

SMARTEST (Systematic Approach for Product Test Rationalization)

Voice of Customers



“We have a 2000+ large regression test suite. We do not know how many are obsolete test cases & how many we can use during the current regression cycle”.

The increased penetration of IT in our day to day life has resulted in continuous up-gradation of products to create more value. The increase in the frequency of upgrading existing IT products results in significant investment in software product maintenance. Based on a study conducted, in any software, maintenance accounts for two-third of the overall production cost. This is one of the greatest challenges faced by the product companies, when they have to maintain multiple versions of their products and ensure the existing functionalities are intact when new ones are added.

Regression testing, which invariably has to be performed each time the software is upgraded, is an expensive and crucial maintenance activity. It is estimated that, regression effort at times accounts for as much as half of the software maintenance cost.

Organizations are looking for ways in reducing the overall regression effort. On the contrary, organizations find it a challenge to maintain their regression related artifacts current and efficient.

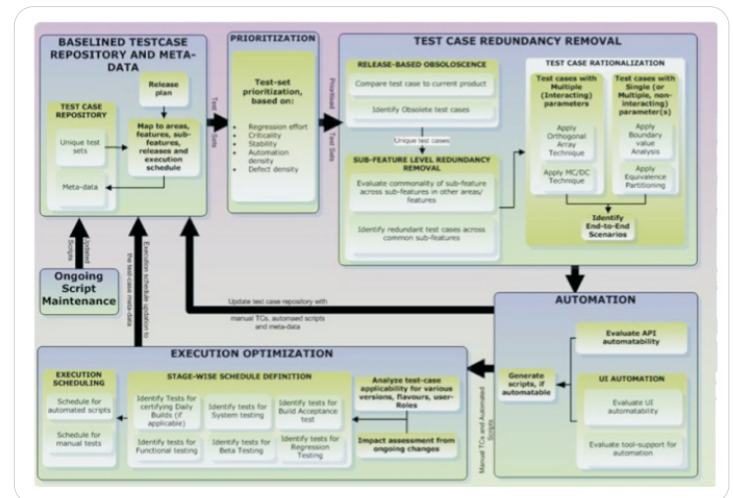
Cognizant Solution - SMARTEST

Cognizant has come up with a robust and systematic approach based on its vast experience working with

numerous software applications , products and business challenges SMARTEST (Systematic Approach for Product Test Rationalization), which can help you in bringing down the maintenance cost of your product by as much as 25%.

To start with, the existing knowledge of the product is harvested using techniques as mind maps, story boards, activity diagrams, flow diagram and existing artifacts, to help the team acquire the tacit knowledge and articulates the current state of the product.

The assimilated test artifacts are prioritized based on numerous factors such as regression effort, criticality, automation density etc, which helps in the test case selection when the test scope has to be narrowed in order to meet the stringent timelines or resource crunch.



The prioritized test artifacts are later subjected to various redundancy removal techniques such as OATS (Orthogonal Array Testing Strategy), MDC (Modified Condition Decision Coverage) etc. to ensure the Testing is effective and efficient.

The test cases suitable for automation based on criteria such as high path frequency, critical business processes, repetitive testing cases etc. are automated using Cognizant's proprietary hybrid automation framework, CRAFT - (Cognizant's Reusable Automation Framework), which can provide a cost savings of about 60% per release against manual execution.

After the test cases are automated, they are grouped based on the preference of execution like daily builds, functional testing, system testing etc, which help in optimum utilization of test execution and ensuring adequate test coverage.

Business Benefits

- Statistical approach like OATS, MDC helps in improving the productivity, without comprising on Test coverage

- Using OATS implementation up to 50-60% of Test effort execution can be reduced
- Using MDC, a pair wise combination of $2n$ test scenarios, can be reduced to $n+1$ scenarios
- Automation of Test Artifacts using the standard framework like CRAFT, helps in reducing the Test execution effort by as much as 60%
- The methodology is technology neutral and hence can be applied to product as well as applications

Case Study

The client a US based software product company is involved in developing financial and tax preparation software and related services for small businesses, accountants and individuals. The client had approx 60000+ test cases to be run for one regression cycle, which required an effort of 100 person weeks per cycle. With Cognizant's SMARTEST approach, the overall regression effort was reduced by 30%, without any compromise on the quality of the product.

About Cognizant

Cognizant (NASDAQ: CTSI) is a leading provider of information technology, consulting, and business process outsourcing services. Recognized by Fortune Magazine as one of the World's Most Admired Companies, Cognizant's single-minded passion is to dedicate our global technology and innovation know-how, our industry expertise, and worldwide resources to working together with clients to make their businesses stronger. With more than 50 global delivery centers and approximately 63,700 employees as of March 31, 2009, we combine a unique onsite/offshore delivery model infused by a distinct culture of customer satisfaction. A member of the NASDAQ-100 Index and S&P 500 Index, Cognizant is a Forbes Global 2000 company and a member of the Fortune 1000 and is ranked among the top information technology companies in BusinessWeek's Hot Growth and Top 50 Performers listings.

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For more information on how to drive your business results with Cognizant, contact us at inquiry@cognizant.com or visit our website at www.cognizant.com.



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