UiPath®

Agentic automation

# 4 Steps for Busting Through Testing Bottlenecks

With enterprise-ready, production-grade automation, what slowed testing before will never slow it down again.



## Enterprise software is essential to a business' resilience and growth, and the drive to innovate has only increased the pressure to get software to market faster

## The question is: how?




DevOps, agile methodology, and CI/CD tools have emerged to facilitate the development process. From a testing perspective, however, delivering high-quality, adaptive software at record speed remains a challenge because little has changed on the technology front. The *World Quality Report 2021* cites "...respondents told us that around 15% of their testing was automated. Only 3% said they were automating 21% or more of their tests," which means that all the rest are executed manually. Here lies the bottleneck.

# Challenges:

- IDC cites the top bottlenecks for software delivery as[1]:
  - The need for business integration
  - Manual processes
  - Testing and quality assurance
- A lack of coordination between business teams, software development and quality teams, and DevOps teams impedes the high-speed delivery of quality software.
- The scarcity of automation hinders developer productivity, resulting in burnout and talent shortages.

**These challenges impact testing's ability to scale and keep pace with business demands. Fortunately, all these bottlenecks can be overcome with smarter and more powerful testing.**



**#1 bottleneck**

According to GitLab's *2021 DevSecOps Global Survey*, respondents pointed to testing as the primary reason for release delays.

# The solution: more intelligent testing

A new breed of artificial intelligence (AI)-powered test automation is fueling innovation, reducing the time it takes to release products to market, and exponentially increasing testing's ability to scale. This production-grade, low-code automation with AI achieved 90% automation rates, 80% reduced defects, and 3x faster release speed in enterprise production environments for companies, including Chipotle, Cisco, and USPS.

In this e-book, we'll explore the 4 steps to bust through bottlenecks. We'll share how employing digital testing with automated testing capabilities powered by AI can transform testing from a cost center to a value driver for your business.

**Chipotle, Cisco, and USPS used AI-powered automation to achieve**

**90%** automation rates

**80%** reduced defects

**3x** faster release speed



**“Agile and DevOps testing are now table stakes;** turning testing into smart testing is the next step.”

*The Forrester Wave™: Continuous Automation and Testing Services*, July 2021



# The 4 steps:

1. **Connect** Application Lifecycle Management (ALM) and consolidate your test management assets, such as test projects, cases, results, and defects.

2. **Migrate and automate** test automation assets in a reusable library and converge assets to one platform, reusing Robot Process Automation (RPA) or IT components when available.

3. **Maximize** test automation coverage with more resilient automation, freeing your testers for new opportunities. Make testing more targeted with process mining and task mining.

4. **Expand** your testing footprint with new value-added services, such as RPA, customer experience testing, employee experience testing, and progression testing.

**By exploring these steps further, you’ll have a better understanding of how to utilize testing more broadly in your enterprise and where to begin. Let’s look at each step more closely.**

Step 1

# Connect your ALM and consolidate your test management assets

Collecting reports from disparate tools can complicate status and release decisions. Testers need to consolidate ALM and test management assets into a single platform that will evolve and adapt to address current and future technology needs.

## How do you start?

- Integrate your testing management platform with more than 50 connectors to common lifecycle tools, including Jira, ServiceNow, Azure DevOps, SAP Solution Manager, qTest, Micro Focus ALM, Redmine, and more.

- Next, migrate your test assets over to your testing management platform, so your metadata is all in one place. This includes requirements, test plans, test cases, results, and more.

**According to IDC's *PaaSView and the Developer 2021 Survey*,** software developers listed the lack of automation as the biggest obstacle to achieving optimal productivity.



**RESULT**

## Streamlined and connected governance

Step 2

# Migrate and automate your test automation assets

Now it's time to build your automation library—a single repository for all test automation assets—that will ultimately be your foundation for automation. This shared repository of test automation assets—prebuilt, reusable components—can be used across RPA, IT, and application testing, and can gradually converge into one platform.

Reuse of automation components helps ensure the return on investment from your automations, because the more components are reused and improved, the more useful they become. With a shared repository of assets and a single platform, you'll have the ability to leverage assets and skills across RPA and testing teams, reduce cost by eliminating the need to maintain multiple systems, and combine forces to speed up delivery. In addition, you'll expand your automation potential, adding resilience to testing and simplifying what was previously tedious and complex.



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

GitLab's *2022 DevSecOps Global Survey*

# What to look for in an enterprise automation platform:

- Production-grade resilience and reliability
- An easy-to-learn, low-code development environment that can be used by technical and non-technical testers
- Prebuilt components or accelerators for technologies (like SAP) that speed up the automation of test cases
- Component libraries that enable the sharing and reuse of automations between test, RPA, and other teams leveraging the platform
- Migration services that can significantly accelerate consolidation efforts

**RESULT**



Build automations

**3-5x faster**

And experience

**5x faster testing and release cycles**

Step 3

# Maximize your test automation coverage

With your automation foundation established, you can now leverage synergies to maximize, optimize, and scale your testing practice. In this step, you'll set up your automation pipeline to run optimally for testing, making testing more targeted, and ultimately freeing testers to focus their energies on higher-value efforts. When you were doing things manually, you couldn't spend time on what really matters: resilient and durable test automation. Now you can. What's more, you can scale up to 90% (and even beyond).

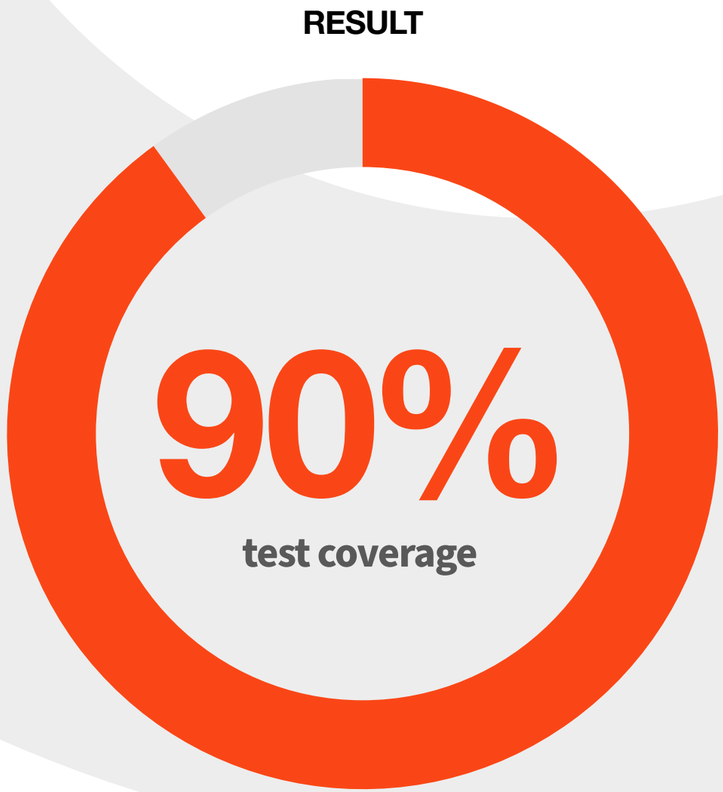


**"RPA + AI is evolving into test automation and improving RPA quality via test automation.**
Organizations can leverage synergies and benefit from using related, connected technologies in 2 different ways—using RPA for testing and testing RPA."

GitLab's *2022 DevSecOps Global Survey*

# Get your testing practice ready to scale

- Converge data, AI, and automation technologies, including RPA and testing, to drive cycle-time improvements. Converged automation between testing and RPA enables the reuse of components as well as the ability to share them across teams.
- By using process mining, which determines what to test, and task mining, which determines how to test it, you can identify the exact requirements and expected impact from a given improvement—increasing the accuracy, speed, and quality of each improvement.
- Refactor your DevOps strategies to include more automation, using AI to drive requirements and enabling greater use of low-code development to break through developer-capacity bottlenecks.
- Utilize task capture and digital assistants to handle tedious manual tasks and mundane test activities that further slow testing, including creating data, running reports, retrieving statuses, and setting up test environments.



Step 4

# Expand your testing footprint with new value-added services

With AI-powered automation, you can automate virtually any UI, API, or packaged application—think Salesforce, Zendesk, Microsoft Office 365, etc.—across desktop and mobile, including complex interfaces like mainframe and point of sale. This means that digital testing can impact critical business areas, such as customer and employee experience testing, RPA, and progression testing.

You can also scale your testing by running thousands of test cases in parallel, and you can further expand by testing automations and experiences. By using RPA for your business needs, testing your applications in your development space, and automating IT with complete environments and engaging in RPA at the same time, you can expand testing across your entire enterprise.

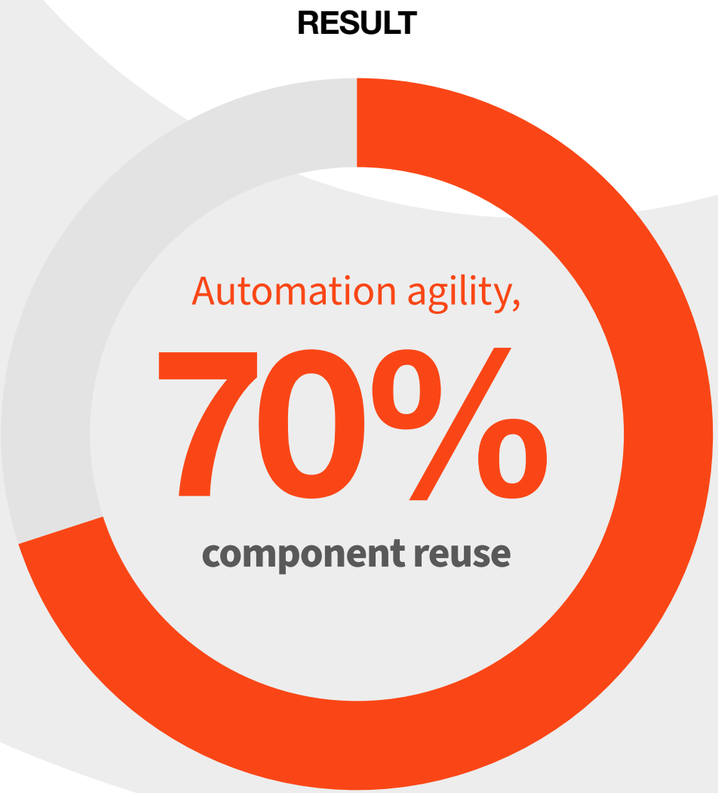


"As more depth is added to RPA,
**we are seeing an evolution in design that broadens focus, creating overlays across enterprise applications that simplify and transform how work is performed..."**

*Forrester IDC MarketScape*

# How testing adds business value:

- Process and task mining can be used for improvements that enable testing to better emulate how customers experience your business.
- By applying test automation (step 2) with RPA (step 3) on both modern and legacy applications, testers can expand testing to applications that were considered to have the potential to be automated and automate what was previously difficult and complex.
- Testers can apply their expertise in novel ways, supporting areas of the business they don't currently impact, such as testing a campaign plan for marketing holistically, or testing the end-to-end recruiting process for HR.
- Testers get closer to the business, supporting organizational goals and objectives. By consulting with various business units to deliver high-quality apps and experiences across the organization, they can drive success. You can eliminate disparate tools that can be automated or deprecated.
- Automation agility and resource flexibility enable enterprises to take on new challenges and respond to competitive and market shifts.



# What slowed testing down, won't slow it down ever again

Key challenges—like manual processes, testing and QA, and the need for business integration—can all be overcome with AI-powered automation and by using a universal automation platform. This brings together disparate teams for tighter alignment on business initiatives, while increasing efficiency and cost savings through shared tools and reusable component libraries. Optimizing with one platform exponentially increases the ability to scale testing across an organization. Which means greater resource agility for your business and improved quality and innovation.

Resilient test automation and easy-to-learn power tools help you automate seamlessly and liberate you from outdated legacy tools and manual tasks. Automations can be used across the enterprise to unlock new test capabilities. In addition, AI-powered automation gives you the ability to engage in continuous testing—anytime, anywhere, and in any form.



# Discover how UiPath Test Cloud can transform your QA processes

UiPath is the only testing platform that offers production-grade, low-code automation and AI-embedded tools to make testing more precise, efficient, and rewarding. Users can engage in both RPA testing and software application testing, enabling teams to build automations more quickly, test almost any kind of technology, and fix issues to keep businesses 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.

**Explore UiPath Test Cloud →**



## ABOUT UIPATH

UiPath develops AI technology that mirrors human intelligence with ever-increasing sophistication, transforming how businesses operate, innovate, and compete. The UiPath Platform™ accelerates the shift toward a new era of agentic automation—one where agents, robots, people, and models integrate seamlessly to drive autonomy and smarter decision-making.

Powered by the UiPath Platform™, UiPath Test Cloud augments testers with enterprise-ready, production-grade, test automation for 190+ technologies and AI agents for agentic testing—the next evolution of software testing.

For more information, visit **uipath.com**

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1. IDC, *Leveraging RPA and Software Quality Automation to Help Enable Application and Business Optimization*, May 2022.

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