



## Testing solutions

## Case study: GlaxoSmithKline

GlaxoSmithKline (GSK) is a world leading research-based pharmaceutical company with a powerful combination of skills and resources that provides a platform for delivering strong growth in today's rapidly changing healthcare environment. Headquartered in the UK and with operations based in the US, the company is one of the industry leaders, with an estimated seven per cent of the world's pharmaceutical market.

Scientists in GlaxoSmithKline's R&D Discovery division rely on robust IT systems and cutting edge applications in their quest to unravel the secrets of health and disease. The IT team, Discovery IT, had until recently to operate in an unusually complex and disparate Windows NT based user environment.

As part of a global project that will be rolled out to all of GSK's 110,000 employees, it became necessary to plan for the migration of Discovery IT's 7,000 users to GSK Connect, a unified desktop environment based on Windows XP. GSK Connect would enable Discovery's scientists to install and configure scientific applications directly on their desktops with less support.

With over 700 separate applications supporting the R&D effort, and others in constant development, Discovery IT was under extreme pressure to complete the migration test programme. The challenge was compounded by the lack of a structured, enterprise wide application testing methodology.



## The Challenge

GSK engaged SQS to assist with making the migration occur within the project timescale and to an agreed budget by creating a test strategy using a structured methodology which provided processes, tools and techniques to manage and execute the complete testing life-cycle of the project effectively. Such a methodology requires and ensures that a rigorous process is followed and that the process is thoroughly documented, and encourages frequent delivery of results in planned test cycles, thereby giving early feedback to management and development. These factors were key to the success of the GSK Connect project.

In addition, SQS recommended the use of HP (Mercury's) specialist testing tool TestDirector to improve the speed and effectiveness of application deployment. The main reason for this choice was TestDirector's unique global management facilities. The tight integration of its four modules provided smooth flow of information between the testing phases, and its web interface enabled excellent communication among physically distributed testing teams - a key priority for Discovery IT as they sought to create an efficient global application testing process. SQS's challenge was to ensure the GSK Connect application testing programme would:

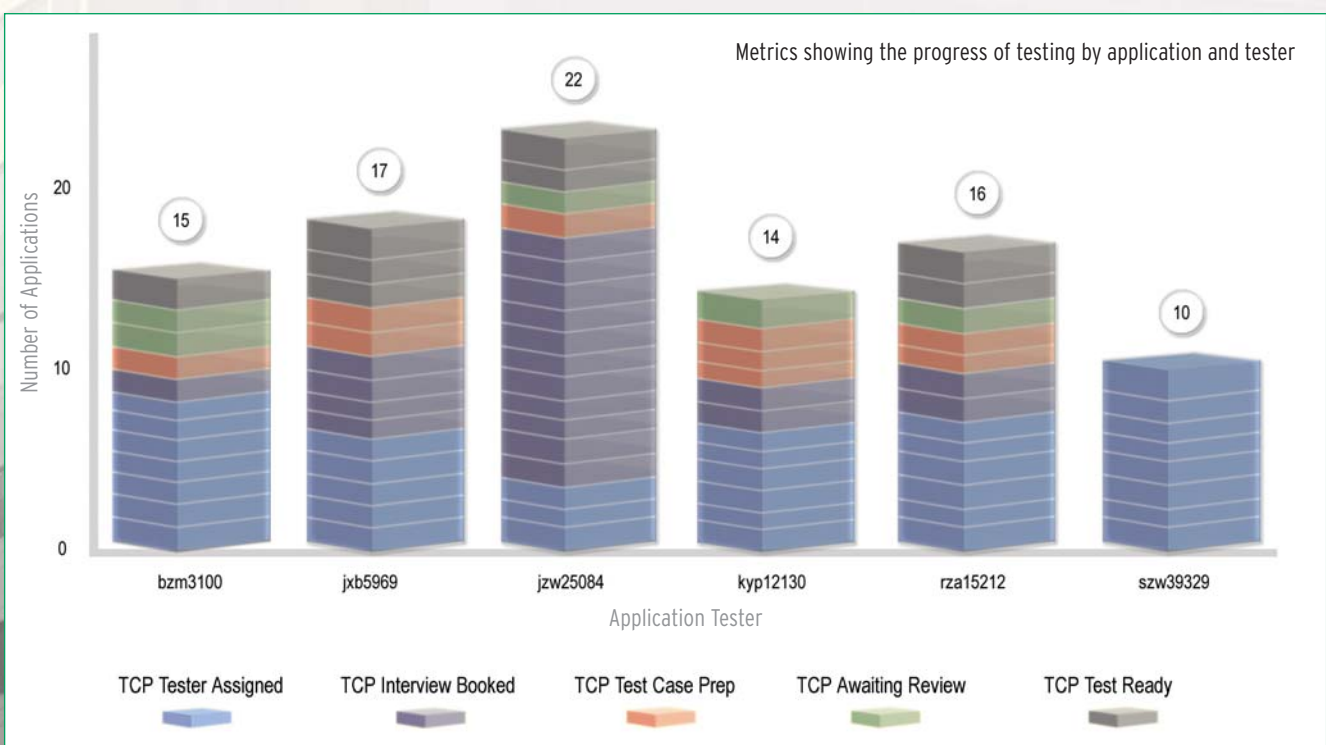
- > Mitigate risk
- > Be delivered within the timescales set
- > Lead to a real transfer of knowledge to staff at Discovery

- > Be delivered within budget

Discovery needed to ensure that the existing 700 applications would be compatible with the new GSK Connect desktop and that the respective business units would be able to perform their normal scientific activities following the deployment of GSK Connect.

Several risks were inherent in this:

- > Although Microsoft has stated that the risk of migrating from Windows NT to Windows XP is not as great as from other versions of Windows, there are nevertheless potential violations of operating integrity and security that can occur at the operating system kernel level, which are specific to Windows XP and which could have impacted the functionality and stability of the GSK Connect desktop
- > Many of the applications within GSK have dependencies on each other and need to co-exist - output from one application is input to another. The incompatibility of just one application could therefore have rendered a whole suite or range of business processes unworkable
- > Support and security access could have changed
- > Disaster recovery processes and effectiveness may have been impacted by the new desktop build



## The Solution

### The following activities were undertaken:

- > Definition of the applications' purposes and descriptions of the user base
- > Identification and testing of all applications' primary functions (any function that is so important that in the estimation of a normal user its inoperability would render the product unfit for purpose)
- > Performance of focused instability testing on a set of identified functions
- > Performance of a set of generic tests checking basic Windows functionality common to most applications (copy/paste, file system, printing etc)
- > Using Windows XP AppVerifier tool for testing a wide variety of known compatibility issues

Each application was defined and documented and then test cases were written and created in the document that described briefly tests that exercised all the primary functions.

The project was delivered in two phases:

**Phase 1.** 200 applications were centrally resourced and executed by Discovery IT

**Phase 2.** 500 unsupported scientific applications were delegated to nominated application owners within the business

Phase two was defined as a means of avoiding the expensive knowledge transfer that would otherwise be required to test the applications centrally. It also ensured the scientists were challenged to show commitment to the future use of the applications they had installed. The use of metrics was a key component to ensure the testing was on target. (see graph)

### Web Links:

- > **SQS-UK** [www.sqs-uk.com](http://www.sqs-uk.com)
- > **GlaxoSmithKline** [www.gsk.com](http://www.gsk.com)
- > **HP (Mercury)** [www.mercury.com](http://www.mercury.com)

## The Results

The use of a structured methodology and supporting resources enabled Discovery IT to deliver the project in a timely manner with minimal disruption of normal software development and IT support services. However that is not the end of the story; as a result of the project Discovery IT now has:

- > Consolidation of applications and retirement of applications no longer in use, minimising support requirements and licensing costs
- > A customised implementation of TestDirector that supports the business and reduces management burden through locally developed computer-based training and remote training using NetMeeting, customised user guides and quick reference cards, dedicated metrics and management reporting
- > Comprehensive documentation of the functionality of applications and reusable test scripts
- > A reusable test process for future application compatibility testing projects
- > Comprehensive central metrics, management reporting and a complete audit trail
- > An up-to-date application inventory

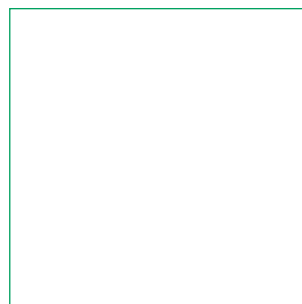
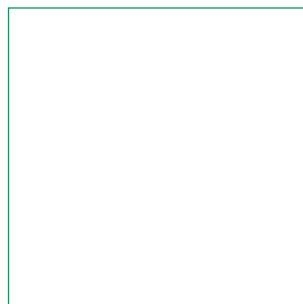
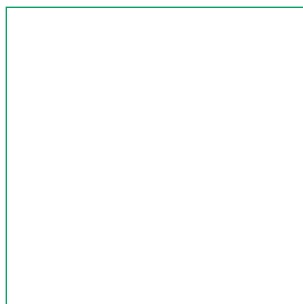
These benefits provide a solid basis for the efficient planning and delivery of major test programmes in the future, and provide the platform from which Discovery IT can develop its testing capability, including the use of other tools.



**Case study:**  
**GlaxoSmithKline**

## Contact us -

- SQS is Europe's largest testing group with over 800 consultants.
- We set the standard for managing quality to ensure that business critical systems are implemented effectively.
- SQS is committed to helping you manage your business risks and achieve significant reductions in time to market implementations.
- As market leader we continually seek to raise awareness of issues that affect executives in business and IT.



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