

# The case for a central support group

The takeover of NatWest by the Royal Bank of Scotland led to perhaps the biggest and best-known testing project of the decade so far. Alan Bowers of RBS Group Technology Migration Testing Support explains how the process was run smoothly and completed early

*One of the key benefits of integration is to be able to realise the economies of scale.* This is certainly true of business activities but is more eminently evident when combining IT systems. The cost of the integration of differing application systems is very quickly outweighed by the savings that can be realised by moving to a common IT platform.

Of course, this IT integration activity is not a simple task. It involves vast amounts of development work to application systems to provide the target and creation of software to extract customer data and convert it to the format required. All of this requires testing and this is where I became involved with the project.

The scale and variety of the testing required was so huge that a separate team was set up to undertake the testing activities that were needed. Application development teams would perform the usual unit and link testing activities themselves and then hand over their systems to the testing programme. There then followed a series of test streams that were designed to test the components from a number of differing viewpoints:

- system tests to test the functionality of the components
- tests to prove that the systems would meet performance requirements
- tests focusing on the business processes that must operate correctly following the integration activity
- tests to prove the migration process.

## What was happening

This multitude of testing teams meant that we were faced with a number of challenges:

- review and approval of documentation was performed in different ways
- testing documents were created with a variety of templates/formats

- There was a risk that some functions could be duplicated across testing teams.

## What we did about it

To overcome the challenges outlined above it was decided to centralise a number of functions in a single, dedicated team called Migration Testing Support. MTS provides an end-to-end service to the test teams

Figure 1 shows the scope of MTS. The process flow consists of the following activities:

- legislation and standards are passed down from both internal and external bodies, such as the internal auditors, group risk and security functions
- TMS then takes this information and defines what is needed to make the test compliant. Guidance is then given to the testing teams so that they can properly prepare for a compliant test. Then a review is carried out to ensure that the test is ready to start
- the testing itself is then carried out. The test team is supported by a number of services provided by the central group – fault management, dependency management, document reviews and test tool support
- audits are carried out on a regular basis to determine compliance with agreed standards
- at the end of testing a review is carried out to check that the test has been completely executed and any relevant reports are created. These reports are used to improve test planning, management information or as inputs into other test readiness and completion reviews and compliance assessments.

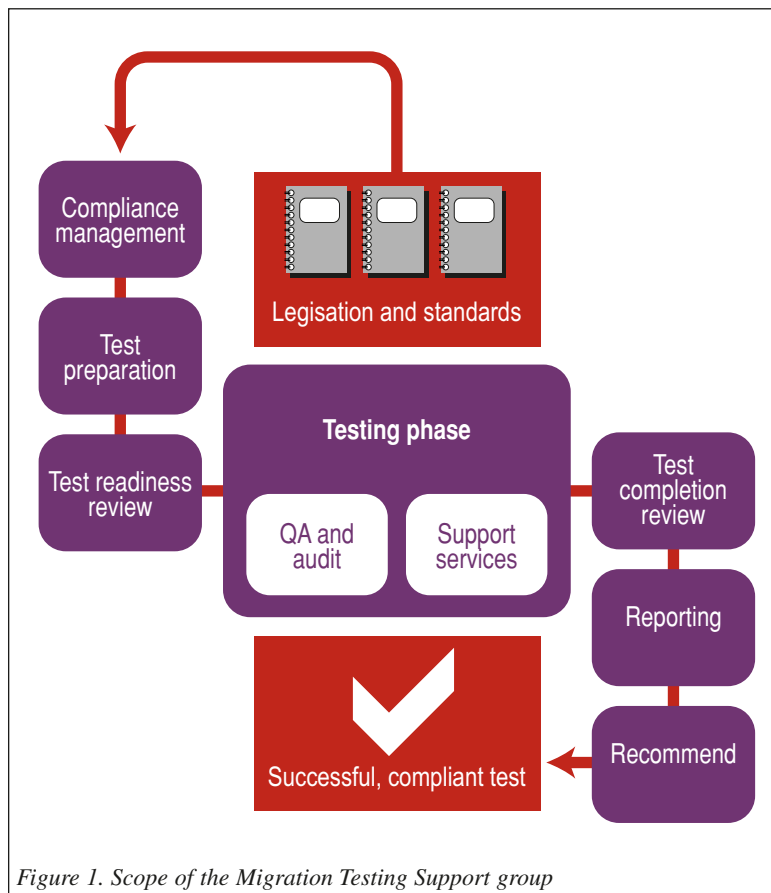


Figure 1. Scope of the Migration Testing Support group

- test teams recognised the need to be compliant with policies and standards but needed clarification on detail
- test streams had multiple dependencies with one another as well as with the development teams
- it was important to ensure that each stage of testing did not start until all the pre-requisites were in place

## The services in detail: compliance management

All testing must comply with applicable legal and external regulatory policies and with additional company policies and standards. Compliance also has a wider definition, however, covering the adherence to other relevant rules and regulations, whether derived from statute or from voluntary codes of industry best practice, covering any aspect of the businesses carried out by the organisation.

The role of the MTS in this is to:

- determine what these policies and standards are
- ensure that the latest versions of policies and standards are available to the testing community through use of the agreed cascade process
- develop policies and guidelines where these do not already exist.
- act as an interface to/from regulatory bodies
- act as a central point of reference in respect of all compliance matters emanating from the testing teams.

## Test preparation

Before testing can start a number of activities have to be performed. The environments have to be built, prepared and “shaken down” to ensure that they are ready for the serious business of testing. Documentation has to be obtained from the development teams defining the requirements against which the tests are to be run so that test cases and conditions can be defined. MTS had little involvement in this but it was able to provide a support role through the definition of a *test calendar*. This is an Excel spreadsheet, colour coded for ease of reference, that gives a view of the tests planned for a particular test iteration. The calendar is updated in accordance with a timetable to ensure that it is available to the Test Authority for approval on a weekly basis.

## Test readiness review

There is always a great desire to start testing as quickly as possible. Often this is before all the required elements are in place and this can lead to problems later on. The Test Readiness Review (TRR) process is designed to overcome these problems. It is essentially a facilitated meeting that uses a checklist to ensure that all components have achieved a specified level of ‘readiness’ before testing is permitted to start. MTS’s role in this is:

- Assist the test stream in the preparation required to undertake the TRR

- Facilitate the review by organising the meeting, chairing the meeting and taking notes against the checklist
- Agree any actions that need to be taken before the testing can commence
- Produce a report documenting the current state of readiness
- Work with the test team to resolve any actions so that all components reach the desired state of readiness.

## Quality assurance

QA means different things to different people. For the MTS team our main objective with QA was to ensure that documents delivered by the test streams were “fit for purpose”, accurate and timely. We did this by adopting a typical quality review process based on existing company standards and in line with best industry practice. This process covers both documents produced by the testing teams and documents produced outside of testing that are used by the testers to determine what test cases and conditions need to be developed.

The sheer number of documents (over a thousand) that required a review gave rise to a number of problems:

- it was very labour intensive. This was resolved by allocating a QA analyst to work alongside each of the test streams, requiring seven people in all. This was a big overhead but easily offset by the benefits that are well known to be provided by formal quality reviews. In any case, it was not always a full-time role for the analyst and they were also able to provide a support role to the test team giving advice on what standards needed to be followed, and developing new templates where these were not available
- it was hard to control. This tricky problem was solved through setting up a QA matrix based on an Excel spreadsheet that identified all the documents and tracked them through the stages of the document review and approval process. Colour coding was used on this to enable easy identification of issues, and potential issues, that needed some corrective action – which usually meant chasing up of document authors/reviewers/ approvers
- keeping track of the latest version of documents was a challenge. This was addressed by defining a standard file structure for each of the test streams to follow, with specific areas set aside for draft, current and archive versions of documents.

## Audit

The company has an internal audit department that carries out audits across all areas of the group from time to time. The sheer scale of the Integration Testing Programme, and the need to ensure compliance was maintained, meant that the level of audit activity needed to be increased. To achieve this, MTS formed its own audit team whose role was to:

- determine whether the agreed processes were being applied consistently across the programme
- to highlight any deficiencies and omissions
- to agree corrective action to be taken by the test team
- offer a degree of protection for the test teams from both group and external auditors. This was aided if required by allowing the QA analyst to work with the test team to resolve any findings.

## Support services (test tool support)

*TestDirector* and *WinRunner* were already used, but knowledge of the tools varied amongst the vast number of staff that were brought in to this testing programme. In addition, few standards were available for how the tools could be used for a programme of this style and scale. MTS came to the rescue again by providing the following services:

- ensuring that the TestDirector environment was set up appropriately
- defining operating standards and processes for TestDirector
- assisting in setting up WinRunner for specific test streams
- providing or facilitating TestDirector training
- giving support and solving problems for TestDirector and WinRunner

## Fault management

It would be nice to think that testing did not uncover any faults, but of course the reality is that in such a large programme, a large number of faults were identified. It became a major exercise for the test teams to follow up resolution of the faults raised on PVCS Tracker at the same time as they were trying to run more of the identified test scripts. It was clear that they needed help with this and MTS stepped in to offer support by:

- monitoring PVCS Tracker to ensure faults are dealt with in line with the agreed service levels
- preparing and distributing fault reports
- arranging control meetings to discuss outstanding faults and preparing reporting packs for these meetings.

## Dependency management

The nature and complexity of this testing programme inevitably meant that there were dependencies not only between individual test streams but also with other groups such as Application Development. It became important to identify these, agree them and log them in a central database. MTS managed the process, providing the following role:

- facilitate process of agreeing dependency deliverables
- assist in completing dependency documentation
- ensure agreements are documented
- ensure logging on Testing Group dependency database
- notify parties of dependency identifier
- monitor and maintain database entries.

## Test completion review

This process is the complementary checkpoint to the Test Readiness Review described earlier. It is designed to overcome the problems that can arise when a test stream says it has finished but in fact there are loose ends lying around that need to be tied up before it can really be said to be complete. As with the TRR it is essentially a facilitated meeting that uses a checklist to ensure that all components have achieved a specified level of 'completion' before testing is permitted to close down. MTS's role in this is:

- determine who should attend the TCR meeting from the project team and other areas.
- chair the review based on the use of the TCR Checklist. Complete the details for the Test Completion Review Checklist template.
- issue TCR Report, stating the conclusion reached by the TCR meeting.
- work with the test team to resolve any actions so that all components reach the desired state of completion.

## Benefits achieved

The benefits that were seen from adopting this centralised approach fall into three categories:

### Cost reduction

- minimise duplication of effort
- reduce the learning curve
- reduce costs through process repeatability
- improve getting it right first time
- risk mitigation

### Risk reduction

- providing consistent interpretation and application of standards
- effectively adopting new standards and identifying missing standards


- providing synergy between dependant projects
- independent in action and judgement
- protecting against litigation.

## Time optimisation

- focusing on relevant standards for the project
- providing guidelines for the adoption of these standards
- identifying improvements in training and processes
- acting as a central reference for "compliance" guidance
- providing the effective gateway for corporate governance.

## Conclusion

Setting up the central support group for testing has proved to be a big success. There have been a number of benefits, feedback from our customers has been good and we have gained the backing of Group functions that are responsible for ensuring that compliance is achieved. Some lessons have been learned and we will be using these to make improvements to our processes before we are called upon to support the next big testing programme. PT



TURKEY • GREECE • CROATIA • ITALY • FRANCE • BALEARICS • CARIBBEAN • SEYCHELLES • WHITSUNDAYS • FRENCH POLYNESIA

# Top Yacht

Specialists in top quality yacht charter  
BAREBOAT, SKIPPED, FULLY CREWED AND GULET HOLIDAYS

Tel 01243 520 950  
or email [sailing@top-yacht.com](mailto:sailing@top-yacht.com)  
[www.top-yacht.com](http://www.top-yacht.com)

MENTION  
Professional Tester  
FOR A SPECIAL  
DISCOUNT!

BRITISH MARINE ASSOCIATION  
YACHTING ASSOCIATION OF GREAT BRITAIN  
YACHTING ASSOCIATION OF IRELAND  
YACHTING ASSOCIATION OF SCOTLAND  
YACHTING ASSOCIATION OF WALES

