



Customer Success Story

Sabre is the world's largest provider of airline and hotel technology, used by more than a billion people around the world. Their systems must work 24 hours a day, every day, processing more than 60,000 transactions per second at peak demand.

THE CHALLENGE

To transition Sabre's core software systems from its historic proprietary base to services exposed as APIs, the company encountered new challenges. Its software systems require high reliability and availability, and the new APIs would need to meet those standards.

THE SOLUTION

Sabre used Parasoft SOAtest to support implementation of an automated web services testing process. By using SOAtest, Sabre has been able to achieve the test coverage and repeatability necessary to ensure that its services consistently meet its high reliability and availability standards.

API Testing at Sabre

To reduce operational costs, improve flexibility to meet changing business requirements, and to provide simplified automated access to its travel services, Sabre found it needed to move off the historic proprietary architecture its systems were based on, and migrate to an open standard's based architecture. Sabre® Web services (SWS) was created as a result.

The move to APIs presented new challenges to Sabre's software testing infrastructure. The new architecture would continue to support the same global 24 x 7, high transaction volume required by its businesses with the same 99.999% expectation for availability and reliability that had come to be expected from its mainframes. Interaction with third party services would require the means to test interoperability between those services and appropriately simulate often-complex transactions across the multiple services representative of the business processes that would be transacted by them.

Under the new architecture, dozens of services needed to be developed and

deployed. Each travel services provider (such as SNCF, the French railway network, or British Airways) and each current or future travel partner required a dedicated service, each one of these services requiring testing to ensure it supports the reliability and availability goals and meets core functionality requirements.

In production, the lack of availability of a service at any time could result in significant losses to important companies in the transportation industry, so the procedures the company initiated to test SWS quality and reliability had to be thorough and 100% accurate.

As Sabre would be developing and deploying many services on an on-going basis, it needed a repeatable testing methodology that promoted system stability through continuous integration. Additionally, the test methodology needed to establish a base line for certification of production readiness that each service would need to meet before qualifying for production deployment.

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The company will save \$720,000 annually through the automated testing provided by Parasoft SOAtest.

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Perfecting Software

Deploying Parasoft SOAtest for SWS

Sabre used Parasoft SOAtest to implement an automated testing and certification solution for SWS. The company defined three primary goals it wanted to achieve:

1. **Automated test-case generation and execution**
2. **Repeatable regression testing**
3. **Breadth of code coverage**

By achieving these goals, the team knew it could deliver the quality services Sabre required.

At Sabre, business analysts create test cases during development to verify that the service meets requirements. Because SOAtest automates much of the test case generation, analysts are able to create more thorough test suites. This has reduced the time needed to create the test suites by one-third.

When Development completes a service, it transfers the new service and the test suite to the SWS QA team for certification. The SWS

QA team uses SOAtest to re-execute the test suites along with a standard regression suite of tests, to validate and certify that the service meets reliability and performance objectives. This process has allowed Sabre to prevent serious defects from reaching production and has reduced the time and effort to certify a new service by two-thirds.

Currently, Sabre is increasing the reach of SOAtest to foster collaboration both inside and outside the company through three major initiatives:

- Deploying SOAtest to all internal developers so they take greater personal responsibility for the quality of their own code during development
- Promoting SOAtest to internal and external customers so they can verify the quality of the services that will connect them to SWS
- Utilizing SOAtest for all performance testing

Using Parasoft SOAtest has enabled Sabre to significantly reduce the time needed to deploy services while ensuring these services meet reliability, availability, and functional requirements. SOAtest's ability to easily generate comprehensive test cases and incorporate them into existing regression test suites allows the company to deliver increasingly more powerful capabilities faster than expected.

SOAtest has reduced the work needed to verify each new service by 50%. This productivity gain has translated into a savings equal to 8 additional employees to the SWS team. Given a monthly loaded cost of \$7,500 per team member, the company will save \$720,000 annually through the automated testing provided by Parasoft SOAtest.

By using Parasoft SOAtest, Sabre has been able to achieve the test coverage and repeatability necessary to ensure that its services consistently meet its high standards.

Parasoft SOAtest has enabled Sabre to effectively transition its software systems to APIs that now process over 5 million transactions daily. Integrated into the Sabre development lifecycle, SOAtest allows Sabre to deliver a richer set of capabilities to its customers while ensuring that the release of every service is stable and meets business requirements before it goes into production.

ABOUT PARASOFT

Parasoft helps organizations perfect today's highly-connected applications by automating time-consuming testing tasks and providing management with intelligent analytics necessary to focus on what matters. Parasoft's technologies reduce the time, effort, and cost of delivering secure, reliable, and compliant software, by integrating static and runtime analysis; unit, functional, and API testing; and service virtualization. With developer testing tools, manager reporting/analytics, and executive dashboarding, Parasoft supports software organizations with the innovative tools they need to successfully develop and deploy applications in the embedded, enterprise, and IoT markets, all while enabling today's most strategic development initiatives — agile, continuous testing, DevOps, and security.

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