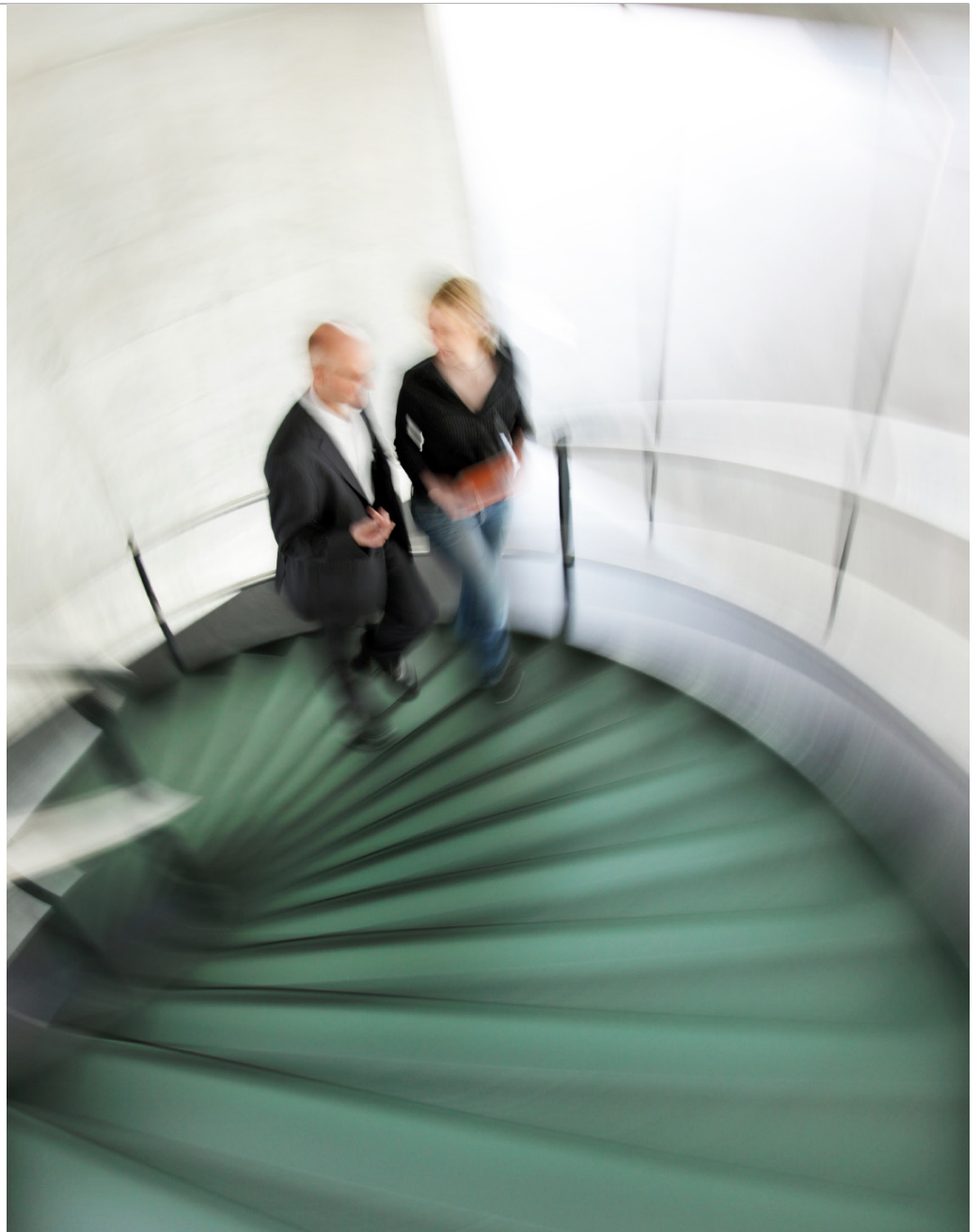# Delivering Increased Quality at Lower Cost with HP:

An Analysis of Customer Experience with Functional Testing

Greater Complexity and Faster Release Cycles Drive Changes in Functional Testing

New technologies and processes designed to deliver greater business return have created challenges for the entire IT function, and none more so than functional testing. Agile, hybrid, and other iterative application development processes mean testing needs to take place earlier in the lifecycle, often on partial applications or features rather than complete applications. Composite applications with headless business-logic layers, shared services, and integrations into other applications require a different approach to testing because much of the functionality is not revealed through the user interface (GUI). The evolution to mobile has increased expectations of application quality and functionality while dramatically increasing the number of environments to test.

Modern QA organizations require solutions that allow them to test complex applications, start testing earlier, and run more tests—all while reducing costs. HP customers have turned to HP Functional Testing (Quick Test Professional), HP Service Test, and HP Sprinter to meet these challenges.

The Impact of Functional Testing Using HP Solutions as Reported by Users

The 58 customers who participated in this study all had different functional testing challenges to address. However, they had a common commitment to delivering high-quality applications to their businesses. The paper examines the experiences of these customers and shares their stories.

HP Sprinter

While the last decade has seen increasing adoption of automated testing methodologies (with tools like HP Functional Testing), the majority of application testing is still performed manually. Manually testing software in multiple operating systems, web browsers, and devices can add significantly to the time needed to release an application.

Sample ROI Achieved Using Functional Testing Solutions from HP:

- A Global 500 retail company realized a 3 times return on investment (ROI) by automating testing with HP Functional Testing

- A business computer software company reduced by 50-70% the time spent on communicating defects to development by using HP Sprinter

- A Fortune 500 pharmaceuticals company shortened its test cycles approximately 50% by using HP Service Test

HP Sprinter is an easy-to-use solution that streamlines manual software testing. HP Sprinter reduces the time needed to perform manual software tests and increases their accuracy and effectiveness.

> "The validations that Sprinter provides, gives the organization the confidence that the Quality is there."
>
> *Global 500 Professional Services Company*

The HP Sprinter users who participated in this study all agreed (100%) that it reduced manual testing time. They cited the test execution capabilities (100%) as one of their main reasons for using the product. The data injection features were also described as having particularly high value (78%).

Main Benefits Gained From HP Sprinter

What are the main benefits you gain from HP Sprinter? Choose all that apply.

Benefit	Percentage
Reduced manual testing time	100%
Improved testing accuracy	67%
Enabled better communication of defects to development (accelerated defect remediation)	78%
Other	11%

Note: this is a multiple-choice question – response percentages may not add up to 100.

Source: Survey of 9 users of HP BTO Applications Center

www.techvalidate.com/product-research/bto-applications-center   TVID: 198-6EF-EF1

Another capability widely praised by HP Sprinter users was the ability to enable better communication between testing and development teams, which accelerated defect resolution (78%). In particular, HP Sprinter's ability to capture and record screens during manual testing, and then annotate them (82%), was described as a key to accelerating defect resolution.

Other HP Sprinter capabilities users were enthusiastic about included "mirror testing" (44%), which allows tests to be replicated simultaneously across multiple test machines hosting the different environments, as well as the ability to log defects directly into other HP solutions, including HP Quality Center and HP Application Lifecycle Management (56%).

HP Service Test

The services and components used by applications contain many GUI-less entities that provide important business logic to applications. Without proper functional testing, these "headless" components can negatively impact the quality of the overall system. HP Service Test offers a simplified approach to headless testing. Rather than creating a highly technical script, HP Service Test has a graphical interface that visually constructs tests on a canvas.

The HP ServiceTest users who participated in this study reported that the ability to test services within a SOA environment was a key benefit of the product (91%), as was increased test coverage (82%) and the ability to test nonfunctional aspects such as performance and security (73%).

Research by TechValidate

Benefits of Using HP Service Test

In general, what does Service Test help you achieve?

Increased test coverage	82%
Allows you to uncover bugs earlier in the application development lifecycle	45%
Helps test services within a service oriented architecture (SOA)	91%
Test nonfunctional aspects such as performance and security	73%

Note: this is a multiple-choice question – response percentages may not add up to 100.

Source: Survey of 11 users of HP BTO Applications Center

www.techvalidate.com/product-research/bto-applications-center   TVID: 473-B17-770

Methodology
The information presented in this report is based on feedback from 58 customers currently using HP Functional Testing, HP ServiceTest, and HP Sprinter. Customers in this study provided their input using the online customer evidence tool, TechValidate.

Participants
Participants in this study represented the wide variety of customers currently using HP solutions for functional testing including:

- Global representation from users in North America, Europe, and Asia

- Smaller environments with only a few end users to very large implementations with hundreds of testers

- A wide range of industries including financial services, pharmaceuticals, retail, telecommunications, transportation, healthcare, manufacturing, computer software, and more

- A broad spectrum of applications and technologies tested including Web, .NET, J2EE, Ajax, Silverlight, Oracle, SAP, Seibel, mobile apps and many more.

> "Early Defect Detection and Early performance feedback to application functionalities are the major benefits."
>
> *Fortune 500 Pharmaceuticals Company*

HP Service Test users were consistent in reporting faster test creation time, with 70% of participants saying they could design tests in half the time or less. Participants also cited efficiencies gained by standardizing on a single tool for service testing (64%) and being able to extend service testing responsibility to more testers in the organization (55%).

HP Functional Testing

Validating an application through the GUI interface to emulate the user experience remains the cornerstone of functional testing, and automation can speed testing times and increase test coverage. HP Functional Testing provides functional and regression test automation for every major software application and environment, offering keyword-driven testing that simplifies test creation and maintenance, robust record/replay capturing technology, and an integrated scripting and debugging environment for power users.

The HP Functional Testing users who participated in this study reported they had achieved shorter testing cycles (79%), reduced effort for test maintenance (68%), and increased use case and environment coverage (62%).
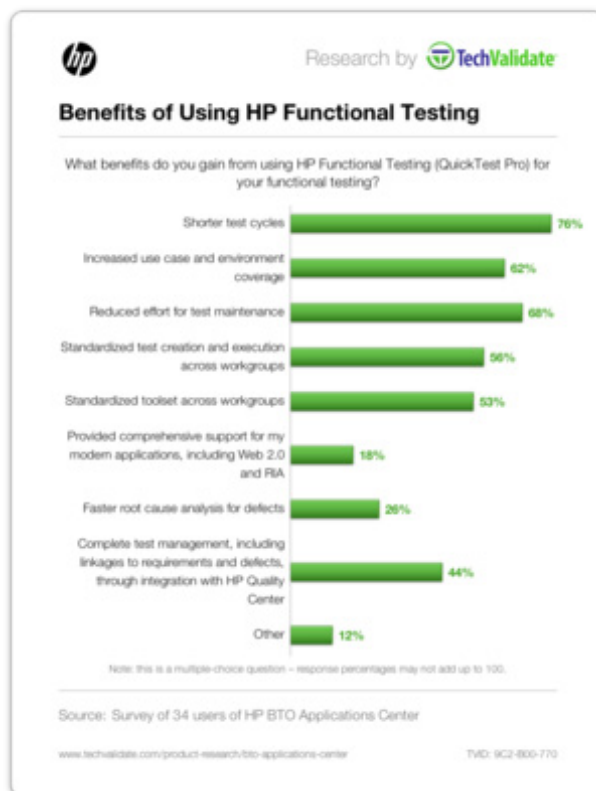
> "We have increases our test cases by 1000 without adding any new resource to run and triage the test. Once we setup the framework and procedurals we were able to run and triage as many tests as we keep adding. We would not have done this with manual testing, it would take us 6 months for what it takes us 2 days with QTP."
>
> *Medium Financial Services Company*

HP Functional Testing offers a wide range of features valued by participants including integration with HP Quality Center for test management (76%), easy data-driven testing (67%), ease of test maintenance (64%), and keyword capabilities (55%).

> "We've seen a tremendous ROI in running automated smoke tests against our daily builds. We re-run the same tests everyday against every build which saves us dozens of manual test hours on a weekly basis."
>
> *– Global 500 Telecommunications Company*

While only 69% of HP Functional Testing customers in our study measured ROI, those who did reported tremendous return from their use of the product. 55% of those who measure ROI reported they had doubled their return on investment, with a further 38% reporting they had more than tripled their ROI.

Next Steps

For more information on HP Unified Functional Testing or to download a trial version of the solution, visit our web site: www.hp.com/go/functionaltesting.

For more information on HP Sprinter or to download a trial version of the solution, visit our web site: www.hp.com/go/sprinter.

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