



HP Unified Functional Testing software

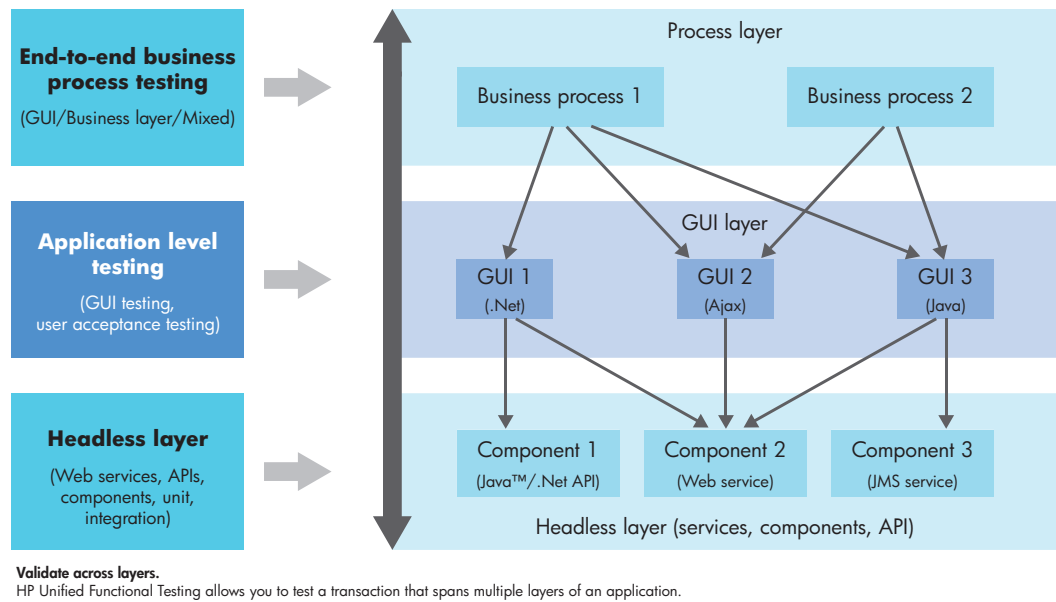
Data sheet

Now you can automate the functional testing of transactions that span multiple application layers, cutting the cost and complexity of the testing process while improving application quality.

- Validate multi-layer test scenarios with a single, integrated solution
- Start automating functional testing earlier and accelerate time-to-market
- Discover defects you would have missed if you only tested the functionality exposed through the graphical user interface (GUI) or a single service or component
- Reduce training and tool costs with a solution that addresses GUI, non-GUI, and multi-layer testing



Figure 1. Multi-layered testing



A leap forward in application modernization

IT management clearly understands the need to modernize applications. In a recent Forrester Consulting survey, IT decision makers from 200 global enterprises indicated that obsolete technology, poor functionality, and unstable applications are causing low application development productivity. Fully 76 percent noted the negative impact of “cumbersome software development lifecycle processes,” while 50 percent found that “applications no longer meet business requirements” and 41 percent cited applications that are “wholly or partially redundant with other applications.”¹

What’s not as clear is how to test modern applications in the face of constant changes in technologies, processes, and people. Consider:

- With Web 2.0 and rich Internet applications (RIA), cloud, component- and service-oriented architectures (SOA), the development of modern applications is faster, cheaper, and more nimble. But how will your testing tools keep up with ever-changing technology?
- IT organizations are taking on Agile and other iterative development methodologies. But how can QA teams participate in and automate testing in the early iterations of development? As applications become increasingly composite, how will you manage dependencies and understand the impact of a change?
- Traditional roles such as business analyst, testers, and developer are coming closer together, while ownership of services and components can now span the globe. Will your testing tools facilitate collaboration and support best practices across these diverse roles, today and tomorrow?

HP Unified Functional Testing is a single solution that addresses each of these challenges. It is more than another step in the evolution of testing. It is a leap forward in testing modern applications, and it can dramatically improve development productivity and collaboration, cut the cost and complexity of testing, and help improve application quality.

What is a multi-layered application?

Monolithic applications are being rewritten or replaced by applications that are interconnected and integrated, sharing components and services. A modern business process can begin with a transaction request on a Web application, connect to a billing system, register a new transaction on an ERP system, send an e-mail notification through the e-mail server, and, once all steps are verified, return to the Web application to finish the process with a confirmation message. These end-to-end processes not only span multiple applications, but also perform complex steps below the GUI layer within what is sometimes called the “headless layer.” The headless layer contains any number of services, message queues, database abstraction layers and other GUI-less entities which are typically accessed through API calls.

Multi-layer applications provide an opportunity to conduct more elaborate and complete testing; and with access to the headless layer, QA teams can begin testing earlier in the development lifecycle—before the GUI is ready. A focus on non-GUI interfaces improves the overall quality of a composite application by improving the quality of utilized

¹ “Clearing Your Path to Modern Applications and Business Agility,” by Forrester Consulting, April 6, 2010

services and components. In many cases, defects can be identified and fixed before the application reaches a stage of maturity when it becomes more expensive to make changes.

To properly test multi-layer applications, QA teams must plan for three levels of testing: GUI testing, headless layer testing, and multi-layer testing. The next section describes HP solutions in each area, providing context for understanding why HP Unified Functional Testing represents a dramatic advance in testing modern applications.

Validating the application through the GUI: HP Functional Testing software

HP Functional Testing software provides functional and regression test automation for every major software application and environment, including advanced Web 2.0 toolkits, leading development technologies, Web services, enterprise resource planning (ERP) and customer relationship management (CRM) applications. HP Functional Testing can be extended to support Web technologies that are not supported out of the box, and includes the Extensibility Accelerator to speed the development of support for these additional Web toolkits.

HP Functional Testing offers keyword-driven testing, which simplifies test creation and maintenance. Testers can build test cases by capturing flows directly from the application screens and applying robust record/replay capturing technology. In addition, power users have full access to the underlying test and object properties through an integrated scripting and debugging environment that is synchronized with the keyword view.

HP Functional Testing is designed for test automation collaboration among tester workgroups. It includes technology for managing application definitions or objects in the Object Repository Manager. Based on an open XML format, the Object Repository Manager lets teams collaborate and share application object definitions, and it keeps object-level changes synchronized throughout test creation efforts. Users can also share function libraries, application asset definitions, and data-driven spreadsheets across workgroups.

HP Functional Testing includes QuickTest Professional and all of the QuickTest Professional add-ins.

With HP Functional Testing, QA organizations can:

- Empower the entire team to create sophisticated test suites with less training and minimal testing skills
- Easily regression test ever-changing applications and environments
- Reduce costs by facilitating adoption of consistent, repeatable, and standardized testing practices and shareable assets, resulting in higher quality and more predictable releases

Validating services and components: HP Service Test software

HP Service Test software automates the functional testing of “headless” (non-GUI) services and components with an unprecedented level of simplicity. Its interface allows tests to be created with just a few clicks of the mouse. Ready-to-use activities are available in an extensive toolbox, and they can be dragged and dropped onto the canvas where they become part of the flow of the test.

In addition, each step in the test can be configured using the new property sheet, which allows users to define not only the flow of execution but also the flow of data as the test executes. The implementation details are hidden from the user, who is no longer required to master a programming language to begin testing. It’s the closest thing you’ll find to “codeless testing.” Yet advanced users still have the capability to customize the behavior of the test by implementing event handlers for events that are exposed by the test’s steps. And customers and partners interested in extending the capabilities of HP Service Test software can use the Framework API to add new activities to the system that are tailored to their needs.

With HP Service Test, your QA organization can:

- Test services and components as soon as they’re stable, accelerating the test process
- Make service testing accessible to more testers in your organization with minimal training
- Allows more testers to be more productive faster—without sacrificing advanced capabilities

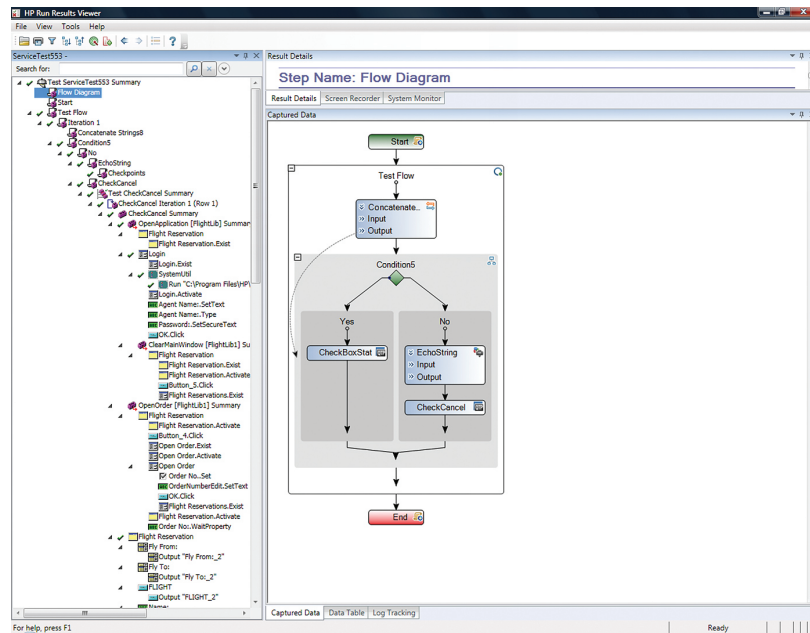
Validating multi-layer test scenarios: HP Unified Functional Testing software

HP Unified Functional Testing combines HP Functional Testing and HP Service Test in a single, integrated solution. With HP Unified Functional Testing, you can conduct testing for both GUI-based applications and headless components in a single test scenario, providing automated functional testing for a transaction that spans multiple layers of an application.

The groundbreaking capability with Unified Functional Testing is that scripts from HP Functional Testing and HP Service Test can call each other. When called, the initiating script will pass any complex data structure required to run the tests in the other tool.

HP Unified Functional Testing then reports on the quality of the end-to-end process, broken down by HP Functional Testing and HP Service Test activities. This enables full traceability for easier debugging.

Figure 2. HP Unified Functional Testing report for an integrated test scenario.



You can use HP Functional Testing or HP Service Test software separately to validate the GUI layer and the headless layer respectively. But only with HP Unified Functional Testing software can you use the tools together to validate an integrated test scenario on a multi-layer application. Moreover, with HP Unified Functional Testing you can accelerate your load testing process, because your service tests can be executed as part of a load test scenario—there is no need to duplicate the test for load testing.

With HP Unified Functional Testing, your QA organization can:

- Improve the quality of composite applications by testing more functionality across multiple application layers
- Find defects you may otherwise miss by testing the complete functionality of an integrated scenario
- Cut time-to-market by accelerating both service testing and load testing processes

- Reduce training and tool costs by adopting a single solution that addresses GUI, headless and multi-layer testing
- Modernize applications efficiently and cost-effectively

About HP BTO Application Solutions

HP's application solutions help ensure modernization initiatives deliver business outcome instead of failing under the burden of outdated, legacy delivery mechanisms. Where rival solutions mistake the software development lifecycle for a total picture of the application, HP sees core delivery in the context of the complete application lifecycle—from business idea through retirement. Furthermore, by providing unified management and automation solutions, HP offers customers not simply more tools and integrations but greater simplicity. The result for enterprise application teams is improved predictability, repeatability, quality, and change readiness in both the core and complete lifecycle.

To know how you can cut the cost and complexity of the testing process while improving application quality, check out

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4AA3-0654ENW, Created August 2010

