

INFOSYS FIX EXCHANGE SIMULATOR

In the dynamic world of investment banking and wealth management, staying competitive hinges on speed and innovation. Organizations are increasingly turning to agile and DevOps methodologies to fast-track feature deployment. To ensure that the new features are reliable and meet market demands, it is critical to deploy automation and the right support tools that can streamline testing and eliminate delays.

The Financial Information eXchange (FIX) Exchange Simulator is a cutting-edge solution for front and middle office application testing. By simulating FIX protocol responses using scenarios, it accelerates testing across teams and applications, enabling confident and efficient deployment of features.

To optimize continuous testing and continuous integration, financial institutions need a solution that offers flexible testing,

supports different FIX versions, handles multiple systems as well as tests concurrently, and supports automated and manual testing. The FIX Exchange Simulator with its platform-independent design and user-friendly configuration, is the ideal solution for banks looking to accelerate their testing process.

Simulators built into the application enable quick unit testing. However, they have limitations in front-to-back (F2B) testing. These include their inability to test market-facing interfaces, limited response flexibility and reusability, dependency on the tested application, and minimal support for complex scenarios. In such cases, automation frameworks offer comprehensive testing capabilities primarily for automated tests. But they require separate application interface development, adding unnecessary complexity to the automated tests.

The Infosys Solution

Infosys FIX Exchange Simulator is an adaptable and application-independent simulator, an all-in-one solution that addresses existing challenges with its exceptional capabilities. It supports concurrent connections from various sessions on different FIX versions, making the solution versatile across applications and environments.

Some of the characteristics of Infosys FIX Exchange Simulator include:

- Increased speed and efficiency by overcoming test exchange unavailability and extended testing hours
- Predictable responses and mastery over complex scenario simulation
- Reduced reliance on the application under test to mock responses by allowing it to interact with an external exchange
- Unified testing approach across multiple applications and automation frameworks
- Simplification of automation framework
- Enabled synchronized automation and manual testing in the same environment

Key Features

Infosys FIX Exchange Simulator boosts test automation framework efficiency through response consistency, exposing received messages for further validation and simulating complex scenarios. It enables accurate control over responses using multiple levels of simulation with high-performance exchange simulation. It includes the following key features:

- Operates as a stand-alone exchange simulator, enabling concurrent and independent connection of multiple systems

using different FIX versions, with 24/7 cross-geo testing in various environments including development, quality assurance (QA), pre-production, and user acceptance testing (UAT).

- Allows custom FIX messages, support for repeating groups, incorrect messages and race scenarios for positive and negative testing.
- Offers a 5-mode response simulation – a simulator level global default response, a FIX session level response (useful for load tests), a rule-based configurable XML file editable in real-time, rest-API and web UI to send real-time response and the ability to inject a custom-built FIX response.
- Reliable and predictable responses avoid continuous test failures due to downstream issues and ensure smooth CI/CD pipelines.
- Facilitates concurrent manual and automated testing, avoiding interference. Both automation tests and manual tests can simulate required response via rest-API or web-UI respectively.
- Integrates with multiple automation frameworks, allowing parallel and independent testing of order management systems, smart routers, algorithmic engines and allocation and booking scenarios with ease.
- Allows user to switch between the flexibility of (a) real-time response (via xml lookup or web UI) and (b) lower latency response, with a default session-level toggle.

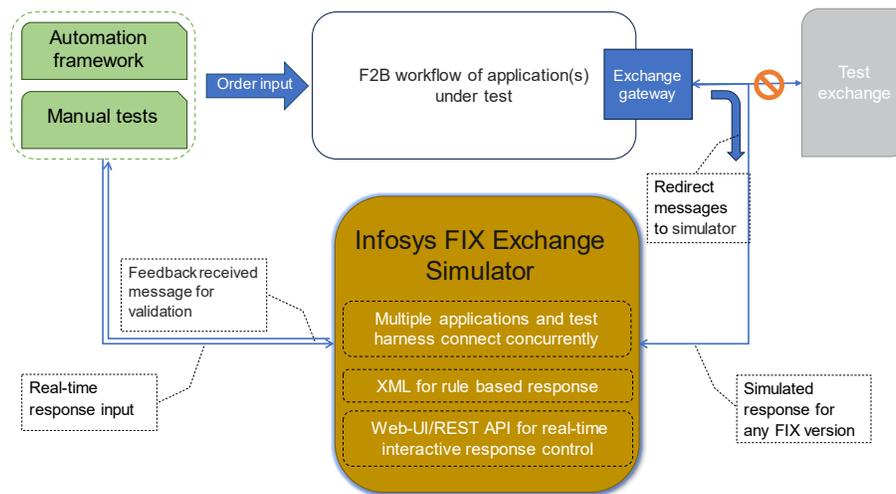


Fig 1: Infossys FIX Exchange Simulator substitutes a test exchange

Benefits

Fast-track time-to-market

- Shortens test cycles by 25% through increased exchange availability
- Enables continuous testing of F2B systems
- Reduces regression test time by 50% through overnight runs
- Allows both automation frameworks and manual testers to work at the same time on different use cases without switching connections

Enhance the quality of testing

- Improves the quality of automation scripts by allowing automation frameworks to validate messages sent by the application under test to the exchange, enabling zero-defect milestones for production release
- Elevates manual testing efficiency by eliminating trial and error
- Enhances response predictability for CI/CD, reducing the time required to investigate test failures after each run

- Enables simulation of complex test scenarios like out of sequence message handling, custom tag mapping or defaulting and unpredictable algorithmic order slicing

Reduce maintenance costs

- Provides a single unified solution for multiple systems/ applications, treating applications as a black box and reducing the hidden costs of maintaining multiple ad-hoc solutions
- Reduced reliance on system under test (for providing stubs or logging in a specific format to enable parsing)
- Simplify automation frameworks by allowing it to keep to message injection and assertion without complex code to handle unpredictable response or to simulate a response
- Reduced skill requirements for building automation tests

Why Choose Infossys

Infossys FIX Exchange Simulator offers a unified, flexible, and reliable interface for various test scenarios, strengthening FIX testing requirements across all systems of an organization. Our purpose-built solution addresses time-consuming development and testing issues to enhance productivity, shorten the software development lifecycle (SDLC), and speed up the time-to-market for changes.

The key advantage of the Infossys FIX Exchange Simulator is smoother testing with lower downtime and failure rates. By reducing inconsistencies in the lower environments, it ensures higher consistency and reliability in testing, ultimately helping businesses achieve their goals efficiently and effectively.

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