OPTIMIZE

# MERCURY LOADRUNNER CLICK AND SCRIPT TECHNOLOGY REDUCES SCRIPTING TIME UP TO 80 PERCENT

**MERCURY**™

BUSINESS TECHNOLOGY OPTIMIZATION

## TESTING WEB APPLICATIONS WITH MERCURY LOADRUNNER

Mercury LoadRunner™ is an enterprise-class solution for predicting system behavior and performance. It enables enterprises to:

- Obtain an accurate picture of end-to-end system performance before going live.

- Verify that new or upgraded applications meet performance requirements.

- Identify and help eliminate performance bottlenecks during the development lifecycle.

Enterprises that use web applications to deliver information, products, or services need to provide the best possible user experience in order to attract and retain customers. Web application performance testing is essential to ensure that applications meet service and availability goals, while retaining correctness under stress conditions.

Mercury LoadRunner supports performance testing for the widest range of enterprise environments, including web, Web Services, client/server, legacy, Citrix, Java, .NET (2.0 and 1.1), and all ERP/CRM applications, including PeopleSoft, Oracle, SAP, and Siebel. LoadRunner helps enterprises accelerate delivery of new applications and upgrades to drive business success while minimizing the risk of production downtime and poor performance.

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**INTRODUCING CLICK AND SCRIPT TECHNOLOGY – A NEW GENERATION OF WEB PROTOCOL**

Sixty percent of Mercury LoadRunner users test web-based applications. These users typically spend 70 percent of their time scripting tests. Until now, all scripts were recorded using low-level HTTP protocol to capture web applications for performance testing. But HTTP scripts are long, time-consuming to create, and hard to interpret and maintain. The most time-consuming task with HTTP-level scripts is correlations – capturing values that are created in one step (e.g., session ID) and used in another. In some cases, such values cannot be captured, as they are computed by complex client-side JavaScript code, which has to be rewritten in C within the HTTP-level script.

Now, with Mercury LoadRunner Click and Script Technology, users can record scripts at a higher presentation layer, making the scripting process much easier. Click and Script Technology automatically captures the most valuable scripting information to create intuitive and self-explanatory scripts, expressed in user-actions terms, such as pressing a button, filling an edit field, etc. It also executes client-side JavaScript code, just like the browser does, which virtually eliminates the need for correlations. Therefore, it dramatically reduces scripting time and provides much more succinct information that is easier to interpret and understand. These scripts are also much easier to maintain – since anyone can look at the scripts and quickly see what is going on in each statement.

Users of Mercury LoadRunner 8.1 and VuGen are presented with "thumbnails," which are pictorial renditions of how test applications will actually run. Click and Script Technology presents script information at that same level. Application testers have been used to dozens of multi-line function calls generated at the HTTP level in a web-testing script, which clutters the script with details that are hardly required for them. The Click and Script Technology uses just a couple of top-level function calls, each comprising only a few lines, freeing the testers from low-level information and enabling them to deal with essentials only. Web Click and Script makes it much easier to read testing scripts, reducing the time required to develop these scripts by as much as 80 percent.

The protocol uses Object Highlighting in the snapshots to indicate which object in the browser a step refers to. The object appears with a pink border in the snapshot viewer.
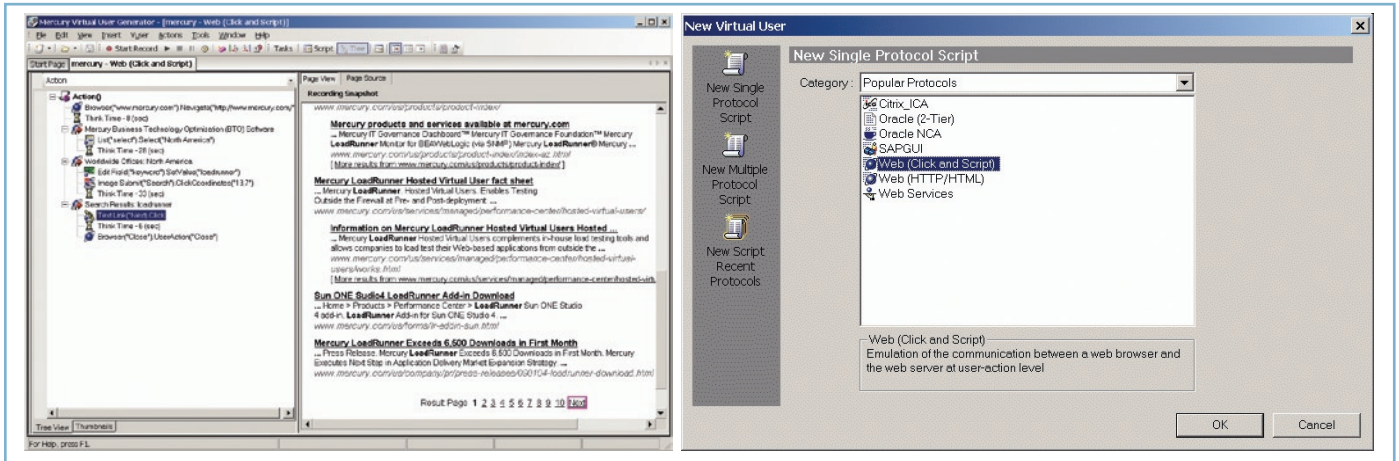
The Click and Script Technology also supports executing client-side JavaScript code by the Mercury LoadRunner replay agent. Such JavaScript code is what usually causes the need to do correlations in HTTP-level script, and therefore, executing it prevents the need for manual correlations with Click and Script. Eliminating manual correlations is the single biggest contributor to reducing scripting time, by as much as 80 percent.

Other features of Click and Script Technology include:

- Creation of a word-format business process report describing the business process covered by the script.

- Document Object Model snapshots for both recording and replay that display pages as the user sees them and that include Object Highlighting.

- HTTP fallback for individual steps, for one-click workarounds.

- When an object is not found, the replay log lists similar objects from the page, so that the DESCRIPTION can be easily adjusted.

- Support for regular expressions in descriptions.

## USING CLICK AND SCRIPT TECHNOLOGY

Mercury Click and Script Technology is very easy to use. The following sections describe the steps involved in enabling, recording, and replaying scripts.



Enabling the Click and Script protocol.

### Step One: Recording Scripts

Using Mercury QuickTest Professional™ technology, testers record user interactions within the web browser. The script is generated as VuGen C code using a set of new API commands, such as:

• **web_edit_field** filling in a text input field

• **web_button** clicking on a button

The only URL seen in the script is the URL used for the first navigation. The protocol is still recording information on the sockets level, so it can later regenerate the script to web HTML if needed.

### Step Two: Replaying Scripts

Script replay is shown as a scalable representation of the browser DOM. It then executes (client side) JavaScript code in the HTML page. It uses the same network layer as web HTTP, which provides:

• A powerful, scalable, reliable network level.

• All HTTP-level functions (like web_add_cookie, web_add_header, web_ set_socket_option and so on will still work).

• Continued functioning of all network-related RTS like modem emulation, connection time out, and so on.

• Unchanged Web Page Breakdown functionality.



Click and Script Technology utilizes a very succinct scripting language.

## CLICK AND SCRIPT TECHNOLOGY AVAILABILITY, SCALABILITY, AND LICENSING

### Availability:

The Click and Script Web protocol is generally available with Mercury LoadRunner 8.1 Feature Pack 2 and higher and for Mercury Performance Center™ 8.1 FP2 and higher. It is also available for specific environments in earlier versions: for PeopleSoft in LR 7.8 FP1 and for Oracle Web Applications 11*i* in LR 8.0 environments. Supported environments include:

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- Recording Internet Explorer only (Windows).

- Replaying on Windows and UNIX platforms.

**Scalability:**

- Click and Script Technology can run a few hundred users per Load Generator (it has been tested with 200).

**Licensing:**

Click and Script Technology requires the same license as a web VUser.

**SUMMARY**

Mercury LoadRunner Click and Script Technology enables users to record scripts at a higher presentation layer, taking scripting ease-of-use to the next level. It captures the most valuable scripting information to create succinct, intuitive, and self-explanatory scripts, reducing scripting time and maintenance by as much as 80 percent.

Mercury Click and Script Technology allows customers to focus on more testing cycles, more applications, and more analysis, as well as focus on providing their lines of business with accurate and meaningful performance results.

For more information on Mercury LoadRunner Click and Script Technology, please contact Mercury CSO at http://support.mercury.com/. For more information on Mercury products and services, please visit www.mercury.com.

## FREQUENTLY ASKED QUESTIONS

**Q: Is it possible to convert Web HTML scripts to Click and Script?**

A: No. Click and Script requires GUI recording information. You will have to record the script again in the new protocol.

**Q: Is it possible to convert Mercury QuickTest Professional scripts to Click and Script?**

A: Not directly. However, it is possible to launch IE from VuGen and then record the replay of a Mercury QuickTest Professional script on this browser.

**Q: Do you support AJAX now?**

A: Yes. But we still do not support A-sync calls across script steps.

**Q: Can I use Click and Script scripts for the Mercury Business Availability component, Mercury Business Process Monitor™?**

A: Mercury Business Availability Center 6.5 will include Mercury LoadRunner FP3 features, including Click and Script.

**Q: Do you support SAP now?**

A: SAP-specific support for new SAP versions is being added to the product for our 8.2 release planned for the first half of 2007.

**Q: Can I use Click and Script scripts for Mercury Performance Center?**

A: The next service pack of Mercury Performance Center will include all changes in Mercury LoadRunner FP 3.

**Q: What is the licensing for this technology?**

A: Click and Script is part of the web bundle.

**Q: Which environments are supported for recording?**

A: The same as for Web HTML.

**Q: Which environments are supported for replay?**

A: The same as for Web HTML.

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