Reimagine technology to accelerate your business

Ciber CTM & COP Test Methodology

Introduction

In today’s fast-changing world, an organization’s IT is under constant pressure to deliver new high-quality applications faster and at a reduced cost than ever before. Organizations are challenged to optimize their budget and time on testing activities. The effectiveness of any testing depends upon its ability to identify all defects before an application is rolled out to production. To a large extent, this ability of testing is directly dependent on the quality of test cases identified. The key is to choose the most important and effective test cases by removing those that are redundant/obsolete, and by automating for faster turnaround leading to test optimization.

The legacy application tends to carry a large suite of regression test cases. A regression test suite might have been developed over a period of time by multiple teams covering new enhancements in each release. This brings in a high level of redundancy into the test suite due to a lack of control over test case management. For every iteration of application change, most times, the existing test cases are not reviewed to check new enhancement coverage, instead, new test cases are added resulting in test case redundancy. As part of the product maturity strategy, IT team plans for a maximum performance at minimum maintenance. This calls for the implementation of test optimization with automation.

This paper talks about Ciber Conditional Test Model (CTM) and Ciber Optimal Pathing (COP), ready-to-use framework with best practices, tools, and accelerators in place for test optimization at Ciber Enterprise Quality Assurance and Testing (EQAT) Practice.

CTM & COP Framework Overview

Ciber Conditional Test Model (CTM) and Ciber Optimal Pathing (COP) are proven methods for deriving optimized combinations of realistic circumstances. CTM is developed using industry best practices such as CMMI, TMMI and TPI. COP process is a technique used for improving test coverage. This results in maximum test coverage with the minimal number of test cases.

3 Step Test Optimization and Automation Process

Ciber Conditional Test Model (CTM)

- Unique mapping from requirements to test for more useful test coverage
- Flexible coverage footprints allow rapid re-planning when release content shifts, thus accelerating testing
- Isolates defects faster for quicker repair ,and less defects released into production, reduces operational costs
Ciber Optimal Pathing (COP)

- Reduction in product development costs drive more competitive pricing
- Shorter time to market impacts profitability
- Better process reduces defects entering production thus improving product quality

Ciber Modular Rapid Automation

- Plug and play framework to automate the efficient coverage
- Designed to quickly address your needs while providing more accurate, robust, and efficient coverage
- Low-maintenance shared libraries and repositories designed for high re-use

CTM & COP Workflow

Cibers Test Accelerators and Methods

How this affects Testing...

- Clearer Requirements Analysis
  - Planner determines what conditions apply
  - Static Profile + Dynamic Usage
- Accelerates Test Case Planning
  - Reusable profiles are selected
  - Additional Static Conditions may be inserted
  - Dynamic Usage may be modified
- Simplifies Test Data Prep
  - Maintain data relationships, and "state"
  - Maintain data loads at various states to eliminate data reloads for each test.
  - Correct volume of data identified
- Shortens Test Execution
  - Deletes have a 20-50% quicker closure rate
  - Ability to re-start testing from fall-back points
- Maintenance becomes easier
  - Roll new conditions forward in the Profiles
  - Fewer rewrites and clearer regression tests

Cibers Test Accelerators and Methods

Typically, adapting the Conditional Test Model by applying business context knowledge in reusable profiles reduces test planning by 20-25% while increasing test coverage by 50-67% AND eliminating 60-85% of the required maintenance efforts.

Sales Channel

Date Availability

Product Selection

# of Guests

Needs data guidelines
1) Future Past 2) Range Specs

Industry Rules lead to 5 unique

x12

"Today" & "Tomorrow"
next Future Holiday
next Leap Year
any Promotional Day (Purchase’s Birthday/Membership Anniversary Day)

+ OF ANY compounded Discount Day (basically: any Eligibility Rules & Known Behavior shape the pathing)

x5

x2

x13

needs data guidelines
1) Max/Mins
2) Steps/SEVA

Needs data guidelines
1,260 TCs (for Exhaustive CTM)
72 TCs (present "Happy Path" way)

In Optimal Pathing, every condition gets Tested, but not every combination (Logic vector) is significant, this reduces testing time while providing coverage on all Conditions

= 737 TCs (provides optimal coverage)

Pathing Rules are used to pick optimal combinations and reduce overhead
Test Optimization Model Value Proposition

Ciber Test Optimization Framework has provided huge benefits to our customers, some of them being:

- Accelerated time to market
- Improved ability to scale
- Shorter test cycle time leading to lower resources and cost savings
- Maximum test coverage with minimum number of test cases
- Lower test maintenance efforts and costs

Conclusion

Today it is possible to have agility, speed, and quality in the system development life cycle process. Functional testing need not be a time-consuming or expensive proposition. By adopting Ciber’s test optimization methodology, IT organizations can take major steps forward in enhancing their testing processes. Development and QA teams can increase both the speed and accuracy of the testing processes, while IT department can achieve a higher ROI from software projects while reducing risk.

About the Author

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