



# Consolidate and Standardize Testing to Drive Quality and Business Value

## Introduction

The global downturn requires every unit within the business to not only "do more with less," but prove its value to the enterprise. This is especially true for quality assurance/test organizations, which typically are brought towards the end of the software development process as "gatekeepers," assuring the software meets certain minimum requirements for functionality, performance and stability before it is deployed.

New application architectures such as virtualization and cloud computing, and new business models such as outsourcing and Web-based collaboration, require that QA/test organizations transform themselves into global lifecycle partners, working with business users, developers and others within and outside of the organization to champion software quality.

## New World of Challenges

Software, in some form, is essential to almost every product or service offered by any business. But even as software becomes more essential, it becomes more complex. Ten or fifteen years ago, the application scheduling in a production line might be accessed only by internal employees, and rely on a single database for information about raw materials, production schedules and delivery requirements. Today, it might draw on multiple databases at various subcomponent with raw material suppliers, be accessed by production managers at multiple subcontractors and be delivered over a range

of architectures including mash-ups, service-oriented architectures and virtualized data centers via private or public cloud services. Finally, it must be updated frequently to fix bugs, accommodate new functionality or address security or regulatory issues.

The cost and time associated with testing these changes has made business managers aware of the role test/QA plays throughout the entire application lifecycle. Faster, more thorough testing cuts costs and increases flexibility by reducing downtime, as well as the expensive rework, retesting and redeployment of code.

Finally, these new demands are hitting at a time when every development and test/QA organization is being asked to develop more software, provide more functionality and test to higher levels of quality and functionality with flat or even declining budgets.

Testing/QA professionals can lead the way in meeting these challenges through what application development analyst Theresa Lanowitz of voke Inc. calls a Global Lifecycle Transformation. The change is "global" because the test/QA staff must now work with a broader mix of users and business units both inside and outside of their own enterprises. "Lifecycle" means that test/QA professionals must play a role throughout the application lifecycle, rather than only at the end of the development process. And the change is a transformation because test/QA must move from being simply a gatekeeper on the road to deployment to a true champion of quality.

Cognizant believes that test/QA organizations can achieve this transformation only by consolidating and standardizing the test/QA function, breaking organizational silos to foster more collaboration both inside the organization and with outside partners, and partnering where appropriate with outside sources of expertise.

Consolidation and standardization are key because test/QA organizations cannot be flexible and cost effective enough to meet today's business needs if they are constantly scrambling to coordinate testing among various business units, collecting test requirements and

data from scratch for each new test, and struggling to master multiple testing tools.

They will also not gain the corporate respect they need if different test/QA staff show up for each project with an ever-changing set of tools and methodologies. Business leaders trust partners (either internal or external) who deliver consistent, reliable and repeatable levels of service. Centralization and standardization of testing both lowers the cost and boosts the quality and stature of the test/QA organizations because it:

Making this leap from gatekeeper to strategic business partner often requires the QA/test group to consolidate and standardize the selection & usage of test tools, the deployment of test processes and templates and the training of testing staff. Only then can it break the organizational silos which typically hobble testing efforts, present a consistent and credible face to their business customers and develop the specialized expertise needed to meet today's testing challenges.

- Rewards specialists for developing deeper test/QA expertise
- Breaks down organizational silos through the clout of one central testing/QA group
- Provides a central source from which business users and developers can get consistent guidance, testing requirements and formats for test scripts and test data
- Reduces training/licensing/hardware costs and increases expertise by consolidating on fewer test/QA platforms
- Cuts the time and effort required to coordinate inputs of test data and analyze the output of multiple test tools
- Encourages the creation of reusable test components that save time and money in future test programs
- Improves the identification of architectural defects, and
- Boosts the visibility and credibility of the test/QA group

With help from Cognizant, for example, major U.S. health insurer Aetna Inc. has saved an estimated 14,000 hours in manual test effort by centralizing and standardizing the test process, and making it easier for users to review test data and test results. As part of the centralization and standardization, Cognizant developed scripts that automated and sped the loading of test data into the test suites. Cognizant also created MS Excel data sheets that show the business user two or three formats for the test data, and asked the users to select which they were comfortable with. This step alone cut the time required to approve the formats for the test data from half an hour to two to three minutes. The data sheets can also be used in multiple test components, further speeding the test process in the future.

## Consolidate, Standardize, Partner

As a first step towards achieving such benefits, Cognizant recommends creating a test/QA “center of excellence” that defines, develops and maintains test processes, standards and templates; chooses and maintains testing tools and trains staff in their use, and creates test and management metrics while striving for continuous process improvement.

This center should be scalable and sustainable across multiple projects and built on the strength of existing, proven tools and processes rather than a “rip and replace” of all existing test efforts. It should not be an isolated research laboratory, but rather a conduit for sharing best test and QA practices with application design and development, business analysts and security groups.

Using virtualization to create a production-like environment also helps reduce costs by eliminating the need for a standalone testing infrastructure, and increases the likelihood of finding defects by creating a test environment that closely approximates the actual production environment.

These centers achieve the greatest results when they seek specialized knowledge from trusted outside vendors. Cognizant, for example, offers a range of consulting services that have already helped more than 80 organizations assess the maturity of their test/QA functions, develop customized enterprise testing roadmaps, or simply determine which testing functions best lend themselves to outsourcing.

## Conclusion

The current economic crisis is an opportunity for test/QA organizations to not only prove their value within their businesses, but to position those businesses to thrive as the economy recovers. Becoming quality leaders, though, will require them to centralize the test/QA function, standardize on common tools and processes, and smash organizational silos as well as partner with internal users, external business partners, and trusted outside vendors. The result: Healthier test/QA organizations; higher-quality, more stable applications and increased value for customers and shareholders.

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Cognizant (NASDAQ: CTSI) is a leading provider of information technology, consulting, and business process outsourcing services. 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 over 68,000 employees as of September 30, 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. Visit us online at [www.cognizant.com](http://www.cognizant.com).

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