

### **IDC VENDOR SPOTLIGHT**

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Successful adoption strategies for continuous testing demand a primary focus on cultural, organizational, and process change.

# Enabling Digital Innovation with Continuous Testing Services

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### Introduction

Digital innovation drives execution more than ever in 2021's "new normal." High-quality, quickly developed software enables digital transformation, leveraging DevOps. Quality and delivery issues combine with demand for business velocity and dramatic rates of change; lack of continuous testing remains a core bottleneck because no company wants to or can afford to quickly produce ugly, broken, poorly performing software. The primary goal for the majority of organizations over the next five years is software product and service quality (according to IDC research conducted in 2020). A major reason for this goal is that application problems found post-deployment cost as much as 200x or more to remediate compared with problems found during development. These factors combine to drive demand for adaptive quality and testing strategies and services approaches.

Successful adoption strategies for continuous testing demand a primary focus on cultural, organizational, and process change, which — along with inconsistent automated tool adoption — forms the greatest barrier to thriving, effective implementation. Combining the core areas of people, process, and technology is vital.

### AT A GLANCE

#### WHAT'S IMPORTANT

According to IDC research, one of the top drivers of DevOps adoption is faster, higher-quality, and more consistent deployments.

#### **KEY TAKEAWAYS**

Organizations should evaluate and engage testing service providers that contextualize with empathy to enable systemic agile process adoption and organizational change along with deep domain knowledge for quality engineering (QE). Innovative test automation provider partnerships across core areas can enable QE transformation.

But how do organizations best implement continuous testing strategies? Human beings are wired much more for consistency than they are for change. As a result, IDC sees demand increasing for adaptive service providers to enable and augment execution; the shift to agile quality approaches is problematic without mentoring to enable systemic change. In that context, we see organizations seeking service providers not merely with deep domain knowledge for quality engineering (QE) but also with empathetic strategies for process and organizational change.

### **Benefits**

Organizations that incorporate contextualized, continuous agile testing approaches with effective quality engineering services from empathetic and experienced providers benefit in multiple ways:

- » Enable faster application responsiveness to changing business demands (e.g., pandemics, competitive business pressures) with agile and/or lean software delivery
- » Cut costs by "shifting left" to identify and address problems across the board sooner (e.g., irrelevance, poor interfaces, lackluster performance, security challenges)
- » Create efficiencies of scale by incorporating testing as part of development teams, coordinating consistent approaches with a hybrid mix of centralized consistency for methodologies and distributed deployment to teams

The opportunity to incorporate experienced teams via mentoring from service providers helps educate and drive the systemic adoption and evolution of quality engineering. Depending on resource availability and strategy as engagements are completed, organizations have the flexibility to take several approaches: become self-sufficient and wean themselves from service providers, establish a quality engineering services approach, and/or adopt hybrid engagement (depending on resources available and prioritization of team resources). The context for this decision depends on the resources available at the company itself and the benefits to be gained from longer-term engagement with the subject matter experts with domain expertise in QE and cost-benefit analysis. (We often see hybrid approaches here, assuming sufficient quality resources at the organization.)

IDC research indicates that top drivers of DevOps adoption include faster, higher-quality, and more consistent deployments; improved business agility; IT/line-of-business collaboration (source: IDC's *U.S. DevOps Survey,* December 2019, n = 109). All of these drivers can be positively impacted by leveraging effective testing service providers.

### **Trends**

The imperative to engage in rapid software deployment demands iterative software testing and QE. IDC research indicates that 80% of organizations are currently engaging in DevOps initiatives, which are resulting in compressed software delivery times (increases in monthly, weekly, daily, and hourly deployments) (source: IDC's *PaaSView and the Developer Survey*, June 2020, n = 2,500).

As a result of the headlong rush to digitization caused by the pandemic, organizations accrued significant technical debt, which will become increasingly visible and require remediation in 2021 and beyond. Enterprises must recognize the need for investing in app modernization efforts given that more than half their apps are legacy (see Figure 1). Coordination between quality engineering and security and designing/architecting for resilience and performance as part of the process is emerging as an imperative.









#### n = 1,873

Source: IDC's PaaSView and the Developer Survey, June 2020

By 2022, more than 60% of DevOps teams will be evaluated on key performance indicators (KPIs) and performance metrics, including criteria tied to business outcomes such as customer satisfaction or new revenue gains; by 2023, as automation accelerates development, DevOps, and DevSecOps, 90% of new apps will be built/released on demand using policy-driven security and compliance assessments in the delivery pipeline; and by 2024, 55% of organizations will be using business-driven value stream management as a means of tracking business value and ROI throughout the DevOps pipeline (source: *IDC FutureScape: Worldwide Developer and DevOps 2021 Predictions*, October 2020).

Core elements for a quality engineering strategy include staffing/people (design/architects, quality engineers, transformation engineers/evangelists, knowledge of disciplines,); process/methodology/organization/governance; technology. In addition to quality engineering, these core elements can address complexity issues.

The range and breadth of application portfolios that need to be encompassed (from "bright, shiny" apps to systems of record [SOR] and enterprise resource planning [ERP]/business apps) and the complexity of deployment on multimodal platforms — from mobile to Internet of Things (IoT) — demand adaptive quality approaches along with smart analytics with emerging artificial intelligence/machine learning (AI/ML) and robotic process automation (RPA). According to IDC research, 70% of organizations cited integration (see Figure 2) as a top bottleneck, so encompassing ERP and SOR as part of testing strategies is critical as organizations increasingly seek to address coordination between front-end and back-end applications. At the same time, cloud platforms increase efficiency on the one hand and also demand quality engineering approaches for testing "on" the cloud and of cloud applications.



#### FIGURE 2: Top Process Bottlenecks





n = 160

Source: IDC's U.S. DevOps Survey, September 2020

These levels of complexity have led to a broad cadre of testing service providers, ranging from global systems integrators (SIs) to specialized third parties. These providers have a rich portfolio of automation tools to help enable their practices. This breadth of automation is particularly helpful to increase efficiency and is a factor acknowledged by users as well. IDC's 2020 survey research indicates that leading bottlenecks to execution and DevOps include manual testing, lack of automation and/or fractured tools and approaches, and inconsistent usage. In this context, we consider the offerings of service provider TTC.

### **Considering TTC**

TTC was founded as an innovative testing service provider in New Zealand in 2004 and had around 200 employees as of 4Q20. The company has over 100 customers, including significant Fortune 500 representation across verticals such as oil and gas, banking and financial services, insurance, healthcare, technology, manufacturing, and telecommunications.

TTC expanded to Asia (via Singapore) in 2012, the United States in 2016, Europe in 2018, and Australia in 2020. TTC's differentiation and focus on process and methodology change can help shift how people engineer and deliver quality software and transform the ways in which software is delivered. In addition, TTC's partner-centric strategy/collaboration drives a significant number of engagements where customers need implementation and adoption support. (This collaboration includes partners such as Tricentis, Neotys, Appsurify, Atlassian, Dynatrace, Inflectra, and UsableNet.)

Strategic TTC advantages cited by customers include contextualized approaches to process, cultural, and organizational change and the ability of the company to engage, listen, empathize, and adapt services to specific needs in the organization for workflows and processes. These are critical aspects for business transformation mentioned by customers who compared their experience with large service providers, which they said tend to have more of a standard,



"cookie cutter" approach and are "in and out" of the organization (often without long-term staying power and/or consistent personnel). Additional benefits include evaluating and addressing inefficient test cases to create efficiencies of scale (with associated decreases in maintenance and solid cost savings), significant increases in test execution speed, coverage and breadth with systemic use of test automation, and process and organizational improvements. Overall, these combined values that incorporate a hybrid approach, breadth and, especially, individualized, empathetic engagement were delineated for TTC in conversations that IDC had with customers.

Additionally, TTC has created and offers a quality maturity model, which helps support a "shift left" approach to agile testing and seed engagement with teams. This quality maturity model also helps support a transition to user interface (UI) and API testing, addressing maintainability issues and increasing levels of automation.

TTC competencies for technology/automation include test management, service virtualization, test data management, data integrity, data warehouse testing, analytics, API testing, security, performance, accessibility, exploratory testing, testing services, and ERP-specific testing. IDC increasingly sees demand for testing for packaged or commercial off-the-shelf applications such as SAP, Salesforce, and Oracle as these applications are foundational enablers for the business and can become bottlenecks for agility. The combined expertise of service providers (and of automated tool providers with granular Stratogic TTC)

Challenges

support) enables adaptive, encompassing approaches.

Challenges for TTC include market inhibitors in the wake of the pandemic, such as global volatility and unpredictability as we move into the "new normal." The need for digitization as a consequence of remote work and the demand to deal with resulting technical debt in 2021 and 2022 are also drivers for QE consulting. As a smaller, less well-known testing service provider, TTC faces the challenge of making a name for itself among more widely known, larger SIs in the testing services market. Regionalized teams from New Zealand and other localities (where "gig" culture dominates) are not always suited to work in other regions as the organization expands. Additionally, the usual organizational resistance to change and adaptation that all companies (and service providers) face in adopting QE is also a barrier to adoption. That said, we see TTC working effectively to expand and further evolve its teams and partnerships in 2021 and beyond.

### Conclusion

Quality engineering and continuous, agile testing are vital to digital innovation and DevOps, which are even more essential during a time of global volatility and its aftermath. Organizations can transform as a result of working with adaptive testing service providers that can provide mentoring in terms of transitioning to continuous testing to increase the velocity, efficiency, and quality of software deployments. IDC believes the market for testing services will continue to expand in 2021 and 2022, benefiting from innovative, differentiated solution providers. Strategic TTC advantages cited by customers include contextualized approaches to process, cultural, and organizational change and the company's ability to engage, listen, empathize, and adapt services to specific needs in the organization for workflows and processes.



## **About the Analyst**



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Melinda Ballou serves as Research Director for IDC's Application Life-Cycle Management (ALM) program. In this role, Ms. Ballou provides thought leadership as well as expert opinion and analysis through comprehensive research on end-to-end application life-cycle management — from requirements to quality, testing, change, continuous release, process, and project and portfolio management (PPM) with a focus on agile DevOps software life-cycle strategies.

### **MESSAGE FROM THE SPONSOR**

TTC is committed to helping organizations transform the way they deliver quality software with capabilities across a wide range of delivery areas that enable our clients to increase the speed and quality of technology development while reducing risk and cost. Our mission is to be a testing partner that takes our global learnings and best practices and tailor them for our clients in order to provide with the best outcomes.

If you're interested in transforming your organization's testing capabilities and want to learn more about how TTC can partner with you on this journey, we'd love to hear from you. Visit us at: https://ttcglobal.com

#### O IDC Custom Solutions

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