



## CASE STUDY

# ING Accelerates Application Delivery With Service Virtualization

## OVERVIEW

Financial services are dynamic. They involve multiple channels and a broad span of technologies — both legacy and modern — working together under strict regulations. Delivering high-quality applications to the lines of business requires testing software early and often. The test environment usually involves a complex array of dependencies and integrations of data and interfaces.

ING Mortgages Netherlands needed to approach software testing with new methods. Herminio Vazquez, an [IOVIO](#) consultant, worked with the ING Mortgages Netherlands tribe to help modernize the delivery of their finance applications by taking full control of their test environments with service virtualization.

### REDUCED COMPLEXITY

**60%**  
of mortgage ecosystem  
testable with simulation

### FASTER TESTING

**ELIMINATED  
DEPENDENCIES**  
with containerized services

### MANAGED COSTS

**1 DAY TEST**  
reduced from 5 days





## THE CHALLENGES

ING Mortgages has a complex and heavily integrated enterprise environment. They were accelerating releases for a quicker time-to-market to deliver richer customer experiences with more features, extended capabilities, and seamless journeys.

It was time for ING Mortgages to explore their approach to testing and prevent defects from sneaking into production. The development and testing teams faced a number of obstacles in their efforts to modernize.

- » Testing and completing testing cycles was time consuming.
- » Managing the complex data and testing environments became increasingly difficult.
- » Receiving misinformation during testing when the legacy system was unavailable led to unduly accepting errors and failures in the regression suites.
- » Stakeholders who saw no perceivable value wouldn't commit to test improvements – even with personalization and quality being the main drivers for adoption in today's competitive economy.
- » Downtime affected the implementation of their testing solutions during the early adoption and transition phase of a cloud vendor.

## THE APPROACH

IOVIO and ING Mortgages went beyond common technology methods in their search for continuous testing solutions. They took a holistic approach to define what was required to continuously test at speed. They tackled the implementation of continuous testing by examining seven different testing elements.

### ENVIRONMENTS

Making environments disposable and not essential empowered ING Mortgages to run tests at any given time. They accomplished this by leveraging service virtualization to simulate and stabilize their test environments.

### SCHEDULING

There's no timesheet for testing. It's continuous. This concept wasn't easy to implement. Oftentimes, development teams associate certain activities with certain time frames. For example, running regression test suites overnight. ING Mortgages is accomplishing this by isolating testing environments through containerization and self-provisioning data.





## SCOPE

Creating a virtualization matrix helped the team succeed. They specified the elements and interfaces in their complex data landscape that would deliver the highest value and the most credibility when presenting the continuous testing solution to the business. The team baselined virtualization activities by specifying the batches of time they were saving within each individual implementation of services.

## PROCESS

Parallel streams of work became the new norm. With it came the ability for everyone and everything to work seamlessly without disruptions. Everyone can access early releases or beta versions of software without being stuck in the Dev-Test-Acceptance-Production cycle.

To tackle processes, the team started by implementing automated testing solutions in smaller environments and took service proxies into consideration. Service utilization enabled them to implement these solutions and provided support in this area.

## PEOPLE

Empowering the team by getting them involved and using their expertise boosted ING Mortgages' continuous testing journey. Their collective work helped remove technical roadblocks in the implementation.

## DATA

The goal was to produce data at lower cost and in a reasonable amount of time so that testing activities weren't influenced by this dependency. For regression test suites, a core set of data was a viable solution to reduce preparation time and move testing activities at a rapid pace.

Consolidating such a data set was the result of minimizing and modularizing areas of the application, while also limiting data requirements for specific business scenarios. They thought about their team as a producer rather than a consumer of data.

The production of large data sets might be time consuming or not feasible for some teams. It's helpful to reduce the scope of the data requirements according to the minimum requirements of interfaces or systems of record. The quality of data sets influences the quality of test results. And it's through test results that teams build confidence, knowledge, and trust.

## TRUST

The final element in IOVIO and ING Mortgages' strategic approach was to build trust with the stakeholders. With competitive advantage and high quality at top of mind, their goal was to guide the stakeholders to deposit their trust in the solution and technology they were implementing.

ING Mortgages became truly digital and presented information like risk policies as an algorithm. They came up with a basic formula:

**Risk = Impact x Probability.**

## THE RESULTS

ING Mortgages took full control of their test environments with the Parasoft service virtualization solution, which made faster test delivery possible. Speed, simplicity, and environment costs complemented the traditional risk-based and test coverage driving factors.

IOVIO together with Parasoft brought those concepts alive for ING in their Mortgages tribe. They consolidated a solution that containerized services and made 60% of the complex mortgage ecosystem testable – in complete isolation with data dependencies and environments in full control.

ING achieved both business and technical goals with virtualization, including:

- » Addressing the inability to test in the existing environment.
- » Expanding capabilities to facilitate and accelerate testing.
- » Establishing change control and dependency management.

Using service virtualization, they increased control, reduced complexity, and managed costs for the testing environment, while enabling effective change management. [Parasoft Virtualize](#) helped ING Mortgages deliver tests faster. They reduced test preparation and execution time from five days to one day.

With service virtualization, ING Mortgages is able to:

- » Save time without compromising quality.
- » Maintain lead environments.
- » Put data at the heart of their test strategy.

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## TAKE THE NEXT STEP

Find out how to choose the right service virtualization solution for your organization. [Download the whitepaper.](#)

### ABOUT PARASOFT

[Parasoft](#) helps organizations continuously deliver quality software with its market-proven, integrated suite of automated software testing tools. Supporting the embedded, enterprise, and IoT markets, Parasoft's 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 delivers a centralized view of quality enabling organizations to deliver with confidence and succeed in today's most strategic ecosystems and development initiatives — cybersecure, safety-critical, agile, DevOps, and continuous testing.