

Testing of a new database backend for the PLM Product

Q3's global sourcing model gives the maximum benefit to customers in terms of cost savings, improved quality, access to highly talented professionals, flexibility of operations and reduced time to market.

Case Study - Leading PLM solutions provider

Technical Situation

Software systems continue to grow steadily in complexity and size. Business demands for shorter development cycles have forced software development organizations to struggle to find a compromise among functionality, time to market, and quality. Lack of skills, schedule pressures, limited resources and the highly manual nature of software development have led to problems for both large and small organizations alike. These problems include incomplete design, inefficient testing, poor quality, high development and maintenance costs, and poor customer satisfaction.

As a way to prevent defects from being delivered, or “escaping,” to customers, companies are investing more resources in testing software. In addition to improving many other aspects of testing (e.g., the skill level of testers, test automation, development of new tools and the testing process), it is important to have a way to assess the current testing process for its strengths and weaknesses and to highlight the risks and exposures that exist.

The Company delivers first class software solutions that enhance their customers’ product productivity and hence, their profitability and competitive effectiveness. The client takes pride in building its customer’s success by giving them exceptional products and responsive support. The company has a growing and loyal customer base worldwide. The customers are industry leaders in aerospace and defense, automotive and transportation, consumer, high tech and electronics, industrial and machinery, energy and medical industries.

The PLM solutions in particular helped its customers achieve substantially improved business performance with documented savings of millions of dollars. The PLM solutions uniquely help companies both large and small achieve these benefits quickly and cost effectively.

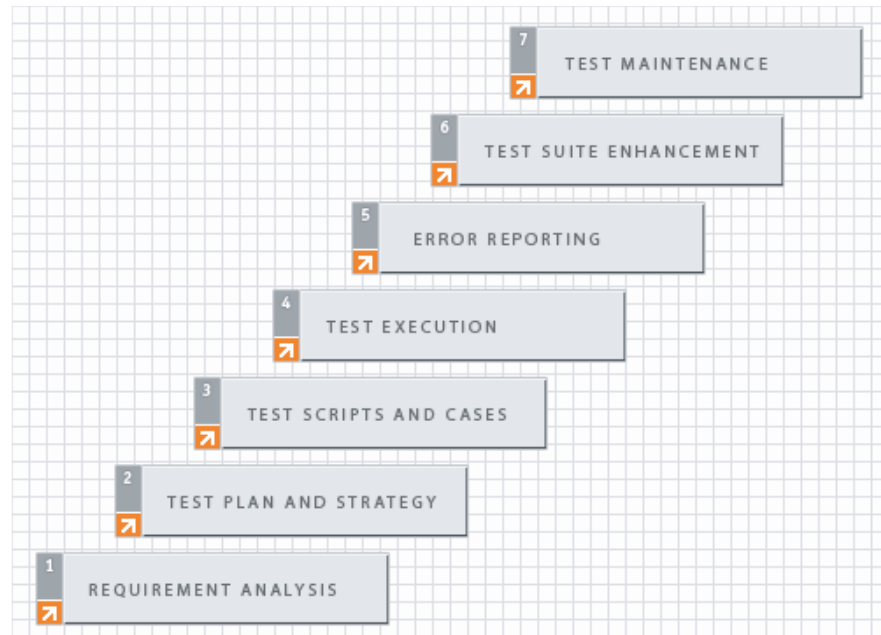
Company Profile

Business Situation

The PLM application runs on many different platforms and in many different environments. It also supports integration with emerging technologies like Solidworks Integrator, MS-Office Integrator, Pro-E integrator etc. and legacy systems, feature add-on modules that support every imaginable business process. All this versatility multiplies the number of variables that may affect the performance of the application, thus making the task of testing software more complicated and time-consuming than ever before.

The Challenge was to:

- » Reduce cycle time and improve testing productivity
- » Create a strategy for maintaining a large test base
- » Increase the longevity of an automated test base
- » Recommend a GUI-based tool for automated testing based on business need
- » Create an effective test automation process
- » Create a comprehensible, maintainable test base.



Testing and Delivery Process

To meet the challenge Q3 set up a dedicated Quality Assurance (QA) team. Whenever a new software application was scheduled for introduction, a specialist from the testing centre was called in to identify the most effective way to conduct the testing. For this, the specialist coordinated with client's business and technical staff to formulate efficient testing methods. In all cases, the time available to construct and execute the tests was very short. As a first step Q3 selected the enhanced Mercury Interactive Winrunner tool to provide advanced testing and tuning for SQL Server environment as well as other environments which were required for the project. This was supplemented by experienced testers with strong technical skills and clear communication skills. The result was a service that could be delivered quickly and provided clear results that allowed effective decisions to be taken by the client management.

Solution

Q3 set up the testing team to cover the following key areas:

- » Testing Strategy and implementation
- » Performance testing
- » Security testing
- » Automated testing
- » Usability testing

So, the Q3 approach included:

- » Analysis and study of the client's testing environment and the test process
- » Review of the user interface design and GUI standards
- » Review of application documentation
- » Review of test artifacts, such as test plans and test cases.
- » Evaluation of commercial tools based on application specific requirements; this included proof-of-concept of these tools in the environment
- » Maintenance and updation of existing automated scripts.
- » Design and creation of test cases/procedures within the given scope
- » Evaluation of test results.

Q3's recommendations included

- » Long-term strategy to streamline processes for handling complexities and changes in the testing process.
- » Tools for automating the test process
Approach to reduce testing cycle time.

Q3 provided critical consulting services to quickly and cost-effectively migrate the processing database from Oracle to Microsoft SQL Server. This enabled the client to significantly increase the capacity of the processing database while simultaneously reducing their operating costs and consolidating their data.

Benefits

- » Best practices and methodologies were adopted for a mutually beneficial relationship between Q3 and the client.
- » Highly competent and motivated project team
- » 30% reduction in testing time due to automation; resulting in shortened release time.
- » The defect management process was designed to make it easier to operate as well as provide clearer management information.
- » Prioritized actions to continue improving testing after the assignment was completed.
- » Well-defined test architectural framework
- » Highly maintainable test base
- » Improved test coverage
- » Streamlined test process with higher proportion of automated testing