

Multi-Platform Testing of a Web Conferencing System

“Impressed with your ingenuity in testing and the ability to promptly react to changes in the environment. Flexibility, professionalism, persistence—that’s all about you.”

Alan Cooper
R&D Manager

Customer

The customer is a major producer of communications software. One of the customer’s worldwide required thorough testing under a variety of platforms not limited to widespread versions of Windows and Linux.

Company	<i>Communications Software Provider</i>
Country	<i>USA</i>
Business Domain	<i>Conferencing Services</i>
Services Used	<i>Multi-Platform Testing</i>
Cooperation Model	<i>QA Outsourcing for a Development Company</i>
Duration	<i>12 months</i>
Efforts	<i>24 man-months</i>

Project

The tested solution is a web-based conferencing system. The principal features of the system are:

- Support of a variety of operating systems/browsers/Java machines.
- Close integration with operating systems: additional components are installed into the execution environment.
- Various means of audio information transmitting via the telephone network (PSTN) and Internet (packet transmission).

Challenge

- Testing of the system using different combinations of browsers and Java machines.
- Testing of the system and its components on various operating systems (at the system administrator level).
- Creation of a depository of virtual machines for full coverage of the required environments.
- Automated testing of several mechanisms of the application.
- Testing of the audio component of the system — separate and parallel with the web portion.

Solution

To ensure execution of all the required tests and the system quality, the following testing activities were necessary for the runtime environments:

- **Functional testing**
- **GUI testing**
Beside standard GUI tests, there was a need in testing under different languages/locales along with checking for correctness of controls positioning and a check of the content at the basic linguistic level.
- **Usability testing**
- **Performance testing**
In order to appraise stability and quality of the audio component of the system, performance tests were held using both the human resource and software generators of the necessary activity.
- **Automated testing**
Automated testing included automation of cyclic mechanisms and generation of data to speed up the testing process.

Technologies used

Operating systems: ALT Linux, FreeBSD, Mac OS, Windows

Browsers: Konqueror, Mozilla 1.7.6+, Firefox 1.0.1+, IE 5.0+, Safari 1.3.1+

Java virtual machines: Sun Java 1.4.2+/1.5.0+, Microsoft Java VM 3805/3810

Automation tools: TestComplete

Defect tracking system: Rational ClearQuest

Virtual machines: VMWare and VirtualPC

Programming languages: C, C++

Success

- Thorough testing of the project on different platforms enabled the customer to ensure high quality of the product on the most commonly used operating systems, browsers, and Java virtual machines.
- The timely and detailed investigation of software defects helped decrease the time for development of a stable multiplatform product.
- The automation of the mechanism checking and data generation procedures made it possible to assign extra resources to the project and thus ensured flexible control of test coverage.