PARASOFT®

CASE STUDY

ING Mortgages Doubles Release Frequency & Slashes Outages by Over 90% With Service Virtualization

Overview

ING Mortgages is a top-three European mortgage lender. Their DevOps engineering team is responsible for operating and evolving the mortgage processing system, which handles legally sensitive workflow logic, contract creation, and money movement.

ING

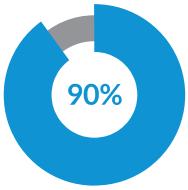
Industry:
Financial

Company Size:
63,000

Location:
Amsterdam, Netherlands

Solution:
Virtualize

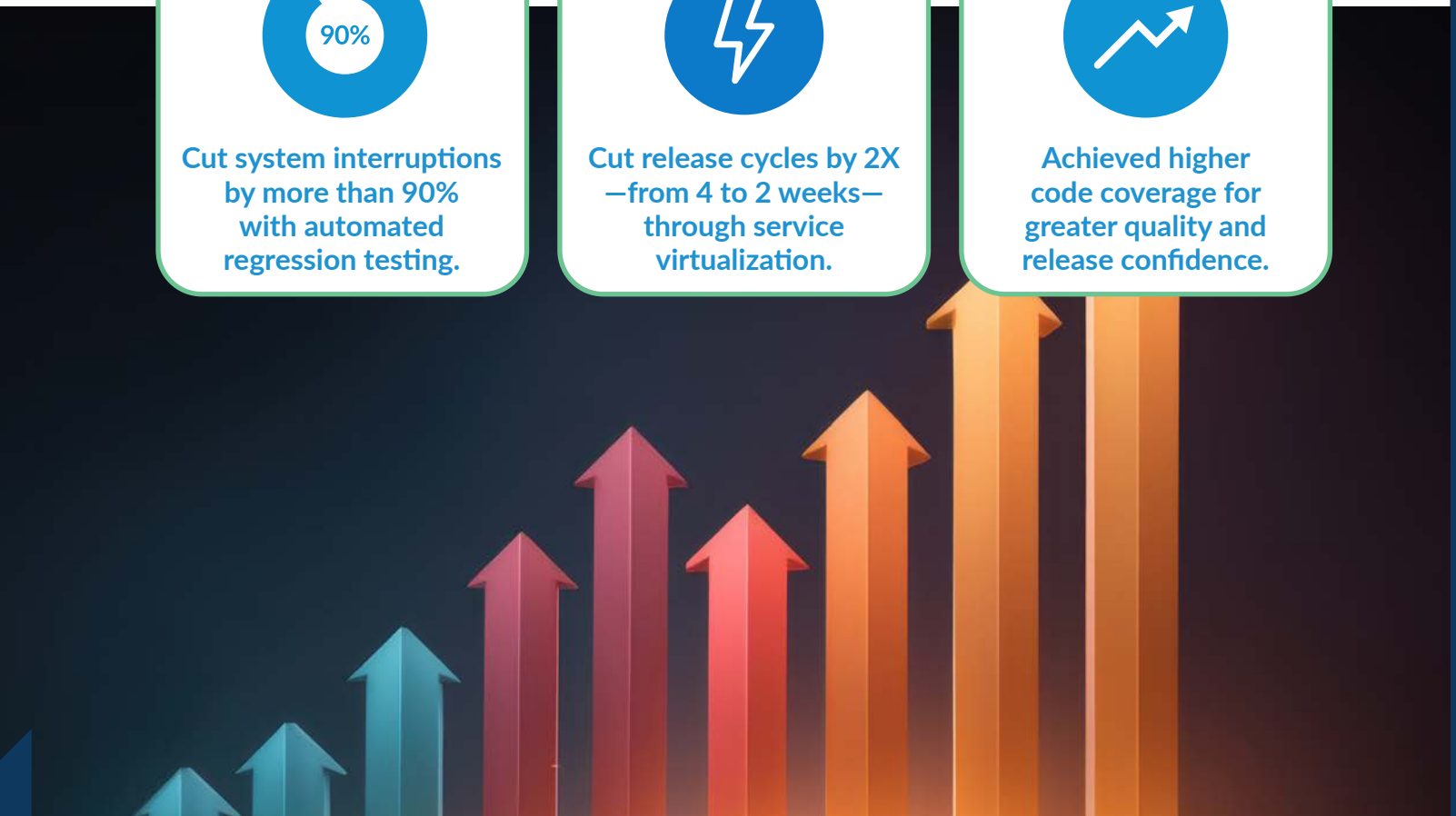
Key Results



Cut system interruptions by more than 90% with automated regression testing.

Cut release cycles by 2X —from 4 to 2 weeks— through service virtualization.

Achieved higher code coverage for greater quality and release confidence.



The Challenges

For the DevOps engineering team, software quality is nonnegotiable. Working in a highly integrated, shared environment, they faced real-world testing constraints. Any error could have significant consequences, especially when running complex end-to-end scenarios where they often lacked consistent access or control over the components they needed to test against.

Operating in an Agile environment with a goal of bi-weekly software releases, the team encountered major testing bottlenecks. Their primary challenges were:

- **Dependency on external teams.** The mortgage application relied on numerous APIs owned by other teams, who were constantly updating their own systems. This made it incredibly difficult to align on the availability of a stable, shared test environment and the data inside.
- **Unreliable test environments.** The team spent significant time waiting for dependent systems to be available and configured correctly. This waiting game directly impacted development cycles and release timelines.
- **Testing in a black box with complex workflows.** The core mortgage application is a third-party product, meaning the team has to test it as a black box. They couldn't look inside, yet it had to be connected to all the interfaces it relied on. Highly state-dependent, the application required end-to-end testing of the entire workflow rather than individual interfaces. Simulating these complex, stateful interactions with an unstable environment was nearly impossible.
- **Low test coverage and release confidence.** Environmental constraints made it difficult to cover all necessary test scenarios, leading to lower confidence in the quality of their releases.

The Approach

The DevOps engineering team at ING Mortgages recognized that to achieve their goal of faster, more frequent releases, they had to eliminate their dependency on external, unreliable systems.

The team wanted a solution that would allow them to simulate the dependent APIs, bringing those critical interfaces under their control for testing purposes. Specifically, they needed a solution that would enable them to:

- Create virtual representations of the APIs that their application depended on.
- Control the version and behavior of those virtual services.
- Integrate the virtual services into their development and testing pipeline to enable continuous, reliable testing.

The Solution

With their complex integrated environments top of mind, the DevOps engineering team turned to service virtualization to boost quality and reduce delays. After evaluating their options, they adopted Parasoft Virtualize.

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The team integrated Virtualize into their Azure DevOps release pipeline, enabling them to create virtual services that mimicked the behavior of real, dependent APIs. This fundamentally changed their testing process by:

- **Decoupling the team.** They no longer needed to coordinate with other teams to secure testing windows. The virtual services are now always up and running in their own environment.
- **Enabling self-service testing.** The team can manage the version and state of the virtual services themselves, ensuring they continuously have the exact setup required for their test scenarios.

- **Supporting complex workflows.** They can build virtual services sophisticated enough to simulate the stateful, end-to-end workflow of their mortgage application, something that was extremely challenging with the shared, unreliable test environments.
- **Facilitating early testing.** With virtual services, the team can include an experimental phase for new API releases. They introduce new elements into the virtual service and immediately see how their mortgage application would respond, long before the real API is available.
- **Ensuring stable regression testing.** Service virtualization minimized test failures caused by environmental instability or access constraints, leading to more stable regression test runs and more reliable testing results

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The Results

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Adopting service virtualization with Parasoft transformed how ING Mortgages delivers software—accelerating releases, improving quality, and giving the team back control of their testing process.

With Parasoft, the DevOps engineering team now detects issues at an early stage, shifting testing left. Here are the benefits they've experienced:

- **Less manual testing.** Solid regression cases paired with virtual services replaced time-consuming manual efforts, making automated testing faster and more reliable.

- **Faster release cycles.** The team doubled their release frequency, moving from monthly to bi-weekly deployments.
- **Higher code quality.** Production interruptions dropped dramatically—from dozens of incidents per year to just a couple.
- **Greater release confidence.** With control over test data and dependencies, regression tests now achieve much higher code coverage. The team trusts their releases before they hit production.

"Virtualize improves the quality so much. I feel more confident in our environment because we can rely on the mocks to always be up. We always have access to the environment we need to test—when and where we want to test it," said de Nijs.

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At a Glance

Before Virtualize

- Monthly releases
- Dozens of annual interruptions
- Dependent on external teams
- Unstable test environments

After Virtualize

- Bi-weekly releases
- A couple annual interruptions
- Self-service testing
- Always-available virtual services

Take the Next Step

Request a demo to see how your dev team can accelerate releases and increase code quality.

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.