

# Ensure enterprise application reliability



For today's web-enabled businesses, the issue of software quality has become more important than ever. The challenge to deliver reliable "production-ready" applications has intensified as more and more business functionality is deployed over the web.

Quality assurance practices must keep pace with the IT organization's need to plan, control and measure quality in business terms. The risks associated with developing and deploying reliable applications can't be left to the traditional software testing phase. New business-oriented testing practices must address the needs of the enterprise—including both the IT and business community—to deliver high-quality, reliable applications.

## **Problem: Lack of a business-oriented quality assurance approach**

Research from META Group indicates that approximately 60-70 percent of IT projects fail as a result of poor requirements gathering, analysis and management.\* Yet automated software testing—tools and processes—have been used for many years to drive improved application quality. IT organizations have made significant investments in technology and tools, but the industry as a whole has not seen the benefits that were expected. Automated testing has not progressed to the point where it is providing the information required to make informed "go/no go" decisions.

A business-oriented approach to quality assurance is a missing element of traditional quality and testing methodologies. The need to plan, control and measure quality in business terms has not been addressed. There are many factors contributing to this issue. Most quality assurance methodologies don't track requirements—from gathering requirements during the planning phase to tracking defects against requirements throughout the testing and deployment phases. Missed requirements represent the single greatest risk to application acceptance and to realized business value.

In addition, most traditional approaches don't prioritize business requirements in terms of two key factors—the importance and risk to the business. When change occurs, whether due to planned or unplanned events, it is essential to know what to test, the potential

risks of the change on the business as well as the amount of testing required. To be successful, risk must be assessed in business terms so that senior management can make informed decisions based on the realistic impact to the business.

## **Solution: Risk-based testing**

Risk-based testing is a methodology that mitigates the risk of deploying an application that neither meets business requirements nor functions reliably. It helps testing teams determine what things to test and prioritize testing based on the cost of failure. The greater the probability of expensive failure, the more important it is to test that feature.

---

**A study conducted by Forrester Research in 2003 found that executives who were least satisfied with application quality cited inconsistent implementation of quality methods throughout their organizations.**

---

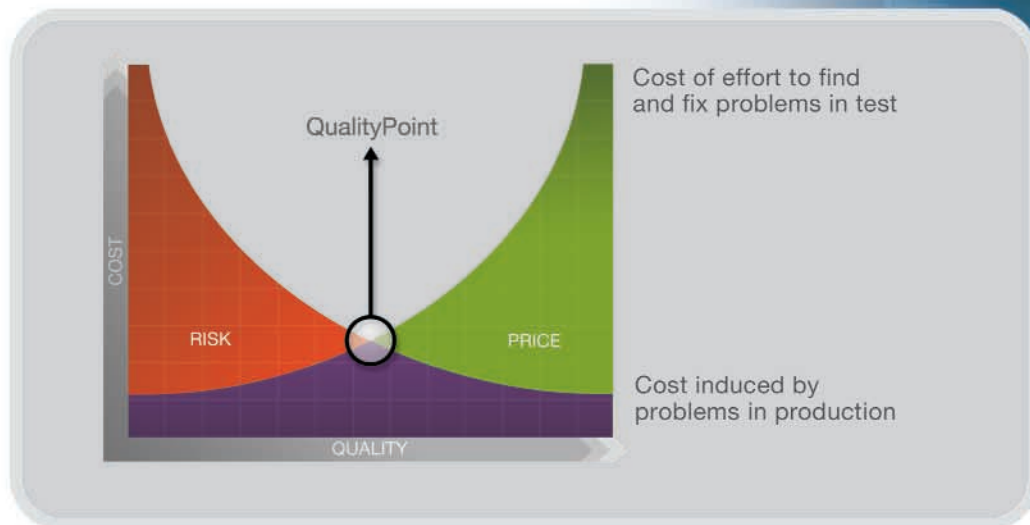
Adopting risk-based testing greatly improves the quality of applications, maximizes the utilization of resources and supports an on-time deployment. This is accomplished by linking business requirements to functional test requirements; using risk to prioritize the amount and kind of testing that's required; identifying and quickly responding to changing business requirements; and tracing results back to business requirements to measure risk in business terms and make necessary "go/no-go" decisions.

Risk-based testing is based on a cost model (see illustration) that depicts the logical break-even point between the cost of investing more time and effort to eliminate a defect and the cost to the business of leaving the defect in place.

\*Source: META Group, 2003.

**Approach: The QualityPoint® methodology**

Compuware's QualityPoint methodology uses a risk-based testing approach to provide IT organizations with an objective mechanism to weigh and prioritize what to test. It provides management the insight into their organization's testing efforts and the knowledge to make informed "go/no go" decisions. QualityPoint links testing to business requirements by defining functional test requirements. Functional test requirements are assigned risk based on various business, technical and historical factors. Test cases are created to prove the requirements and executed based on their assigned priorities. Quality statistics can then be summarized by business requirement and priority. Should requirements change, the QualityPoint methodology automates the creation of a revised testing plan. The methodology also allows reuse of



testing assets throughout iterative testing cycles to expedite on-time delivery.

At Compuware we believe risk-based testing is a critical component of a comprehensive testing methodology. Risk-based testing, when used with Compuware's testing methodology, QualityPoint, provides a repeatable process that delivers reliable business applications and facilitates continuous quality improvement.

**A disciplined approach to application delivery**

Compuware delivers the QualityPoint methodology in the Compuware Application Reliability Solution (CARS). CARS is a comprehensive solution that helps IT organizations deploy quality applications with confidence through the use of certified quality assurance experts, the QualityPoint testing methodology and mature technology. The CARS solution

includes professionals whose expertise is quality assurance and the management of business risk. The methodology is a complete quality management process, which identifies seven key process areas that are supported by procedures and templates. CARS also includes the Application Quality Workbench™, which provides a common view of quality, rich diagnostics, management-level metrics and a managed workflow to enforce process discipline.

**Compuware products and professional services—delivering quality applications**

Compuware is a leading global provider of software products and professional services which IT organizations use to develop, integrate, test and manage the performance of the applications that drive their businesses.

Our software products help optimize every step in the application life cycle—from defining requirements to supporting production service levels—for web, distributed and mainframe platforms.

Our services professionals work at customer sites around the world, sharing their real-world perspective and experience to deliver an integrated, reliable solution.

Please contact us to learn more about how our comprehensive products and services can help your organization improve productivity, create higher quality applications and ensure performance in production.

**Compuware** Corporation Corporate Headquarters  
One Campus Martius  
Detroit, MI 48226

For regional and international office contacts, please visit our web site at [www.compuware.com](http://www.compuware.com)



All Compuware products and services listed within are trademarks or registered trademarks of Compuware Corporation. Java and all Java-based marks are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries. All other company or product names are trademarks of their respective owners. © 2004 Compuware Corporation