

Requirements Based Testing at HP OpenView

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Abstract

Releasing a new version of a software product seems often to be a trade-off between time-to-market and quality. Customers are waiting for the announced product but also expect high quality. Sales organizations are eager to sell new products. However, if quality is not good enough the customer is not satisfied and will intensively use the vendor's support organization. This increases post-release costs and reduces net-earnings. A requirements-based test process can deliver key information for a business-driven release decision and helps to reduce rework. This presentation will describe how we have established a solid requirements management process in our organization during the last 4 years. It will present adoption experiences with a standard requirements management tool and talk about our process improvements towards requirements based testing.

Ten years ago, our organization started with a few stand-alone products. Now, customer demands, as well as improvements in internal efficiency forced us to fundamentally change our development model. A few years ago we decided to move to a component-based product-line architecture. More and more of our released products are based on this new architecture. Nevertheless, we are still in a transition phase where we have to deal with both architectural models.

Our development teams are located in the US, Europe and India - some of them are subcontracted. Due to the shared component model and tight integration requirements of our different products, an efficient communication and collaboration is getting more and more important. Requirements, for example, are entered and managed by more than 150 people all across the world. An additional challenge in our work environment is the support of the large number of hardware and operating systems and the customer need of fully internationalized software. We successfully rolled-out

more than 100 software products worldwide during that timeframe

In this context, our organization has established a standard requirements process that works under the described constraints. This process is supported by an off-the shelf requirements management tool (Caliber-RM from Borland) that allows direct access to all requirements from any location. The major goals of our environment are:

- Effective collaboration around the world
- Reduction of rework

We started the requirements process improvement with two small pilot projects 4 years ago. Now it is adopted by the majority of the organization. We continuously adopted and improved the environment. A year ago we started to integrate our test processes.

Combining requirements engineering with a solid test approach provides answers to the following business critical questions:

- Did we test what the customer wants?
- Is the product good enough?
- What is the impact of releasing now vs. continuing to test?

To answer those questions we utilize the standard requirements tool and link the requirements to a test management system. This approach enables us to get quantitative measures for:

- Progress for test development and execution
- Risk assessment for a release (how much time is still needed for testing)
- Establish cost/benefit analysis for release criteria

The described model also enables our testing community to participate much earlier in the development process. They raise concerns when requirements are unclear, not testable or ambiguous. This directly impacts our product quality and significantly decreases overall rework efforts.