

Testing

Problem:

The installation of a country- and company-wide work management and compliance system called for a robust and auditable test strategy to prove that the system installation was as specified by the client and would also satisfy the requirements laid down by the industry regulator.

Solution:

Test Strategy

To ensure that there was comprehensive and equitable understanding of requirements by all parties, and prior to any detailed testing specification and test script development, a test strategy had to be written that would cover all regulatory requirements and also those specific requirements of the client and key stakeholders. Caski personnel were well equipped to identify the fundamental requirements from all stakeholders and, drawing on their wealth of experience and knowledge of systems testing, create a strategy that was detailed enough to satisfy regulatory requirements, with enough flexibility to cope with the flexible and dynamic project environments.

Test Scripts

Caski personnel managed the writing and validation of detailed test scripts by the client's subject matter experts (SMEs) to ensure consistency in format and depth of testing. Test scripts were split generally into two different varieties-

- Data Migration Scripts - to test that the data had been successfully migrated from the old system
- System Functionality Tests - that tested the full functionality of the new system

To manage the development of the scripts and the subsequent configuration management issues, Caski's proprietary testing management tool (iCask) was used to hold the base library of scripts for all testing. The tool was also used to record all testing results from all test cycles at all sites and enabled a variety of reports to be output in a variety of Microsoft Office formats to enable end of testing reports to be produced in a timely manner to enable effective review by the project board.

Issue and Problem Management

All issues raised during the execution of the testing of the system were raised by the people who found the issue, on standard paper forms and then recorded in an issues database. Caski personnel were responsible for ensuring that each issue was categorised correctly after consultation with the person who raised it and the particular SME when relevant. These issues were then tracked to closure by Caski personnel, who included all outstanding issues in the end of testing cycle reports to the project board. Where an underlying problem was discovered, Caski personnel were instrumental in advising on, and delivering, longer-term solutions.

Performance Testing

During the rollout of the system across the many geographically diverse sites in the client organisation, it became apparent to Caski that the performance of the system was degrading as more data was being added. Caski developed a method of checking the system performance times both before and after a data load (by running a specially designed set of test scripts and comparing system response time for both). As this was a task that was to be run several times during each data load for each site, Caski decided to develop an automated scripting tool to be able to run a variety of scripts without human intervention and record the results accordingly. The iCask product was further developed to enable usage as a fully automated testing tool with the ability to record all results and produce complex reports of system response times.

Testing Reporting

After each testing cycle, it was necessary to produce a report that summarised the results from the vast range of tests executed. Caski personnel extracted the results from the iCask testing database and formatted them to fit the client's documentation requirements. All outstanding issues and problems in the database were extracted, and a detailed investigation carried out on each (with a detailed explanation and estimation of resolution times documented in the report). The project governing body were able to use this detailed information to make decisions on what to do about each individual issue or problem, and what potential impacts on the project could result.

Client Benefit:

A robust testing strategy that covered all testing requirements for the system being installed was ensured. All aspects of system testing were recorded in detail, including both successful and unsuccessful tests, and all issues encountered. The automated testing tool, iCask, is able to remove repetitious tasks (prone to human inaccuracies) and facilitates an easy yet effective method to complete performance testing in unsociable out-of-hours times.

