

# Testing & Quality Assurance for Payments Systems

**Reduce your costs and gain quality improvements to meet industry changes**

The payments industry is rapidly changing as regulations, new entrants, and new channels force traditional players to adapt to new business realities. Banks and other financial institutions are putting pressure on their IT departments to provide flexible payments systems to meet these changing demands.

At the same time, new technology trends like Software-as-a-Service (SaaS) and Service Oriented Architecture (SOA) provide new choices for renewing or replacing legacy systems—choices which can add to the complexity and cost.

When undergoing a payments system transformation to address regulations like SEPA, banks must balance stability, reliability and resilience with speed and performance. Since testing often accounts for 30 to 40 percent of the cost to upgrade a payments system, streamlining and accelerating testing efforts can have a significant impact on the costs and quality for your payments transformation initiative.



**Capgemini has unparalleled expertise in testing payments systems**

- Dedicated Payments Testing Center of Excellence supports testing for SEPA compliance, cards, and core banking systems
- End-to-end offshore-based testing services for Payments
- 2,500+ testing professionals dedicated to financial services
- 200+ Testers in our Payments Testing Center of Excellence
- State-of-the-art Rightshore® Test Labs drive test innovation
- Proven TPI® Next and Quality Blueprint approach for process improvement and quality assessment

**Strong Capgemini Expertise**

- Over 125 SEPA consultants with hands-on-experience supporting SEPA
- Over 400 payments consultants specializing in various global payments systems
- Extensive Rightshore® network helps reduce time-to-market and cost of compliance
- Dedicated payments testing and migration labs and operation centers
- Partnerships with leading payments product vendors
- Global Centers of Excellence for Cards & Payments manage services (migration, testing, and Enterprise Application Integration)

Capgemini offers end-to-end testing and quality assurance services to provide support across the full lifecycle for your payments system. By combining domain expertise in payments and cards with proven testing skills, Capgemini’s testing professionals bring a wealth of experience to your projects.

**Testing services unique to payments & cards systems**  
**SEPA Testing**

Capgemini has in-depth capabilities and proprietary tools to support your SEPA testing requirements. Our capabilities include support for testing PACs, PAIN, and XML messages. We identify and prioritize test cases using accelerators such as Model Base Testing. We have built the SEPA Testing Accelerator to ensure a maximum test coverage while minimizing the testing efforts.

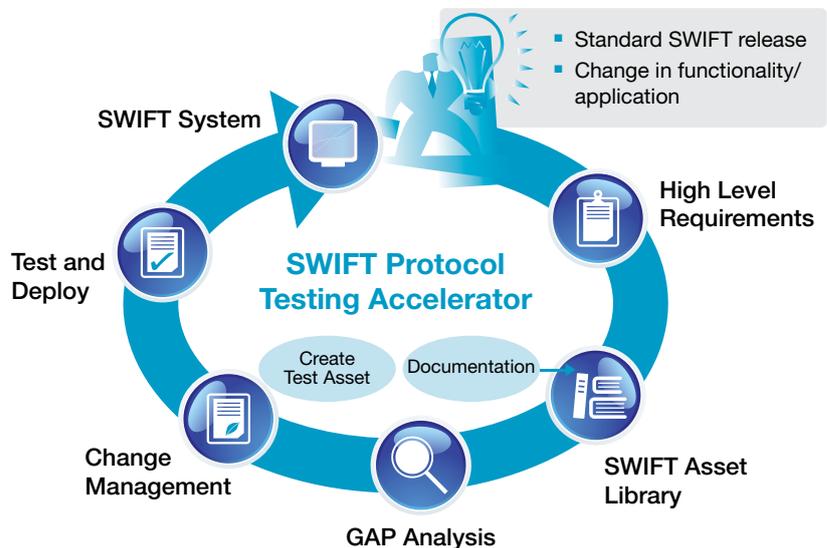
**SWIFT Testing**

Capgemini’s **SWIFT Protocol Testing Accelerator** provides the industry’s first and only complete testing solution that spans securities and payments business areas and addresses both MT

and MX message types. Capgemini worked with leading software vendors Hewlett-Packard and Blueprint Systems to build an innovative testing framework which uses best practices and proven methodologies gained from our experience in testing systems for some of the world’s leading banks, exchanges, and securities firms. The flexible, end-to-end solution contains independent frameworks for branded and open source tools which speed your work, reducing project lifecycles by up to 50 percent.

The accelerator includes use cases, test scenarios, test cases, Business Process Testing (BPT) manual and automation components, and test optimization utilities. It also uses an innovative tool-agnostic testing framework for branded and open source tools to support industrialized usage for test management (Quality Center, Test Link); requirement and use case management; (Star UML); test automation (HP Quick Test Professional, Selenium); and a proprietary Capgemini test case builder tool.

**SWIFT Protocol Testing Accelerator reduces time-to-market**



The SWIFT Protocol Testing Accelerator can help you to maximize the test coverage while minimizing the testing efforts using proven, repeatable frameworks, test and use cases, business scenarios, requirements, and other artifacts.

### Rules-based Testing

Our state-of-the-art automated test methods and tools work with Pega applications to verify financial service business rules. By employing automation tools to test and validate, we add breadth and depth to your testing efforts. Our pre-defined testing parameters, hands-off automation methodologies, and innovative solutions accelerate and simplify a complex process by bringing payments domain expertise into your testing effort.

Our tools-based capabilities for Pega applications support PegaRULES Process Commander 6.1, Test Management and Project Management. We have created proprietary tools for externally exposed services in Pega or SOA applications such as a business rules XML test tool, automated rate matching tool for insurance, and external manual XML service test interfaces.

### Assessment & advisory services to increase the impact of your testing efforts

#### Test Maturity Assessment

During our rigorous assessment, Capgemini compares the current state of your testing organization to industry standard TPI® testing processes to provide a clear and objective picture of the maturity of your testing processes and structure.

#### Quality Blueprint Benchmarking

Capgemini leverages our proprietary Quality Blueprint methodology—based on TPI®—to measure your company’s maturity and benchmark it against

financial services industry peers. We identify gaps and define a roadmap to help your organization standardize on the best practices, guidelines, and processes that best meets your needs.

### Managed and outsourced services to maximize your testing investment

#### Capgemini’s Test Factory

Using our test factory model, Capgemini can build a comprehensive quality assurance solution for your firm to deliver world class software testing services. We have proven expertise building test factory solutions for some of the largest banks in the world. Our offerings include: types of testing, mentoring, process standardization, benchmarking, innovation, and improvement. We work together with your team to define repeatable, measurable metrics to ensure our test factory meets the needs of your bank.

#### Managed Testing Services

By combining payments domain expertise and testing skills, we can deliver testing services to your organization using a managed services model. You retain control and we deliver results by using our proven governance methodology which fosters collaboration and shared responsibility. For our financial services clients, Capgemini’s managed services model has allowed us to reduce testing costs by up to 25 percent in year one while achieving 97 percent detection rates for high severity defects.

#### Rightshore® & Global Delivery

Reduce costs and innovate for sustainable competitive advantage using flexible delivery.

**Shared Services Center:** Gain access to a wide range of skilled and experienced experts to deal with an ever-increasing level of complexity.



### Capgemini Insights & Research

#### Payments Systems Survey



Capgemini’s comprehensive study of current trends in payments and the functionality of major payments systems

#### World Payments Report



Annual collaboration with RBS and Efra, includes the latest updates on SEPA and PSD and explores today’s challenges

### Payments Testing Center of Excellence

Capgemini has invested in a dedicated Payments Testing Center of Excellence to build and deliver on all payments testing engagements. It provides a place to collaborate and innovate by sharing experiences and knowledge on active testing projects. It also provides standards including:

- **Methodology:** Industry-leading models for payments testing including TMap® and TPI®. TMap® incorporates leading practices and more than 50 templates related to test planning, design, execution, automation and measurement. TPI® helps assess the maturity of test processes and define gradual and controllable improvements.
- **Test Workbench:** An industrialized toolkit that includes SWIFT Protocol Testing Accelerators, other test accelerators, and module-based testing.

- **Tools & Techniques:** Repeatable techniques like Orthogonal Array Testing and a Defect Prediction model can be used to improve test accuracy and test coverage.
- **Package-based Accelerators:** Capgemini has partnered with leading payments packages vendors to build accelerators and templates for common applications with products from VisionPLUS, FUNDTech and Clear2Pay.

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### About Capgemini and the Collaborative Business Experience

Capgemini, one of the world's foremost providers of Consulting, Technology and Outsourcing services, has a unique way of working with its clients, called the Collaborative Business Experience.

Backed by over three decades of industry and service experience, the Collaborative Business Experience™ is designed to help our clients achieve better, faster, more sustainable results through seamless access to our network of world-leading technology partners and collaboration-

focused methods and tools. Capgemini utilizes a global delivery model called Rightshore® which aims to offer the right resources in the right location at competitive cost, helping businesses thrive through the power of collaboration.

Capgemini reported 2010 global revenues of EUR 8.7 billion and employs over 110,000 people worldwide.

More information about our services, offices and research is available at [www.capgemini.com](http://www.capgemini.com).