure new features or changes don't impact business operations.

Unfortunately, most testing is still done manually, which is costly and slow. Reliance on manual testing leads to poor quality of production systems and/or slower release cycles.

This is why testing is perceived as the biggest bottleneck to delivering value to customers.

Many testing vendors, perhaps the ones you rely on, added new capabilities by acquisition and are burdened with a bucket of tools that are poorly integrated with different architectures—requiring customers to use different tools to test or automate different technologies.

These piecemeal “platforms” are not architected to infuse AI into their existing capabilities and will impede their ability to apply and react to new AI innovations.

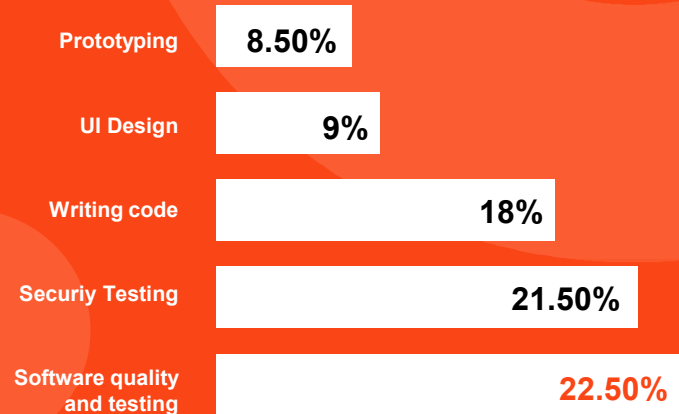
Why is now the time to modernize?

A recent IDC survey asked respondents which area of software delivery will benefit most from Generative AI—testing takes the lead, followed closely by security testing and code generation (see IDC Survey diagram).

You now have the potential to achieve what was once considered impossible: maximizing testing coverage, automating the majority of your testing portfolio, and elevating each of your testers to become the best tester they can be.

Efficient automated testing leads to faster release cycles, reduced risk of production issues, and ultimately faster time to deliver new customer value in the form of software.

IDC Survey: What application development process do you think has the most potential to benefit from Generative AI?



Source: IDC, Generative AI Offers Greatest Expected Developer Benefits to Software Quality and Testing Followed by App Security Testing, Doc :# US50999823, June 2023

Why is now the time to modernize?

Ready to get going? Here are some questions to get you started.

1 Does the platform meet your basic needs?

Does the platform cover the basics and provide the fundamental planning, automation, execution, and analysis capabilities for your team's unique needs?

2 Is the platform enterprise-ready?

Does the platform provide the enterprise capabilities to drive your scaling, reuse, compliance, and security needs?

3 Is the vendor an AI innovator?

Does the platform infuse AI and ML into their core capabilities with a security layer along with a robust roadmap and vision for responsibility?

Customer Challenge



Cushman & Wakefield experienced significant inefficiency and decreased benefits from their extraction platform due to delayed release of new features and frequent manual regression testing.

The Basics:

Can the platform meet your bottom-line needs?

Lifecycle and DevOps tool integrations

Does the platform integrate with your ALM, testing, continuous integration, and the rest of your DevOps toolchain?

Requirements management

Does the platform support creation or ingestion of requirements, with full traceability between defects, results, test cases, and requirements?

Test case management

Does the platform provide support for creating and managing test cases, including the ability to create logical test sets, order test cases, and create dynamic test sets?

SAP change impact analysis

Is the platform certified for SAP? Does it provide visualizations to understand the quality of SAP? Can testing be scoped to only test around changes introduced?

Test automation for all target software

Can the platform support every technology under test, including both what is being tested at present and any technologies that you plan to test in the future?

AI-assisted test data generation

Does the platform enable creation of synthetic test data using AI to generate more realistic data to test every variation and edge case?



Unified automation development environment

Does the platform support both technical and business testing roles with an IDE that enables the creation of coded or low-code automations that can be used interchangeably?

AI object recognition

Does the platform include AI capabilities with multi-anchor unified targeting to reduce maintenance and improve test execution reliability?

Enterprise-Ready:

Will the platform scale to address your evolving needs?

Reliable execution orchestration

Does the vendor provide the ability to execute automations in parallel with more advanced orchestration, like triggers, schedules, and CI/CD integrations?

Shareable component library and object repository

Can the automation components in the platform be shared in a library and used by other departments or teams?

Third-party certifications

Does the vendor/platform have certification that your organization requires or prefers? (Inclusive of partner endorsements, like SAP, and official certifications, like FedRamp)

Governance support

Does the platform meet your governance criteria? Does it include role-based permissions, access control, coding standards, and full audit trails?

Strong community and training

Does the platform have a strong user community? How many users and customers are engaged? Does the vendor offer any complementary training?

Migration and adoption services

Does the vendor offer competitive migrations? Can they migrate both test management and automation assets? Can the vendor provide references?

Cloud-first architecture

How often does the vendor release features? Do they offer on-premises or hybrid options?

Marketplace with prebuilt components

Does the vendor provide a marketplace of prebuilt components and accelerators? Are there components available that are relevant to your tech stack?



AI Innovator:

Is the vendor positioned to deliver AI features?

Test case generation

Does the vendor have working software to generate step-by-step test cases from requirements or other source documents?

Test automation generation

Does the vendor have working software to generate code from natural language comments, test steps, or other source documents?

AI-assisted results analysis

Does the vendor provide the ability to leverage Gen AI to assist in results analysis?

AI models

Can you host AI models in the platform? Do they provide templates? Can you bring your own models? Can they be easily trained?

Ability to customize AI/ML prompts

Does the vendor allow you to customize any codified prompts so that the prompt is more aligned to your organization's approach?

Interactive prompts and document ingestion

Does the vendor hard code prompts and output? Or do they allow you to freely interact with any prompts and feed the model any documents?

Dynamic AI roadmap

Does the vendor have a public roadmap that is dynamic yet achievable?

Strategy for responsible AI

What is the vendor's approach to safeguarding your proprietary data and models? Do they provide connectors for safely interfacing with popular LLMs?



Does the platform and vendor deliver results?

1 Reduced Risk?

Can the solution reduce the risk of introducing defects into production? By how much?

2 Reduced Cost?

Does the solution reduce the cost of testing? By how much?

3 Accelerated Continuous Delivery?

Does the solution ultimately improve time to market? How much faster?

Ask for success stories relevant to your industry, domain, or technology under test

Look at the vendor's track record for delivering test features on-time and in-scope

Investigate third-party recommendations, analyst reports, partner network, and peer review sites



UiPath supports every testing role in a unified environment

UiPath Test Suite, powered by the UiPath Business Automation Platform, provides an open, extensible platform that offers a unified experience for continuous testing with capabilities to assist every role.

Whether testing is your primary role, you're a developer who tests your code, or you're a business analyst who performs acceptance testing.



Analysts

Simplified acceptance testing and empowered to create low-code automations



Testers

Efficiently plan, automate and execute tests for new features and software releases



Developers

Unit test software with coded automations

Discover why UiPath Test Suite is the best choice for your team

UiPath is the only testing platform that offers AI-powered production-grade automation with Autopilot™ technology to make testing more efficient and rewarding. Users can continuously test virtually any technology, enabling teams to build automations more quickly, execute with precision, and proactively fix issues to keep business operations running smoothly.

Testing and QA doesn't have to be a cost center. Turn it into an enterprise-wide value driver for your business today.

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