



High Value Testing Solution for the World's Largest Payment Network

Testing in a Dynamic, Demanding Payments Environment

New payment instruments, increasing transaction volumes, consolidation, restructuring, mandates and system migrations are just some of the pressures facing payment operations worldwide. The globalization of software development, the presence of legacy systems and the introduction of a variety of IT system strategies complicate things further for such operations. These conditions create an increasing need for complex testing scenarios to ensure that payment systems can serve the businesses and consumers that depend on them twenty-four hours a day, seven days a week.

There are many challenges to testing in such dynamic environments. There may be disparate systems involved. Special tools may be required for automating the testing process. Timelines may be compressed. There may be a need for new skill sets and subject matter expertise. It may be difficult to identify internal resources to support the testing requirements when they arise. To meet these challenges, payment providers need partners who understand the payments industry and can address their specific testing needs with a customized solution.

That is why the world's largest payments network turned to RS Software for a solution to its quality assurance and testing requirements. RS Software has focused exclusively on the payments industry since 1991 providing the expertise and solutions its clients require to address an industry undergoing a radical transformation. It was RS Software's managed services engagement solution that allowed the world's largest payments network to streamline its testing processes and meet the increasing demands for performance and availability.

Testing Real Time, Real World Conditions

For a payments network, the authorization system is its heartbeat. For the largest payments network in the world, that authorization system is like no other in terms of the transaction volumes and values it accommodates daily. For the testing of the real time processing applications that support this authorization system to be effective, it must simulate peak production loads and response requirements for a full range of payment services.

In addition, with a global operational footprint that delivers digital currency to more than 200 countries and territories, testing across the geographically dispersed groups that compose this payments network must be done in a fashion that reduces cost, enhances productivity and improves efficiencies. Key to achieving these goals is the access to and availability of resources with a strong base of experience in payments and niche skills in high performance hardware and software applications. To maximize the productivity of these testing professionals, a current set of testing tools for a variety of testing types (e.g., regression, stress, etc.) is necessary.

The RS Software managed services solution provided a testing strategy addressing:

All payment services such as Pin, CVV, CVV2, EMV [Chip] and AVS

Encryption key exchanges including dynamic and static key exchanges with hardware security modules using DES, TDES/3DES

All gateways with other payment networks

New and emerging payment types including mobile payments, contactless transactions and mobile money transfers

The Flexibility and Power of Managed Services Built on Industry Expertise

A managed services solution provides the most effective foundation for addressing the increasingly complex nature of testing in a dynamic payments environment and the most flexibility for addressing the real time, real world conditions faced by a leading global payments network. However, for this solution to deliver on its promises, the provider of it must possess expertise in the payments industry and a comprehensive understanding of the client's overall technology infrastructure including applications, interfaces and hardware platforms.

RS Software's two decades of service to the payments industry, combined with its proven methodologies and complete set of services, distinguished it as a choice for the solution needed in this case. The customer's requirements were approached in a comprehensive fashion starting with a determination of the best testing strategies for its particular business needs. Critical business areas

and priorities were identified, then matched with subject matter experts from RS Software who were involved from the onset of the effort. These subject matter experts then established the processes needed to ensure the testing services met all the necessary compliance and certification requirements.

RS Software's quality assurance processes addressed:

Interoperability testing for payment gateways/networks

Testing of real-time processing application

Simulation of production environment

Regression tool development for TPF-based transaction processing

Complete testing of client's new mobile payment application

Complete testing of member's contactless payment service

Fifty Percent Reduction in Four Years

The RS Software managed service solution optimized the test environments for the world's largest payments network across a multi-vendor, heterogeneous application landscape. A combination of domain and technology skills was deployed to meet the client's needs for zTPF platform experts and Assembler/C++ developers. A variety of tools such as ITSM, TPF and Rational Software Architect was utilized to enhance productivity. In addition, RS Software created more than 30 tools for automating the testing process in a variety of languages (e.g., VC/VC++, REXX, S/390 assembly).

The business benefits for the client included an increase in productivity with a reduction in effort by almost 50% over four years through the use of standard and customized testing tools. In addition, the implementation of RS Software's knowledge management and transfer practices ensured the availability of the necessary resources required whenever and wherever they were needed. Lastly, the application of RS Software's experience, accumulated over more than two decades in the payments industry, provided a long term testing strategy and implementation plan that included emerging payment types such as mobile payments, contactless transactions and mobile money transfers.