

Phased Complex Integrations Achieve Digital Transformation by Attrition for Leading DIY and Home Improvement Retailer



Challenges

Client's long-term enterprise IT posture needed simplification and governance within a complex integrated solutions landscape.

Deliver integration testing for new POS application rollout, where rollout happened for extended duration.



Solutions

Defined and implemented clear overall test strategy to deliver testing for projects and support incidents.

Delivered POS store rollouts, along with regression testing of current solution and release test strategy for subsequent application releases, and incremental rollout to full estate.



Results

Zero defects track record across all critical scenarios and functionality enables BAU project agility.

High cadence new releases continue in parallel with larger rollouts on schedule and delivered with maximum quality.



Client overview

Founded nearly half a century ago, our Client is one of the largest and longest established DIY and home improvement retailers in the UK. Qualitest has been strategic IT testing partner to the Client for over 10 years because the Client needed a full digital transformation.

We joined them on a long-term IT test simplification and governance project within a complex integrated solutions landscape in which test governance needed dual purpose to maintain live system integrity alongside the revolutionary new POS project in progress.

Test regime grows to cover complex enterprise integration program

The Client's ambitious digital transformation plans have increased their testing requirements from core to multiple downstream systems like applications, warehouse and delivery integrations and the entire retail Point of Sale (POS) systems and processes.

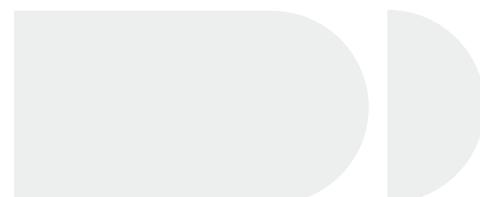
To facilitate this more diversified nature of innovative projects it had planned, the Client needed a program and a strategy for a managed test delivery. Also in scope was the transformations of legacy POS estate across 150 stores. The application and its associated hardware badly needed upgrading to the latest system to handle new business requirements, enhancement of processes, upgrades, and BAU changes. This was to be implemented across a complex and partially integrated application landscape simultaneously keeping the old system supported throughout integration.

The Client wanted:

- Multi-year engagement with a QA partner that genuinely understood retail business rationale, process excellence and systems architectures.
- Proposal and implementation of overall test strategy, process, and test artifacts.
- Planning and execution of test approach for various categories of projects.
- Performance assessment of testing requirements, then suggestion, implementation and delivery of performance testing for the projects.

Key principles followed in this engagement:

- **Early engagement of test team** – enabled visibility of agenda and interdependencies. Test team can provide effective estimation and ability to plan.
- **Project changes drive testing** – collaborative and testing impact assessment for all changes.
- **Risk-based testing** – test smarter not harder. Appropriate test approach driven by project.
- **Testing governance** – entry/exit management for a test phase, with accurate data to support informed decisions.
- **Continuous improvements** – implement lessons learned into upcoming project phases to achieve more effectiveness.





Moving mountains with a sophisticated managed testing strategy

To support testing requirements, we proposed a comprehensive program of Managed Test Services (MTS). This would cover:

- Production of base templates for all applicable test deliverables, like test plan, status reports, entry and exit criteria document, traceability matrix and closure report.
- Best practices for test management and delivery.
- Knowledge share and support to business users on User Acceptance Testing phase and deliverables.
- Non-functional Testing and assessment of performance testing.
- Recommendation and set up of test tools.
- Approach for defect management.

We delivered the Client's MTS within our tightly structured methodology, known as Qualitest Operating System for project delivery (QTOS), in which each phase has a defined set of milestones and deliverables, being:

- **Assess:** Initial engagement, understand high-level view and overview of project, produce effective test estimation.
- **Define:** Confirm high-level project scope, management approach and success criteria. on User Acceptance Testing phase and deliverables.
- Non-functional Testing and assessment of performance testing.
- Recommendation and set up of test tools.
- Approach for defect management.

- **Prepare:** Agree high-level plan, detailed scope, and test schedule.
- **Develop:** This phase is focused on creating different test scripts e.g. Manual, Components, Business Process Tests, Automated and Performance.
- **Execute:** This phase is for running test scripts created in build phase, to log defects and retest post defect fixes.
- **Maintain:** Preparation of the final detailed test report containing all the information on various tests conducted, fixes applied, results, recommendations, and conclusions.

Key testing phases and activities delivered:

- Systems Integration Testing.
- Regression Testing.
- Performance Testing.
- API testing.
- User Acceptance Testing.
- Confidence Testing of key scenarios in pre-production environment before code is promoted to production.
- Risk Based Testing to reduce testing effort during System Integration and Regression Testing phases with two main aspects, technical risk and business criticality to in each of the business processes.



Business process testing

To test the entire end-to-end business process flow, Qualitest first sought to understand current business processes and existing systems architecture. Qualitest then implemented business process testing, which:

- Ensured all key applications had test coverage.
- Highlighted process efficacy.
- Reduced test preparation efforts if process variations shared common steps.
- Allowed easy prioritization of test scenarios based on key business processes.
- Enabled early identification of performance bottlenecks and risk areas.

As a retailer, the Client's specific key functional business processes for testing included:

- Sales (order to cash) – through multiple channels including website and many stores, home delivery and Click & Collect.
- Inventory management – stock accounting and movements.
- Forecast and replenishment. Forecast and demand. Procurement – supplier to warehouse/distribution center and supplier to stores.
- Financial posting for procurement and sale document flows.

- Capacity management in warehouse and pick capacity for Click & Collect in stores.
- Supplier management – invoices, debit notes and surveys.
- Reporting for all key processes.

“The Client needed a program and a strategy for a managed test delivery.”





Key benefits

Key to the success of this project was Qualitest's approach being business process led. The design and delivery of end-to-end scenarios for key critical business processes was the key that enabled our team of engineers to meet all the Client's stated business optics. The client's feedback indicates their projects are now more agile, adaptive, optimized, organized, on schedule and delivered with maximum quality.

Additional test-specific benefits include:

- 95% of defects are identified by Qualitest during system integration or real-time testing.
- Only 5% of defects logged by user acceptance testing.
- Zero defects in live environments.
- Risk-based testing approach reduced 10-15% test scope and efforts by extending test coverage for all critical scenarios and functionality.
- Capacity management in warehouse and pick capacity for Click & Collect in stores.
- Root cause analysis of defects is now fed back to project managers and development teams to inform subsequent projects.
- Incremental regression pack – regression test repository revised as soon as we deliver any new project, which futureproofs via availability of latest regression tests.

“The client's feedback indicates their projects are now more agile, adaptive, optimized, organized, on schedule and delivered with maximum quality.”

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