CA Test Case Optimizer

At a Glance

In today's application economy, organizations are increasingly under pressure to continuously deliver applications providing exceptional customer experience. However, application quality is routinely compromised as traditional testing continues to be too slow and overly manual. Software defects go undetected, creating costly rework and ultimately risking project failure.

CA Test Case Optimizer can help organizations accelerate application quality by providing maximum functional coverage with the smallest number of tests and automating test case design and execution based on changing requirements—all while greatly reducing the time and resources required in bringing products to market.

Key Benefits/Results

Reduce testing cost. Detect defects earlier, where they require less time, resources and cost to fix.

Improve quality. Optimize testing by getting 100 percent functional coverage with the smallest number of tests.

Accelerate application delivery. Remove manual effort by automating test design and execution, data allocation and change implementation.

Key Features

Build better requirements. Map requirements to a visual, active flowchart, and reduce requirement ambiguity by 90 percent[1] and software defects by 56 percent.[2]

Test Case Design. Automatically generate the smallest number of test cases needed for 100 percent functional coverage, linked to the right data and expected results.

Test Optimization. Import test cases, remove any duplicates and shorten test cycles by 30 percent.

Manage changing requirements. Automatically identify the impact of a change and update test cases in minutes.

Active automation. Generate every automated test needed to exhaustively test an application.

Complexity analysis. Accurately measure the time, cost and complexity of projects and change requests before they start.

Find and create data. Provision and link the right test data needed to execute every possible test.

[1] Metrics collected from CA Technologies' implementation experience
[2] Bender Report: Requirements Based Testing

Business Challenges

Traditional testing does not work well for DevOps. They are not suited for the speed or number of changes required to attain Continuous Delivery. Additionally, up to 56 percent[2] of defects can be traced back to poorly defined requirements, resulting in code defects and associated poor customer experience.

Ambiguous requirements. Vague requirements stored in disparate formats can lead to defective software and, ultimately, poor customer experience. It also leads to poor communication between the business and IT, creating project delays.

Insufficient test coverage. Manually designing test cases is typically unsystematic, and time-consuming. As a result, only 10-20 percent of functionality is covered, exposing the software to costly defects.

Wasteful over-testing. Four times over-testing is the norm while some functionality is redundantly tested 18 times over.

Automation frameworks dilemma. Most automation frameworks rely on laborious manual scripting, while further time is wasted maintaining a growing library of scripts by hand.

Constant changes. As requirements change, testers have no way to identify its impact on the system. Often, they check and update every test case and script by hand, but this is time-consuming and inefficient.

Solution Overview

CA Test Case Optimizer is an automated testing solution, enabling organizations to build and deliver high-quality applications to market faster, at less cost.

The product maps requirements to visual flowchart models, helping organizations eliminate ambiguous requirements and costly defects they create. Built-in cost and complexity analysis provides time and cost forecasts for development, reducing the risk of budget over-runs and delays.

With CA Test Case Optimizer, time-consuming manual effort is drastically reduced. Testers can automatically create the smallest number of test cases needed to achieve 100 percent functional coverage and link them to the right data and expected results. Existing test cases can also be imported and optimized and executed as automated tests, reducing the average test cycle by 30 percent.

The optimized test cases can be pushed out and allocated to testers in existing tools like Rally or HP ALM. They can also be executed as automated tests, eliminating manual scripting and making the exhaustive testing of applications possible on time and within budget.

As requirements change, CA Test Case Optimizer will automatically find and repair broken tests, automatically creating any new tests needed to maintain 100 percent coverage. This eliminates the bottlenecks created by manual test maintenance, allowing you to deliver valuable software which reflects changing user needs earlier and at less cost.

Critical Differentiators

Optimization: Beyond test case design. The ability to automatically generate maximum coverage with the smallest test cases possible improves quality and reduces testing costs. With coverage and complexity analysis, you can know that 100 percent functionality is being tested.

Built for re-usability. Test cases can be stored, shared and re-used from a central library linked to the right data and expected results. Distributed test teams can quickly re-create and execute the tests needed to fully test systems as they evolve.

Usability and collaboration. Users and business analysts can quickly model requirements as active flowcharts which then provide a single point of reference for all subsequent test and development effort.

Test data on-demand. By auto-generating test data at the same time as test cases are automatically created, CA Test Case Optimizer eliminates two of the most manual, time-consuming tasks in the development lifecycle.

Integrated solution. Integrations with various requirements definition, and test automation and execution tools lead to a greater ROI for CA Test Case Optimizer investment.

Related Products/Solutions

CA Test Data Manager. Creates all the data needed for testing, matched directly to test cases created in CA Test Case Optimizer.

CA Service Virtualization. Creates services needed for testing based on virtual end points modeled in CA Test Case Optimizer.

Rally. Exports requirements to CA Test Case Optimizer where they are optimized and converted into the right set of test cases.

Customer Success

A large financial institution. Improved test coverage from 5 percent to 100 percent, in just 30 minutes.[1]

A multi-national bank. Reduced the cycle time taken to implement a change request by 99 percent—from seven and one-half hours to two minutes.[1]

A global services company. Significant savings in test execution by eliminating 18 times over-testing.[1]

A multinational financial services provider. Reduced test case creation time by 95 percent.

For more information, please visit **ca.com**

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[1] Metrics collected from CA Technologies' implementation experience