CA technologies

A **Broadcom** Company

Solution Brief   Agile Requirement Designer for HP ALM QC

Key Features

- Accelerate requirements model creation by automatically mapping requirements to a visual, active flowchart, reducing requirement ambiguity by 90% and software defects by 56%.

- Automatically generate the smallest number of test cases needed for 100% coverage.

- Import test cases, remove any duplicates, and shorten test cycles by 30%.

Key Benefits

- Achieve maximum coverage in the fewest tests possible, to deliver quality software earlier and for less.

- Shorten the average test cycle by 30% by not duplicating existing test cases.

- Detect defects earlier, where they require far less time and resources to fix.

- Avoid the costly rework and the delays created by ambiguous requirements.

- Rapidly provision the right data to the right place to avoid testing bottlenecks.

Overview

With Agile Requirements Designer for HP ALM QC, you can import and optimize test cases and requirements from HP ALM QC and automatically generate the smallest set of tests needed for 100% coverage. These tests are provisioned directly to HP ALM QC and are matched to the data needed to execute them, providing testers with everything they need to deliver fully tested software on time and within budget.

Business Challenges

Rigorous testing is central to the delivery of quality software, but testing remains too slow and manual. Testers are usually provided with ambiguous and incomplete requirements, from which they manually derive test cases.

This is a time consuming process that typically leads to just 10% to 20% functional coverage, while rampant over-testing is the norm. Testers often lack the data they need. Bottlenecks arise as testers manually create data or search for it among large production databases. When a change is made to the requirements, testing costs and bottlenecks quickly mount because the existing test cases and data must be updated by hand.

Opportunity

Agile Requirements Designer (formerly Grid Tools Agile Designer) for HP ALM QC provides a complete, integrated solution. The solution is designed to help deliver modern applications to market earlier, while reducing the cost, and significantly improving the efficiency of testing. You can import existing requirements and test cases from HP ALM QC into Agile Requirements Designer. Agile Requirements Designer then automatically creates the smallest set of test cases and data needed to achieve maximum test coverage. De-duplicating existing test cases eliminates redundant over-testing. Freed from the burdens of over-testing, you can test more in fewer tests, and deliver fully tested software earlier, at less cost.
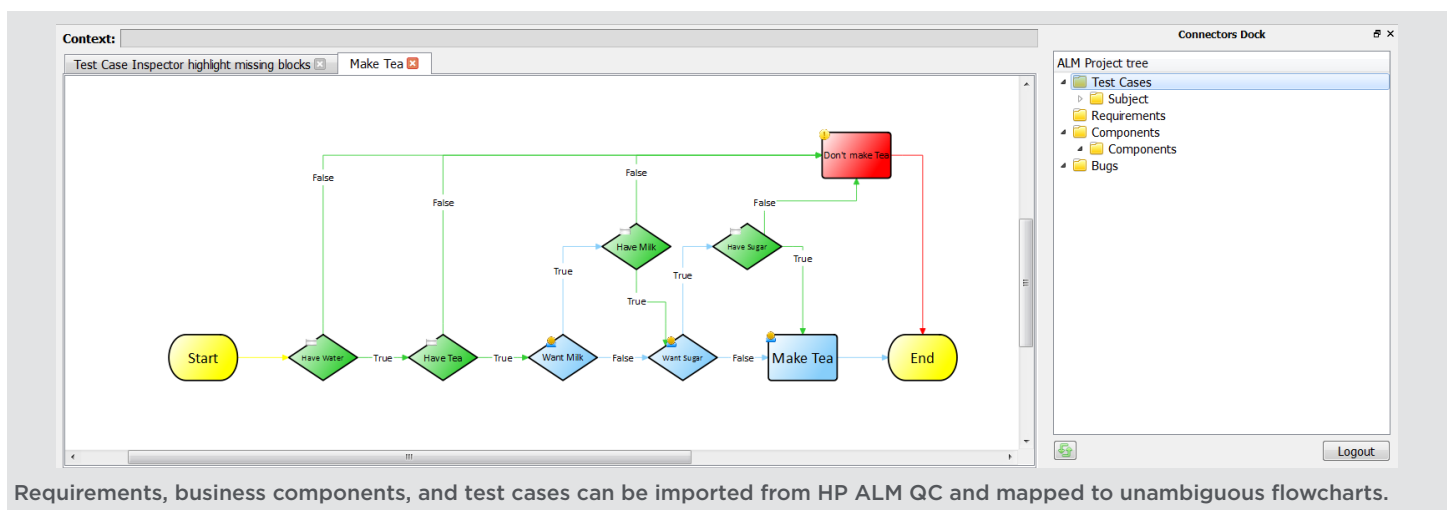
Agile Requirements Designer mines data from multiple back-end systems in minutes to deliver the data that you need to execute every possible test in a rigorous testing strategy. If the data is not there to be mined, powerful synthetic data generation will create any data that is needed. Agile Requirements Designer then exports the data directly into HP ALM QC. Once in HP ALM QC, the data is matched to the exact tests that require the data to run. This process avoids the bottlenecks created by manual data provisioning, and provides testers with everything they need to deliver quality software on time and within budget.

Opportunity (cont.)

When requirements change, Agile Requirements Designer automatically updates associated test cases and data. The impact of the change is identified across an entire system and any new tests needed for maximum coverage are automatically created. Testers only re-test what they need to, shortening testing time, and avoiding the delays created by manual test maintenance. Freed from these burdens, you can deliver quality software which reflects constantly changing user needs.

Build Better Requirements

You can import existing requirements and test cases from HP ALM QC to Agile Requirements Designer where they are converted into complete, unambiguous logic flows. This provides greater clarity between testers, users, business analysts and developers. Greater clarity means fewer defects which arise from ambiguity in requirements. Fewer defects mean less costly rework. Speaking of cost, Agile Requirements Designer attaches accurate cost and complexity metrics to each requirement, so that you can forecast development time and cost before you start.

Requirements, business components, and test cases can be imported from HP ALM QC and mapped to unambiguous flowcharts.

Using Agile Requirements Designer for HP ALM QC, you can make crucial data more visible:
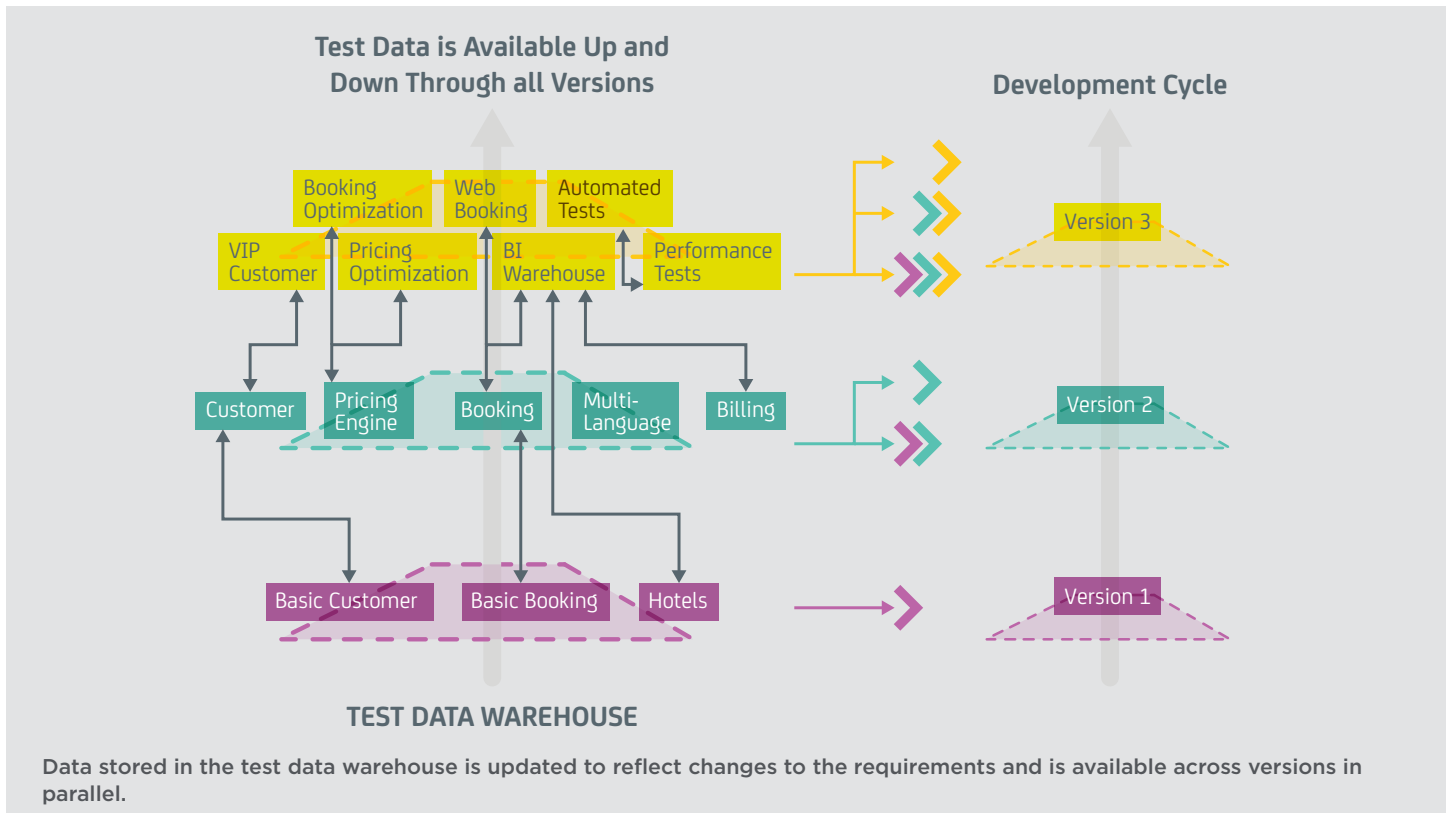
• Automatically build an unambiguous, active flowchart directly from your existing test cases and requirements.

• Visualize complex logic and improve collaboration with clear process models and use cases.

• Provide the business with accurate cost and complexity metrics for each requirement.

Test More in Fewer Tests

Agile Requirements Designer optimizes the test cases that are imported from HP ALM QC, building the smallest set of test cases needed to cover 100% of functionality. Any redundant, duplicate, or invalid test cases are removed, eliminating wasteful over-testing and shortening the average test cycle by 30%.

Agile Requirements Designer allows you to achieve the following objectives:

• Ensure maximum coverage with the minimum set of test cases.

• Detect defects earlier, when they require far less time and resources to fix.

• Prioritize critical test cases for better risk-based testing.

• Raise your test coverage by an average of 80%.

• Cut over-testing by up to a factor of four.

Test Data is Available Up and Down Through all Versions

Development Cycle

Booking Optimization | Web Booking | Automated Tests

VIP Customer | Pricing Optimization | BI Warehouse | Performance Tests

Version 3

Customer | Pricing Engine | Booking | Multi-Language | Billing

Version 2

Basic Customer | Basic Booking | Hotels

Version 1

TEST DATA WAREHOUSE

Data stored in the test data warehouse is updated to reflect changes to the requirements and is available across versions in parallel.

Find and Make the Right Data

Agile Requirements Designer significantly reduces the amount of time that teams spend finding the right data for testing. Agile Requirements Designer can quickly find the data needed to execute every possible test by automatically mining multiple back-end systems. Where no data exists for a particular test, Agile Requirements Designer uses powerful synthetic data generation to create it. The data is linked to relevant tests and exported directly into HP QC, providing testers with all the data they need to deliver fully tested software on time and within budget.

As it is delivered, data is cloned, allowing multiple teams to use it in parallel, without disrupting each other's data. Powerful version control means that relevant data sets automatically reflect changes that are made to the requirements, so that multiple releases and versions can be developed in parallel.

With Agile Requirements Designer, you can make testing more efficient:

- Automatically find or make test data, based on the test cases which need to be run.
- Link test cases to the right data and export them straight into HP Quality Center.
- Share, request, and reuse data using a self-service Web portal for improved efficiency.

Manage Changing Requirements

Making a change to requirements is quick and simple with Agile Requirements Designer. Any broken tests are automatically removed or repaired and any new test cases needed to retain maximum coverage are created. This eliminates the bottlenecks created by manual test maintenance, allowing testers to deliver valuable software that reflects constantly changing user requirements.

Using Agile Requirements Designer, you can automate recurring tasks:

- Automatically identify and repair test cases broken by changes in the requirements.
- Update tests automatically when a change is made to requirements.
- Create any new tests needed to maintain 100% coverage in minutes.

Agile Requirements Designer for HP BPT

Agile Requirements Designer for HP Business Process Testing (BPT) connects test case design and test data provisioning. It allows you to quickly find and make the right sets of test data and link that data to test cases, virtual messages, and expected results. You can create a library of test cases and data that can be shared, requested, and reused through a self-service web portal. By reusing and sharing data between teams you will be able to increase the speed of development and reduce the cost of testing.

With Agile Requirements Designer for HP BPT, you can easily share the benefits:

- Quickly and easily import HP BPT models into Agile Requirements Designer and convert them to unambiguous, active flow charts.
- Provide a standardized, script-free approach to provisioning the right data to test cases.
- Share test components and test data between test teams, in parallel, for increased efficiency.

An End-to-End Testing Solution

Agile Requirements Designer further enables the environments needed for rigorous testing to be provisioned, eliminating the delays and costs associated with system constraints and allowing projects to efficiently move from design to deployment.

With Agile Requirements Designer, you can achieve the following objectives:

- Provide parallel access to interdependent services and components to eliminate the delays created by cross-system dependencies and constraints.
- Create on demand test and development environments.
- Import and create the optimum set of test cases, virtual assets, and test data, and manage them from within HP ALM QC, resulting in a fully integrated dashboard for end-to-end testing and development.
- Overlay virtual end-points onto requirements and test cases, allowing testers and developers to specify exactly what in a system needs to be virtualized.
- Integrate with CA Test Data Manager and CA Service Virtualization, to create the virtual services that you need to execute 100% of possible test cases, allowing distributed test and development teams to deliver quality software on time and within budget.

See how your QA organizations can have fewer tests to automate and more time to execute, letting them focus on what is most needed. Download your free trial of Agile Requirements Designer, and take it for a test drive today. For more information, visit out website at broadcom. com/ard.