

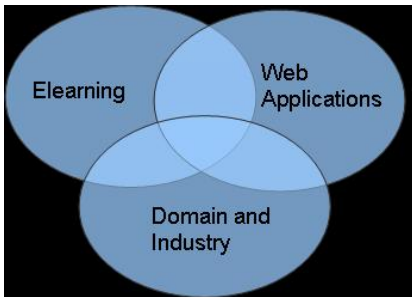
Capability Snapshot

e-Learning Solutions and Web Applications

SPA is a **specialist** provider of software testing services with extensive experience in the web applications and eLearning space. We work at all points in the value stream, from content providers to content delivery infrastructure providers. Our customers include some of the largest and most respected global enterprises in the world, as well as new startup ventures.

As specialists in our field, we integrate measurable and repeatable processes, patented technology, and highly capable specialists in the field of Software Performance Assurance to offer our clients an efficient and effective solution that **reduces the time, cost, and overall risk associated with testing and verifying elearning and web applications.**

Capability



- We have extensive eLearning and Web Application testing experience in various domains including Telecom, Enterprise, Retail and Finance,
- We have experience testing solutions for General Providers, Platform Providers, content Providers, and Course Providers, including LMS, CBT and WBT testing
- We have experience with blended-learning models (Knowledge presentation offline; integration of knowledge, discussions online; practical examples, teamwork physical presence)
- Our eLearning experience includes synchronous and asynchronous eLearning communication technologies testing
- In addition to testing content delivery, we have tested usability, accessibility, , and security of eLearning solutions
- We provide performance testing services to benchmark and help detect bandwidth/CPU, and speed/memory bottlenecks
- We have tested multiple solutions for SCORM and Section 508 compliance
- Our eLearning and other Web Applications testing experience includes testing different browser compliance
- We help our customers reduce training, administrative, and operational costs
- We help our customers achieve higher customer satisfaction by minimizing disruptions in service delivery, product updates, and regulations
- We have extensive experience with various testing tools and have prebuilt frameworks
- We are ISO 27001:2005 standard compliance company

SPA Fast Facts

- Quality of Results. We are specialists leveraging purpose-built processes, methodologies, tools, and infrastructure to offer true value as your software testing and verification partner.
- Speed. We have over 100 testing specialists on staff and can construct a productive team in 2-6 weeks, depending on the project
- Capability. We cover all aspects of the software performance assurance spectrum including Strategy and Planning, Infrastructure, Execution, Compliance, Automation, and Ongoing product support.
- Productivity and Innovation. We leverage proven and patented Test Planning, Performance, and Automation Frameworks to optimize engagement results.
- Visibility and Risk Management. Our process-oriented Service Delivery model assures constant feedback so that you have real-time visibility of real and potential issues. We reduce unpleasant surprises and overall risk.
- Flexibility. We offer a full range of engagement models, from complete outsourcing of the QA function to specific project execution, on-site or in our delivery center. We are able to provide to provide contract personnel or assist with internal human capital development
- Value. We leverage onshore and offshore capabilities to **optimize the cost/value equation.** We are multi-sourcing specialists with the expertise necessary to efficiently manage complex engagements.



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Case 1: One of the largest e-Learning LMS/CMS players in the world tasked SPA to provide testing services for SCORM compliance and Accessibility testing for its e-Learning solution.

Challenge: Client had an internal QA program in place for functional testing. However, as the client was rapidly expanding, they realized they had inadequate skills for SCORM compliance testing, a lack of Accessibility testing resources, and a lack of time to ramp-up an effective testing team. Fast and complete compliance with SCORM 1.2, 2004, AICC as well as Section 508 compliance was deemed a critical success factor for the product.

Solution: The client leveraged SPA as a full outsource partner, with all work performed at SPA's facility. As part of the project, SPA:

- Created test suites to test SCORM compliance for client LMS as well as authoring tool in a record time amidst tight deadlines
- Identified gaps for Accessibility compliance by using tools for accessibility testing
- Executed tests to identify compliance issues
- Tested the LMS with third-party courses to ensure compliance

Results: SPA built a 5 member team in short period of 3 weeks. Leveraging SPA's proprietary Q-Pattern IP and Risk-based Prioritization methodologies, the team was productive from week 1. More than 70 non-compliances were found for Accessibility and 60 for SCORM. In addition, a large number of functional defects were identified and corrected. The appropriate use of tools and optimization of testing plan using appropriate test methods resulted in the project finishing ahead of its stated deadline. SPA earned the client's confidence and was rewarded with additional assignments for functional testing and automation.

Case 2: A leading global talent development corporation contracted with SPA to test its eLearning portal that can centrally manage and coordinate learning through the web.

Challenge: In addition to application being large and complex, there was incomplete documentation leading to part exploratory testing, numerous workflows leading to an explosion of test cases, an overly complex project management environment, and a lack of real data around user statistics.

Solution: SPA conducted structured brainstorming sessions with internal experts to leverage experiences gained in other projects to arrive at a best solution and a combination of roles and skills, managed tasks to meet the deadline, and quality parameters:

- Created multiple teams to understand and document workflows into flow diagrams
- Leverage Risk-based Prioritization by running test scenarios by risk (as per usage of the learning) and wrote test cases based on risk perception in the scenarios
- Used exploratory testing effectively to cover large number of scenarios
- Implemented structured processes and reusable scripts that the client can continue using even after SPA has completed project

Results: The application was released to production with all high risk scenarios completely covered. The customer was extremely satisfied with the level of confidence on the application usability, availability and performance with failover and headroom. This confidence was further enhanced when ZERO defects were uncovered in UT.

Other Examples

- Full testing of commercial LMS infrastructure product
- Testing of specialized LMS security framework
- Content testing for integrated voice and text
- Full testing of CD-based eLearning application
- Full testing of online exam site
- Full testing of various custom corporate elearning portals

SPA Managed Testing Service

Functional

- Security Framework
- Accessibility
- Compatibility
- Automation
- Regression

Performance

- Benchmarking
- Load and Stress
- Availability

Compliance

- SCORM
- Section 508
- Accessibility

SPA eLearning Technologies

- Learning Management
- Content Delivery
- Integrated Voice and Text
- SCORM
- Section 508

Web Test Tools

Open Source

- JMeter
- OpenSTA
- WebLoad

Commercial

- LoadRunner
- SilkPerformer