Abstract

Doing more with less has become a mantra for IT organization in today’s business environment. Nowadays, there are more projects, more competitive pressures and greater failure risk which needs to be managed with fewer resources with tighter timelines. But with all these constraints, there’s simply no room for compromise on quality and stability in today’s competitive world especially in case of important business critical applications. So, instead of doing more with less and risking late projects, increased costs or low quality, we need to find ways to achieve better with less. The focus of testing has to be placed on aspects of software that matter most with an aim of reducing the risk of failure as well as ensuring the quality and stability of the business applications. This can be achieved by applying the principle of Risk Based Prioritization of tests, known as Risk-based testing (RBT). The aim of Risk Based testing approach is to ensure that appropriate testing activities are identified and prioritized based on risk. The primary role of risk-based testing is to optimize available resources and time without affecting the quality of the product. RBT approach reduces the risk of failure to the business and increase customer satisfaction. In this light, this paper presents the progress different risk-based testing metrics to measure and control test cases and test activities progress, efforts and costs. IT organizations must adopt a focused approach and a comprehensive methodology for end-to-end testing. Risk-based testing helps quantify and
mitigate risks in the lifecycle of applications, and prioritize tests more effectively. Under RBT, we create Optimized Regression Test Suite based on Business Severity and Priority. The success of testing team will be the ability to identify high risk defects in software and ensure they are fixed.

References

- S. Åmland, 1999 Risk Based Testing and Metric, 5th International Conference EuroSTAR, Barcelona, Spain,
- Hans Schaefer, Strategies for Prioritizing Tests against Deadlines Risk Based Testing, Undated, [Online], http://home.c2i.net/schaefer/testing/risktest.doc
- Tor Stålthane, Gunhild Sivertsen Sørvig, 2003 Risk Analysis as a Prioritizing Mechanism in SPI, EuroSPI
- Veenendaal, E. 2006 Practical Risk-Based testing PRoduct RIsk MAAnagement: the PRISMA method. Improve Quality Services BV, [online], www.improveqs.nl
- H. Stallbaum, A. Metzger, and K. Pohl 2008 An Automated Technique for Risk-based...


- Qi Li1, Mingshu Li2, Ye Yang2, Qing Wang2, Thomas Tan1, Barry Boehm1, and Chenyong Hu2. 2009 Bridge the Gap between Software Test Process and Business Value- A Case Study, Springer-Verlag Berlin Heidelberg, pp. 212–223.


**Index Terms**

Computer Science  
Software Engineering

**Keywords**

Risk-based Testing  
Value-based Testing  
Value-based quality analysis  
Software testing  
test case prioritization