

Successfully Scaling RPA with UiPath: A Test Automation Case Study



Client Profile

Our California-based client is a publicly traded, global leader in cloud infrastructure and business mobility. Since it was founded nearly 25 years ago, it has grown to 37,000+ employees in nearly 40 countries worldwide.

Business Challenge

The client's automation program was thriving – but its Center of Excellence (CoE) faced a common challenge.

Robotic Process Automation (RPA) is never a “set it and forget it” investment. The underlying applications, systems, and runtime environments in which it operates are constantly changing – and some of these changes will inevitably disrupt a robot's flow.

Since the client is a software company, **frequent application changes outside the CoE's control drove 60% of its RPA failures – risking frustration and loss of confidence from business teams.** The constant need for support **distracted developers from the innovation that drives business value** as well, triggering a gap between business expectations and CoE delivery.

Significant challenges also stemmed from **manual, time-consuming, error-prone testing processes** - making it difficult to quickly determine whether an RPA project fulfilled its requirements or if new features or break-fixes would impact software currently in production.

All these factors created a stressful environment for RPA developers, **risking impact to retention and job satisfaction amidst a severe talent shortage.**

The client sought a solution that achieved 5 key objectives:

- **Transition from Reactive to Proactive Maintenance.** The client's busy IT Department generally failed to notify the CoE about upcoming application changes. That left RPA teams in crisis mode as they scrambled to minimize business impact and restore functionality when automated business processes suddenly stopped working.
- **Improve Automation Uptimes.** Without a proactive strategy, 45% of companies suffer bot breakages weekly or more often. Constant break-fix cycles impact costs, productivity, and customer service. They eat into ROI and broader business objectives. They also cause organizational confidence to wane.
- **Ensure RPA Quality.** Proactively surfacing issues that can cause robots to break – and ensuring quality before new automation goes live - creates resilient, compliant, and high-performing robots.
- **Increase Deployment Speed & Confidence.** Traditional, manual software testing is a tedious endeavor. More than 1 in 3 developers cite insufficient testing time as the leading cause of software project failures as time constraints force focus toward task completion instead of test coverage or quality. The client wanted fast, structured, and accurate reassurance that projects fulfill their requirements.
- **Boost Retention & Job Satisfaction.** Testing automation and automation support rank among RPA developers' most-hated tasks – involving repetitive, stressful, and undervalued work. Amidst the severe talent shortage, the client aimed to mitigate turnover by eliminating work that prevents developers from focusing on the innovation they enjoy.



Solution & Approach

Auxis partnered with the client to implement two innovations: automated testing through UiPath Test Suite and a CI/CD (Continuous Integration/Continuous Development) pipeline.

UiPath's Test Suite stands out in the test automation market with a complete suite of functional testing tools bundled into a single platform. It empowers test teams with everything they need to manage, automate, distribute, and execute their work.

A CI/CD pipeline is an agile DevOps workflow focused on creating a more frequent and reliable software delivery process. Since the methodology is iterative instead of linear, it allows developers to write code, integrate it, run tests, deliver releases, and deploy software changes collaboratively and in real time.

By combining this best-in-class software testing practice with the world's leading RPA technology, Auxis enabled rapid, reliable, continuous, automated testing of robots - helping the client's CoE proactively fix problems before they impact the business.

Phase 1: UiPath Test Suite

UiPath's Test Suite is purpose-built to support continuous testing in the development cycle. It enabled Auxis to **boost quality and release velocity** by integrating fully automated, end-to-end testing of complete automations directly into a CI/CD pipeline.

The automated tool maps tests to requirements, manages test cases, organizes scripts, executes tests, captures and reports results, and tracks defects. The test robots function as a digital test team: alerting the CoE and taking a screenshot so it can proactively fix problems.

Highlights include:

- ▶ **Identifying and developing data-driven test cases** for the client's core automations. Auxis also identified another 100+ test scenarios and developed test cases.
- ▶ **Configuring test robots and related test sets.**
- ▶ **Enabling repeatable testing.** Test teams can write test scripts once but re-execute them over and over – effortlessly running tests after every update. Teams also share a centralized library of automations and test cases.
- ▶ **Minimizing surprise application changes** by securing access to refreshed lower environments from IT for proactively testing core automations.
- ▶ **Ensuring testing covers every activity robots perform** through Test Suite's Activity Coverage analytics panel.
- ▶ **Maximizing control with manual and automated test execution.** Test cases can be grouped into test sets that are executed manually or on-demand, set to a specific schedule, or triggered when a continuous integration tool like Jenkins detects something new in a dependent application.



Phase 2: CI/CD pipeline

Incorporating market-leading DevOps tools like GitLab and Jenkins, Auxis designed and implemented a full CI/CD pipeline that enables automatic testing and deployment. That included **setting up CI/CD servers with necessary configurations** to UiPath Orchestrator servers, code repositories, and other required tools.

As software changes progress through the pipeline, test automation identifies dependencies and other issues earlier and pushes code changes to other environments. The CI/CD pipeline has **6 key phases**:

1. Code validation
2. Packaging of the project
3. Deploying into a staging environment
4. Testing
5. Approval for production
6. Production

Highlights include:










- **Adding the CI/CD pipeline to 250+ client projects.**
- **Automation looks for new versions of code every 10 minutes.**
- **Automation takes over the tedious process of preparing reports and code reviews**, which nearly 80% of RPA developers either hate or simply don't perform.
- **Automation speeds release velocity** by alleviating change management duties like creating assets and queues in the Orchestrator that manages the robot fleet.
- **Approved releases are easily deployed to on-premises or cloud environments.**
- **Testing is optional**; the CoE can trigger test robots as needed.
- **Additional quality assurance** stems from multiple approval steps. For instance, support teams can provide final approval when necessary.

At the end of the project, Auxis led a **robust knowledge transfer process**. By providing documentation and training on the CI/CD approach and test automation, Auxis delivered the tools the CoE needed to deliver more frequent, reliable code changes successfully.



Results

By implementing test automation and the CI/CD pipeline, **Auxis gave the client greater speed, quality, and confidence in its automation release, helping it scale RPA sustainably.**

-  **96% error rate reduction.**
-  **100% code review**, ensuring every requirement is fully tested before deployment.
-  **15% increased speed to production.**
-  **Up to 60% testing time reduction.** Faster testing also enables comprehensive testing of the entire solution - not just a part that required fixing - so adjustments don't trigger other problems.
-  **Improved quality and customer experience**, ensuring break-fixes don't accidentally break something else.
-  **Instant understanding of release status**, resolving defects faster.
-  **CoE teams can proactively identify incidents** by organizing tests and executing them continuously or on demand.
-  **Increased organizational trust** gained by proactively informing business teams about issues and resolution – often before they even realize there is a problem. With greater trust, stakeholders allow the CoE to automate more complex, end-to-end processes.
-  **A solid foundation for taking the company's RPA journey to the next level** by investing in advanced automation opportunities. For instance, the client to unlock opportunities that rules-based RPA cannot automate by incorporating more machine learning and AI models into automation.

