



CASE STUDY

3 Story Software Creates Tests 2X Faster With AI-Driven API Test Automation



Overview

3 Story Software (3SS) creates vendor and workforce management software solutions for businesses. With headquarters in New Milford, Connecticut, and large development and research quality assurance (RQA) teams located in India, 3 Story Software solutions help the following types of businesses manage their workforces end to end:

- » Managed service providers (MSPs)
- » Staffing companies
- » Procurement and HR



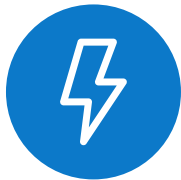
Industry:
Software

Company Size:
50

Location:
New Milford, CT

Solution:
dotTEST, SOAtest

Key Results



2X faster test generation with AI and automation



Up to 90% time savings—automated test execution vs. manual



Find and fix bugs early, before code freeze



The Challenges

The solutions that 3SS offer its partners are simple to use. However, they're complex to develop and test primarily due to the flexible configuration and customization options.

Their partners' needs vary drastically. Some request basic services, while others require custom software configuration along with end-to-end service management. In practice, this means one partner may see 14 fields on a particular page, while another sees 30 fields. All of these fields connect to business logic within the API layer, which requires thorough testing to ensure it will work for every partner.

Each 3SS partner uses the software to serve their own clients. They run 3SS's software on their own systems and provide services to their clients, who come with unique needs for configuration and customization, adding complexity to the software that 3SS is responsible for testing.

All these elements add up to a system that can be incredibly complex to test comprehensively.

3SS had a manual regression testing process in place. They would test most of the functionality after code freeze—right before a release. Testing each workflow would take about 45 minutes. This compression of time to find and fix defects was unsustainable. The team sought to modernize their testing practices.



The Approach

The 3SS QA teams must verify every workflow and feature to prevent new updates from breaking existing functionality. The answer? Automating regression testing for their standard and custom workflows—scalable for all 150 partners around the world.

The teams first attempted to automate regression testing using Selenium. They quickly recognized that the approach wouldn't scale. Due to the heavy customization available in their software, testing all possible workflow and data combinations with a UI testing approach would take a very long time.

3SS already used Parasoft's static code analysis solution, dotTEST, for their .NET development projects. Knowing Parasoft offered more automated testing solutions, they reached out for help scaling regression testing.

The Solution

When the 3SS QA teams discovered the concept of lean UI testing, they selected Parasoft SOAtest. “We chose Parasoft’s AI-optimized regression testing to do more—faster. It gives us an AI teammate that converts recorded end-to-end web scenarios into highly repeatable and scalable end-to-end API tests,” said Narender Kumar, senior software test engineer at 3SS.

Due to the nature of 3SS’s software architecture, the frontend makes calls to APIs where all the business logic sits. 3SS recognized that testing the business logic directly at the API layer—with an end-to-end scope like UI testing—would significantly improve efficiency. This approach enabled the team to run thorough regression tests within each sprint, eliminating the need to manually verify functionality at the end of the release cycle.



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—Narender Kumar, senior software test engineer at 3SS

Their development and testing teams push a build with new features every month, and those new features have the potential to affect any of the existing features.

Given their release cadence, and the fact that it takes eight to nine hours to prepare a test environment for a given partner configuration, the team now relies on automation to ensure that workflows are tested quickly and efficiently.

Unlike having to write and maintain code with Selenium, 3SS found SOAtest’s no/low-code interface easy to use.

The Results

SOAtest’s AI-based Smart API Test Generator takes the lion’s share of the heavy lifting when it comes to configuring the long chain of API calls that represent the end-to-end workflow the 3SS team records from the browser.



“After automating with SOAtest’s AI-driven Smart API Test Generator, we create new workflow tests through recording, and it only takes about 15 to 20 minutes each—that’s two times faster with automation and AI. We consistently add 25 to 30 new tests to our regression suite in each sprint.”

— Prashant Kumar, QA lead and associate test lead at 3SS

“When our team was testing a workflow manually, it would take 30 to 45 minutes. After automating with SOAtest’s AI-driven Smart API Test Generator, we create new workflow tests through recording, and it only takes about 15 to 20 minutes each—that’s two times faster with automation and AI. We consistently add 25 to 30 new tests to our regression suite in each sprint,” said Prashant Kumar, QA lead and associate test lead.

3SS’ test execution for each workflow averages two to five minutes with SOAtest. As a result, the team can run a growing suite of automated regression tests daily. This creates a shift-left testing workflow—they find regressions early and get fast feedback to development to fix issues before the time crunch at code freeze.

In summary, the 3SS team can do the following with Parasoft’s AI-driven SOAtest:

- » **Create new workflow tests 2Xs faster** with automation and AI.
- » **Execute tests in 2-5 minutes** with automation versus 45 minutes manually.
- » **Find and fix regressions early**—before code freeze.

The powerful combination of automation, AI, and shifting testing left to find issues early has 3SS on a firm continuous quality path.

Take the Next Step

[Request a demo](#) to see how your team can create tests faster with AI-driven API test automation.

About Parasoft

Parasoft helps organizations continuously deliver high-quality software with its AI-powered software testing platform and automated test solutions. Supporting the embedded, enterprise, and IoT markets, Parasoft's proven technologies reduce the time, effort, and cost of delivering secure, reliable, and compliant software by integrating everything from deep code analysis and unit testing to web UI and API testing, plus service virtualization and complete code coverage, into the delivery pipeline. Bringing all this together, Parasoft's award-winning reporting and analytics dashboard provides a centralized view of quality, enabling organizations to deliver with confidence and succeed in today's most strategic ecosystems and development initiatives—security, safety-critical, Agile, DevOps, and continuous testing.