How Critical Logic slashed time-to-market for Sun Microsystems (now Oracle) by 50%, reducing test resources by 1/3

Editor's Note: Sun Microsystems was acquired by Oracle in 2010

THE PROBLEM

It's mission critical for Sun Microsystems' (now Oracle) sales organization to effectively define, price, and order complex hardware and software configurations to meet a customer's needs. To support its worldwide sales staff, the company created a "configuration support" application that allows sales representatives to build compatible hardware configurations, generate customer quotes, and pass the approved sale on to manufacturing for fulfillment.

The "Configurator" application is complex. There are more than 60,000 business rules describing all options for integrating and pricing Oracle's products. The fast pace of Oracle's technology development means that each month, 25% of the business rules change as new products are introduced and current products are changed or deleted. With this level of complexity and change, testing presents a huge challenge. Any defect is both costly and visible to the customer. At the same time, frequent, thoroughly tested configurator releases are required to keep pace with product line releases. There is no room for error and no time to go back and get it right later.

> "Over time we have increased our software quality…at the same time reducing the headcount and cost of testing by a substantial amount."
>
> _Dr. John E. Will, Ph.D.,_ *Sun Microsystems Director, Configuration Engineering*

THE SOLUTION

Traditional testing approaches were taking too much time and allowing too many defects to slip through. Sun Microsystems/Oracle turned to Critical Logic's advanced testing technology, based on cause-effect modeling, to improve quality and reduce time-to-market. With Critical Logic's software, all product and business rules were represented as functional models. When product rules were added or changed, the models were changed and all test cases were automatically updated. There was then no need to manually update any test case, and defects per release immediately began to drop.

The cause-effect modeling technology also creates automated test scripts. These automated scripts enabled Oracle to achieve complete regression test coverage on every release without manual maintenance of the scripts. 60,000 business rules translate into nearly 20,000 automated test cases that run in a very short period.
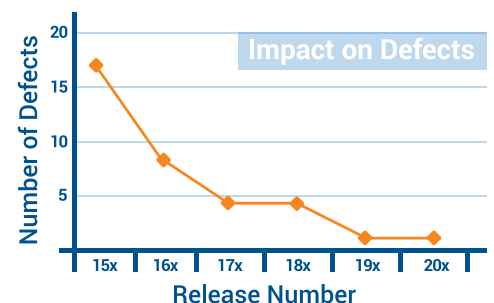
THE RESULT

As a result, there are few defect escapes in each release, and multiple releases have been defect-free. The configurator release frequency has been doubled from once every two months to monthly, ensuring products are properly quoted for every customer and sale. In addition, total test resources necessary to maintain test cases and execute testing for each release have been reduced by 1/3.

Impact on Defects

Number of Defects (y-axis: 5, 10, 15, 20)
Release Number (x-axis: 15x, 16x, 17x, 18x, 19x, 20x)

For more information on this case study or to learn more about cause-effect modeling, please visit www.critical-logic.com.

Case Study