

# HP LoadRunner

For the Windows operating system

Software Version: Service Pack 11.51

## ReadMe

Document Release Date:December 2012

Software Release Date:December 2012



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## HP LoadRunner 11.50 and Service Pack 11.51

**Publication date:** December 2012

This Readme document provides information about LoadRunner versions 11.50 and LoadRunner Service Pack 11.51.

- [What's New in LoadRunner Service Pack 11.51](#)
- [What's New in LoadRunner 11.50](#)
- [Installation and Configuration Information for LoadRunner 11.50](#)
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## What's New in LoadRunner Service Pack 11.51

### Improved VuGen

VuGen has been further improved and enhanced to provide a more reliable, flexible and customizable user experience.

Enhancements include:

- Snapshots - A new compare snapshot feature that enables you to split the snapshot pane and view and compare the record snapshot with the replay snapshot.
- An improved Summary Report - That now includes detailed information from all iterations.
- Design Studio – Improved correlation functionality including:
  - A discard to correlation feature that enables you to delete the selected dynamic values from the correlation grid when a dynamic value has a status of new.
  - Design Studio supports correlation for the RTMP/T protocol.
- Conditional Breakpoints – Enhanced conditional breakpoints functionality.
- Thumbnail Explorer and Thumbnails - The new Thumbnail and Thumbnail Explorer features enable you to follow the recorded business process in a visual manner. The Thumbnail Explorer feature enables you to navigate to a location in the editor based on a visual representation of a step. You can also navigate in the Editor and view the corresponding visual content of the step in the Thumbnail Explorer.

### Ajax TruClient

Ajax TruClient has been significantly enhanced as follows:

- Ajax TruClient for IE Client – The Ajax TruClient for IE now supports a wealth of new features in-line with the support previously provided for the Ajax TruClient for FF client. For example, function libraries and event handlers.
- Ajax TruClient now has an improved and more user friendly user interface.
- Additional JavaScript APIs have been provided.
- TruClient Engine - The engine has enhanced performance, and improved heuristics have been implemented.
- A new replace with parameter feature has been added.
- Ajax TruClient documentation is now more intuitive and feature specific.

### Improved Correlations

Correlation capabilities have been improved with the following:

- An argument has been added to the `web_reg_save_param_xpath` API that instructs the query to return the entire content of the selected node, and not just its value.
- The `web_reg_save_param_regexp` API now allows you to enter multiple capture groups in the regular expression and specify which capture group to save. You can also now save the entire matched expression.
- New out-of-box correlation rules for ASP.NET.

- You can now change the boundaries/regular expression/Xpath before correlating.
- Correlation studio can now also correlate the RequestUrl argument

### **Administrator Right Restrictions**

Virtual User Generator (VuGen) and Analysis can now be run without Administrator privileges.

### **Expanded Data Format Extension Enhancements (DFE) Support**

DFE support for the following has been added:

- Binary XML DFE that transforms Microsoft WCF binary XML into XML format.
- Remedy DFE that transforms Remedy request data into XML format
- XSS DFE that enables you to test sites that use Cross Site Scripting (XSS) defense code.

### **Enhanced Web HTTP/HTML Protocol Support**

Web HTTP/HTML protocol has been enhanced as follows:

- A new `web_set_pac` API that enables you to change the PAC setting from within the script.
- The `web_set_user` API has been enhanced. Now if an empty string ("" ) is passed for host:port, the username and password in the current `web_set_user` call are applied to all domains unless a different user and password has been set for the domain with another `web_set_user` call.
- The maximum number of concurrent connections to the server is automatically configured based on the User-Agent string.
- JavaScript Engine – New functionality has been added that enables you to run JavaScript code in Web HTTP/HTML scripts.

### **Flex Enhancements**

- New support for AMF polling and long polling. This allows the recognizing and replaying of Polling and Long Polling in `flex_amf_call` steps in Flex Vuser scripts.  
(This is a correction to the corresponding line in the core documentation What's New).
- RTMP/T now supports automatic correlations (Studio, rules, Response based correlations).
- The `flex_rtmp_receive_stream` and `flex_rtmp_tunneled_send` APIs now allow you to specify a time after which a script will continue to the next step.

### **Enriched Citrix Support**

Citrix support has been expanded as follows:

- XenApp enhancements:
  - The following APIs have been added - `Ctrx_Logoff`: Closes the current Citrix session, and `Ctrx_Get_Server_Name`: Returns the Citrix server name.
  - Support for XenApp 6.5 has been added.
- ICA file adjustment - Enables support engineers to tweak the ICA files received during Citrix ICA + NFuse recording/replay without having to make changes on the Citrix Server Web Interface level.
- Support for Citrix XenDesktop has been added.
- Citrix Access Gateway support: LoadRunner supports CAG for Citrix Client version 10.200 (or less) and Citrix Client version 13.x.

**IPv6 Support**

The following IPv6 support has been added to the currently supported monitors and utilities:

- NDM (Network Delay Monitor)
- Webtrace

**Java over HTTP (JOH) enhancement**

Asymmetric java objects traffic support has been added.

**Oracle NCA**

Support for Oracle forms 11 has been added

**Analysis**

Analysis has been enhanced as follows:

- SQLite - New support for SQLite embedded database has been added. SQLite supports a load results database of up to 32 TB.
- Color Palette - A new color palette feature has been added, enabling you to specify up to 100 colors, and to select colors that are associated with graph entities.
- Analysis Graphs - You can now add graph notes to rich reports.

## What's New in LoadRunner 11.50

### Improved VuGen

The VuGen user interface has been improved and enhanced to provide a more flexible and customizable user experience. An all new IDE makes LoadRunner scripting easier and more productive.

#### Enhancements include:

- New look and feel – Flexible panes, layouts, and more
- Solution Explorer – An easier way to group multiple scripts, access script items, and perform script-related operations.
- Snapshots – Multiple views, improved performance, snapshot synchronization, and search functionality.
- Improved editor – Context-sensitive support, code completion support, and provides enhanced coloring and formatting.
- Debugger – Real C language debugger.
- Search and replace – New capabilities include search in log and snapshots.
- Step navigator – The new Step Navigator replaces the tree view, providing a single view of the script with easy filtering and search mechanisms.
- New panes – Errors, Tasks, and Bookmarks panes display all errors, messages, and tags in simple, easy to locate views.
- Join the Community – Community integration provides easy access to conversations and threads in the HP Software Community.

### Ajax TruClient Firefox Enhancements

This ground breaking protocol has been enhanced to support the latest technologies, and includes many usability improvements in response to customer needs.

#### The Ajax TruClient Firefox protocol has been improved with the following enhancements:

- Moving to Firefox 8 for improved performance.
- HTML5 support.
- Create functions to easily reuse and share code.
- Think-time recording.
- Event handlers to support asynchronous behavior.
- API for URL filtering.
- API for setting HTTP headers.
- Automatic transactions per step.

### Ajax TruClient Internet Explorer

A new protocol that brings TruClient capabilities to Internet Explorer 9. This new addition to the Ajax TruClient family expands support to Internet Explorer (IE) based applications.

### Web Protocol Asynchronous Support

Support for asynchronous behavior has been added. This capability enables the recording and replaying of Poll, Long Poll and Push communications.

Advanced Web applications contain a lot of asynchronous communication designed to keep information current and up to date. Applications such as chat, messaging, stock tickers, and news updates all use various asynchronous mechanisms such as Poll, Long Poll, and Push to maintain

data. Support for these mechanisms has been added to Web (HTTP/HTML) Vuser scripts, and the Web (HTTP/HTML) protocol layer inside Flex, and Web Services Vuser scripts. Asynchronous communications are recognized automatically and the recorded script is updated accordingly.

## **Improved Correlations**

A new response correlation capability has been added so correlation is easier and faster. Correlations can now be found based on server responses during recording, in many cases eliminating the need to replay iteratively to find dynamic values. Coupling this with the new Correlation Studio interface and new APIs for locating dynamic values based on XPath and Regular Expressions, makes scripting easier and faster.

## **Flex Enhancements**

Various enhancements have been added to better support this important environment.

### **Flex enhancements include:**

- Using Web correlation mechanisms (rules, studio, response based correlation, web correlation APIs).
- Supporting Web requests.
- Adobe Flex platform jars bundled in the product so application jars are not needed for message serialization.
- RTMP FMS streaming support.
- RTMPT & RTMPS support.
- GraniteDS support.

## **Mobile Protocols**

New protocols enabling you to develop scripts for mobile applications. Traffic based analysis is used for native applications and Ajax TruClient technology is used for browser based mobile applications.

## **Data Format Extension (DFE) for Google Web Toolkit (GWT)**

Web protocol includes a built-in DFE to support decoding and encoding of GWT information exchanged as part of GWT remote procedure calls. This facilitates easy correlation and parameterization of GWT based Web applications. The DFE feature is designed to help ease scripting of applications that exchange formatted data. By turning the formatted data into a more readable format the script can be easily correlated and parameterized. GWT DFE is the latest addition to the already supported formats of Base64, JSON, URLEncoding, XML, and Prefix-Postfix.

### **GWT support includes:**

- Format the GWT RPC data into readable and correlate-able content.
- Expose more data, such as object field names.
- Enable simple parameterization.
- Solve specific correlations for GWT.

## **.NET4 Support**

The .NET protocol now supports .NET4 framework.

.NET4 support has been added to the existing support for .NET frameworks 2-3.5.

## **Web Services Enhancements**

The Web Services protocol includes new features for better security support, improved handling of WCF, as well as additional improvements based on customer feedback.

**The Web Services protocol includes the following enhancements:**

- Improved interface for security settings, including addressing versions.
- Easier certificate selection.
- Flexible definition of signature and encryption algorithms. Also includes the option to exclude time-stamps.
- Support of custom extensions to WCF.
- Support of LoadRunner HTTP capabilities for WCF.

**Integrating Virtualized Services**

Integrate with HP Service Virtualization, and use simulated services, to facilitate load testing business processes that contain services that are not readily available or too costly. As part of your performance test, you may want to test applications that depend on other services which are a part of your business scenario. Instead of loading actual services, you can use simulated services in your test run. The virtualized services are a simulation of actual services. To facilitate performance testing business processes that contain services that are not available, LoadRunner integrates with HP Service Virtualization. Using simulated services in your test is helpful if using actual services involves an additional cost or requires the service of an application that is under development or inaccessible at the time when you run your performance test.

**Recording 64bit Applications**

Recording of 64bit applications has been added to the existing support for 64bit operating systems. 64bit applications can usually be recognized when the '\*32' suffix is not displayed in the Windows Task Manager for their process. Replay is in 32bit.

**IPv6 support**

IPv6 based applications can be tested in addition to IPv4 based ones. Support includes IP Spoofing. (Internal LoadRunner communication, such as Controller Load Generator, is still IPv4 based.)

## Installation and Configuration Information for LoadRunner 11.50

### Prerequisite Software

Specific software needs to be installed before you can install LoadRunner. When you run the LoadRunner installation wizard, if the prerequisite software is not already installed on your computer, the wizard detects which software is missing and provides the option to install it.

The following prerequisite software needs to be installed:

- Microsoft Windows Installer 3.1
- .NET Framework 3.5 SP1
- Windows Imaging Component. This is a prerequisite for .NET Framework 4.0.
- .NET Framework 4
- Web Services Enhancements (WSE) 2.0 SP3 for Microsoft .NET Redistributable Runtime MSI
- Web Services Enhancements (WSE) 3.0 for Microsoft .NET Redistributable Runtime MSI
- Microsoft Core XML Services (MSXML) 6.0
- Microsoft Visual C++ 2005 SP1 Redistributable Package MFC Security Update (x86)
- Microsoft Visual C++ 2005 SP1 Redistributable Package MFC Security Update (x64)
- Microsoft Visual C++ 2008 SP1 Redistributable Package MFC Security Update (x86)
- Microsoft Visual C++ 2008 SP1 Redistributable Package MFC Security Update (x64)
- Microsoft Visual C++ 2010 SP1 Redistributable Package MFC Security Update (x86)
- Microsoft Data Access Components (MDAC) 2.8 SP1 (or later)

### System Requirements for VuGen, Controller, and Analysis

The following table describes the system requirements for installing VuGen, the Controller, or Analysis:

Processor	<p><b>CPU Type:</b> Intel Core, Pentium, Xeon, AMD or compatible</p> <p><b>Speed:</b> 1 GHz minimum. 2 GHz or higher recommended</p>
Operating System	<ul style="list-style-type: none"> <li>• Windows XP Professional SP3 32-bit</li> <li>• Windows Server 2003 R2 Standard Edition/Enterprise Edition SP2 32-bit</li> <li>• Windows Server 2008 Standard Edition/Enterprise Edition SP2 32-bit and 64-bit</li> <li>• Windows 7 SP1 32-bit and 64-bit</li> <li>• Windows Server 2008 R2 SP1</li> </ul>
Memory (RAM)	<p><b>Minimum:</b> 2 GB</p> <p><b>Recommended:</b> 4 GB or higher</p>
Screen Resolution	<p><b>Minimum:</b> 1024 x 768</p>

Browser	<ul style="list-style-type: none"> <li>• Microsoft Internet Explorer 6.0 SP1 or SP2</li> <li>• Microsoft Internet Explorer 7.0</li> <li>• Microsoft Internet Explorer 8.0</li> <li>• Microsoft Internet Explorer 9.0</li> </ul>
Available Hard Disk Space	<b>Minimum:</b> 40 GB

### Load Generator for Windows System Requirements

The following table describes the system requirements for installing the Load Generator on a Windows machine.

Processor	<p><b>CPU Type:</b> Intel Core, Pentium, Xeon, AMD or compatible</p> <p><b>Speed:</b> 1 GHz minimum. 2 GHz or higher recommended</p>
Operating System	<p>The following Windows operating systems are supported:</p> <ul style="list-style-type: none"> <li>• Windows XP Professional SP3 32-Bit</li> <li>• Windows Server 2003 R2 Standard Edition/Enterprise Edition SP2 32-Bit</li> <li>• Windows Server 2008 Standard Edition/Enterprise Edition SP2 32-Bit and 64-bit</li> <li>• Windows 7 SP1 32-bit and 64-bit</li> <li>• Windows 2008 R2 SP1</li> </ul>
Memory (RAM)	<p><b>Minimum:</b> 1 GB</p> <p><b>Note:</b> Memory requirements depend on protocol type and system under test and can vary greatly.</p>
Browser	<ul style="list-style-type: none"> <li>• Microsoft Internet Explorer 6.0 SP1 or SP2</li> <li>• Microsoft Internet Explorer 7.0</li> <li>• Microsoft Internet Explorer 8.0</li> <li>• Microsoft Internet Explorer 9.0</li> </ul>
Available Hard Disk Space	<b>Minimum:</b> 20 GB

### Load Generator for Linux System Requirements

This section describes the system requirements necessary for installing the HP Load Generator on a Linux machine.



## ReadMe

Memory (RAM)	256 MB minimum <b>Note:</b> Memory requirements depend on protocol type and system under test, and can vary greatly.
Available Hard Disk Space	<b>Minimum:</b> 4 GB

The following table describes the supported operating systems on which you can install a Linux HP Load Generator.

OS Type	OS Version	Platform
Red Hat Linux	<ul style="list-style-type: none"><li>Enterprise Linux 5.0</li><li>Enterprise Linux 6.0</li></ul>	<ul style="list-style-type: none"><li><b>CPU Type:</b> Intel Core, Pentium, AMD or compatible</li><li><b>Speed:</b> 1 GHz minimum. 2 GHz or higher recommended</li></ul>

## System Requirements for the MI Listener

The following table describes the system requirements for the MI Listener.

Processor	<ul style="list-style-type: none"><li><b>CPU Type:</b> Intel Core, Pentium, Xeon, AMD, or compatible</li><li><b>Speed:</b> 2 GHz minimum and 4 GHz or higher recommended</li></ul>
Operating System	<ul style="list-style-type: none"><li>Windows XP Professional SP3 32Bit</li><li>Windows Server 2003 R2</li><li>Windows Server 2008 Standard Edition/Enterprise SP2 32Bit</li><li>Windows Server 2008 Standard Edition/Enterprise SP2 64Bit</li><li>Windows Server 2008 R2 SP1</li><li>Windows 7 SP1</li><li>Windows 7 SP1 64Bit</li></ul>
Physical Memory (RAM)	2 GB minimum <b>Note:</b> Memory needs depend on the number of Load Generators and Controllers connecting to the MIL.

## Product Compatibility

LoadRunner 11.50 is compatible with the following HP product versions:

- HP Quality Center version 10.00 with the latest patch.
- HP Application Lifecycle Management versions 11 SP3, and 11.50.
- HP QuickTest Professional version 11.00.
- HP Diagnostics versions 9.12, and 9.20.
- HP SiteScope versions 11.01, 11.10, 11.12, and 11.20. To obtain a free SiteScope license to work with LoadRunner 11.50, contact the licensing team.
- HP Service Virtualization version 2.00.

In addition, LoadRunner Service Pack 11.51 is also compatible with:

- HP Unified Functional Testing version 11.50.
- HP Service Virtualization version 2.1.
- HP Application Lifecycle Management Integration Enablement pack.
- HP Service Test version 11.50 standalone.

## Pre-Installation Notes and Limitations

**This section includes pre-installation notes and limitations for LoadRunner 11.50**

### Windows

- If you are running McAfee or Aladdin's eSafe anti-virus applications, close them before installing LoadRunner.
- To use Windows 2003 with a HASP plug, download Aladdin's latest HASP driver.

### Linux

- The LoadRunner Linux installation is based on native packages per operating system. This requires you to be logged in as root user to run the installation.

### Virtual Environment Installation

- LoadRunner supports VMware ESX versions 3.0, 3.5, 4.0, 4.1, and 5.0.
- Running Vusers on virtual machines may adversely affect performance due to the sharing of physical resources.

### Diagnostics for J2EE/.NET Requirements

A unique transaction name must be used for each scenario.

### ContentCheck in Multilingual Environments

This version supports ContentCheck rules in French, German, Spanish, and Italian. The correct language file should be installed according to the system locale.

The suitable language file can also be copied from the installation disk:

```
..\runner\MSI\setup\international\<lang>\dat\LrwiAedInstallation.xml
```

to the **<LoadRunner>\dat** directory.

### Windows Firewall Considerations

In most Windows environments, Windows Firewall is turned on by default. The firewall does not allow certain LoadRunner components to communicate with each other. The Windows firewall therefore needs to be turned off.

Note: Turning off Windows Firewall increases the risk to your computer's security.

For each process that needs the firewall you can unblock the process by clicking the unblock button in the popup window that indicates that the program needs it, or by manually tuning the Windows firewall from the Exceptions tab.

## Notes and Limitations LoadRunner Service Pack 11.51, and LoadRunner 11.50

### LoadRunner Service Pack 11.51 Notes and Limitations

**This section includes notes and limitations specific to LoadRunner Service Pack 11.51. Previous LoadRunner 11.50 limitations still apply unless specified.**

#### Citrix

Citrix Access Gateway support - LoadRunner supports Citrix Access Gateway (CAG) for Citrix Client versions 10.200 (or lower) and Citrix Client version 13.x.

#### VuGen

- When you open VuGen as a non-administrator user, during the recording process you may see a certificate pop-up warning message. The message is automatically closed and does not affect the recording.
- VuGen scripts should not contain non-English characters in the script name, or in any part of the path. If you create a VuGen script whose name or path comprises of some non-English characters you may experience problems.

**Workaround:** Copy the script to a different folder, ensuring that the script name and path do not contain non-English characters.

- VuGen script names should not contain the - (minus) character.
- When you open a script, load the attached correlation file in VuGen and then regenerate the script with the correlation rule scan and "automatically apply rule" enabled, the Search for parameters in links and form actions rule does not find values to correlate.

#### Ajax TruClient

- When recording a script in TruClient IE protocol, a keyboard event together with the Ctrl key is not supported and therefore not recorded.
- After opening TruClient by clicking **Develop Script**, and subsequently closing it, VuGen may still display the yellow banner of Develop mode. **Workarounds:** If working with a proxy, you must specify "bypass local connections". If working with a PAC file, the PAC must specify a direct connection for 127.0.0.1
- If you create code in C-functions.c and the code has a compilation error, when a TruClient Firefox browser is opened, right-clicking a step may cause the browser to crash. **Workaround:** Fix the compilation error in the C code to avoid this issue.
- You cannot launch a TruClient Firefox browser for Windows XP SP3, or for Windows 2003 R2 when you are logged on without administrator privileges.

#### Controller

If you install Service Test or Unified Functional Testing (UFT) when the magentproc.exe service is running on the external load generator, the Controller might not be able to run Service Test or UFT scripts on the external Load Generator.

**Workaround:** After installing Service Test or UFT, on the external load generator restart the magentproc.exe service, or alternatively reboot the external load generator.

#### General

- ERP CRM Offline diagnostics is deprecated.

#### IPv6

- IPv6 Webtrace is not supported on 6to4 outgoing network interfaces.
- IPv6 Webtrace is not supported on Windows XP and Windows 2003 operating systems.
- The Raw Socket mode for IPv6 Webtrace is not supported; therefore you cannot trace routes to IPv6 targets by means of Raw Socket transport.

#### Analysis

- Load results that contain transactions with the '@' or ',' characters may conflict with existing transactions. This is because Analysis attempts to replace those characters with the '\_', and if this results in a transaction name conflict, an error will occur.

**Workaround:** Avoid using the '@' and ',' characters in transaction names.

- When working with a non-English OS and with SQLite or SQL databases, you may experience issues displaying certain types of data in Analysis reports and graphs.

**Workaround:** Navigate to Windows Control Panel > Regions and Language > Additional settings and change the Decimal symbol from a comma(,) to a period(.).

#### Installation

If you install LoadRunner and Unified Functional Testing (UFT) on the same server and uninstall one of them, the remaining software program may not function correctly. **Workaround:** Reinstall the software program you want to use on the server.

#### HP Service Virtualization

- If you change HP Service Virtualization settings from the Design tab when running a controller scenario with an HP Service Virtualization project, the settings are not applied to the HP Service Virtualization servers.
- An HP Service Virtualization project cannot be correctly imported to a controller scenario if the HP Service Virtualization server uses credentials for both SSL and monitors.

**Workaround:** Configure the HP Service Virtualization server to only use credentials for SSL.

#### ALM Client Installation

- For VuGen and Analysis the ALM client can be installed using a non-administrator user. The client is automatically installed when you access the ALM server.
- For Controller the ALM client must be installed using a user with administrator privileges.

#### ALM Integration

The HP Application Lifecycle Management Integration Enablement pack is not compatible with LoadRunner 11.50. If you wish to integrate LoadRunner with the HP Application Lifecycle Management Integration Enablement pack, you must install LoadRunner Service Pack 11.51.

#### QTP Integration

LoadRunner 11.5x can be integrated with QTP 11 after you install the QTP\_00926.exe patch on the server where QTP 11 is installed.

#### Load Generator

Oracle Web App 11i protocol script cannot run on a remote Load Generator in Controller.

**Workaround:** Link the 'nca\_java\_custom\_prop\_answer\_table.h' file that exists in the script directory to Extra Files in the Vugen Solution Explorer for the relevant script as follows:

1. Open the script in Vugen.
2. In the Solution Explorer tree, right-click Extra Files.
3. Select 'Add Files to Script'
4. Navigate to the directory with the script and select the 'nca\_java\_custom\_prop\_answer\_table.h' file

### SAP GUI 7.30

In SAP 7.30, a business flow containing Combo Boxes may not replay correctly and the "Could not find combobox entry by value..." message may appear.

### Uninstalling Patch 1

If you want to uninstall HP LoadRunner 11.50 Patch 1, you must provide the path to the original HP LoadRunner 11.50 MSI installation file. For example, if you installed from a DVD, insert the DVD into the drive and provide the path to the location of the MSI installation file.

**Note:** The MSI file name is a combination of the language and type of installation. For example LoadRunner\_x86.msi is the MSI for an English 32-bit installation of HP LoadRunner, and LoadRunner\_fra\_x64.msi is the MSI for a French 64-bit installation of HP LoadRunner.

### Documentation

Links to external websites may not function correctly when accessing them from the Analysis and Controller help.

## LoadRunner 11.50 Notes and Limitations

**This section includes notes and limitations for LoadRunner 11.50**

### Installation

- If you have several LoadRunner components installed on one server (for example: VuGen SA, Analysis SA), and you uninstall one of the components, after the uninstall completes you must run repair on the remaining components.
- You can upgrade between LoadRunner version 11.00 to 11.50. If you have a pre-11.00 version of LoadRunner, you must uninstall it and then install the 11.50 version.

### Integration

You must download and install the ALM client via a browser before connecting to ALM via Controller or Analysis.

Integration between LoadRunner 11.50 and QTP 11 is not supported on Windows 2008 and Windows 2008 R2 operating systems. (See QTP Integration above)

### Mobile

**Mobile Sniffer Agent.** The Mobile Sniffer Agent included with LoadRunner 11.50 supports the following operating systems:

- **Windows.** Windows XP, Windows 7, Windows Server 2003, Windows Server 2008.  
To run the Mobile Sniffer Agent on a Windows operating system you also must install **WinPcap**. WinPcap should be installed using the default settings of the installer. The following versions of WinPcap are supported:

**Version 4.0.2.** (can be installed from **LoadRunnerInstallationDVD\Additional Components\WinPcap**)

**Version 4.1.2.** (web download)

- **Mac.** Mac OSX 10.6.5
- **Linux.** Red Hat 5 Enterprise

### Controller

#### Secure Channels

- You cannot use the Host Security Manager utility to update security settings on Linux load generators that use rsh (remote shell) to connect to the Controller.
- You cannot use the Host Security Manager utility to change the security mode of the load generator located over a firewall from off to on.
- When the load generator is located over a firewall, if the load generator and Controller have different security modes, communication cannot be established.
- If the Controller machine is using secure channel communication, the MI Listener should not be installed on the same machine as the Controller.
- If the Controller machine is using secure channel communication, it will not be able to connect to an HP-UX load generator.

### VuGen Protocols

#### AJAX (Click and Script)

- ActiveX objects and Java applets are only supported on Windows platforms.
- Click and script protocols do not support pop-up windows.
- When using Windows 2003 R2, Ajax Click and Script steps do not generate after recording.

**Workaround:** This should work if you disable Internet Explorer Enhanced Security Configuration. It is enabled by default. (Control Panel->Administrative tools->Server manager->Configure IE ESC).

### Citrix

- Installation of the registry patch is required for the support of all version of Citrix clients over 10.x. Additionally, you need to install **Enable\_Citrix\_API.reg** from the **LoadRunner\dat** folder on VuGen or Load Generator machines if a Citrix Client will be installed after installing LoadRunner.
- Running Citrix Vusers on virtual machines may adversely affect performance due to the sharing of physical resources.
- Citrix XenApp Desktop cannot be recorded with Citrix Web Access (formerly known as Citrix NFuse) if Desktop View (Desktop Toolbar) is enabled.
- Citrix protocol does not support environments that include NetScaler Access Gateway.
- Recording a Citrix NFuse script on IE9 is supported from Citrix client version 12.1.0.44.
- The Load Generator cannot run Citrix scripts in service mode when the script was recorded using Citrix Client version is 11.2 or higher.
- Load Generator cannot be used in service mode for the Citrix protocol when the Citrix XenApp client 11.2 is used. A workaround is to use another version of Citrix client.
- To successfully record a multi protocol Citrix and Web script on XenApp5 only the **SessionToken** Citrix correlation rule should be enabled. The **Session\_Token** Citrix correlation rule should be disabled.

- Citrix Clients 11.2 and higher do not support the TCP/IP mode in the Citrix > Login node of the Recording Options dialog box.
- When recording Citrix Web Access (formerly known as Citrix NFuse) applications, set the window size to "No preference" in the Citrix XenApp web portal preferences page.
- **Recording Window Size and XenApp Plugin for Hosted Applications 11.** The recording window size option does not work properly with the XenApp Plugin for Hosted Applications 11. The size of the client window is installed, but the server screen resolution is not. This is a Citrix Client limitation and will be fixed in future Citrix Client versions.

**Workaround:** When recording, set the window size equal to the local screen resolution. When replaying/load testing, set the VuGen or Load Generator screen resolution to equal the resolution used when the script was recorded. To verify the recorded resolution, view the Window property in the **<Script Folder>\default.cfg** file.

### **Click and Script (All)**

- Does not support VBScript
- Does not support user actions on ActiveX objects and Macromedia Flash.
- Scalability is lower than the Web HTML protocol, depending on the size and functionality of the business process.
- Replay snapshots may differ from the actual Web page.
- Support of right-to-left languages is limited (e.g., bi-directional or reversed text may not be processed as expected). This is defined by the default operating system translation table.
- Recording an application in a specific language (e.g., French, Japanese) must be performed on a machine whose default locale (in **Settings > Control Panel > Regional Options**) is the same language.
- The locale of the load-generator machine, including the default non-Unicode character set, must be configured to be the same as that of the recording machine. It cannot be assumed that the Linux default character set is the same as in Windows, even for US-English machines, and this has to be explicitly verified. For example, the default character set on Linux, is UTF-8.
- The Recording Options dialog box may take a long time to open.
- Web (Click and Script) no longer supports replay of Applets and ActiveX objects. This functionality is now part of the AJAX (Click and Script) protocol, and is only supported on a Windows platform.

### **Flex (RTMP/AMF) Protocol**

- **Flex RTMP Tunneled**

If your script contains more than one Flex\_RTMP\_tunneled\_connect step, with the same gateway parameter, you must insert a disconnect step for the previous Flex\_RTMP\_tunneled\_connect step before you connect again. For example:

```
Flex_rtmp_tunneled_connect("connect_step0",  
"SessionId=0",  
"Gateway=http://123.123.123.123:1935",  
. ,  
. ,  
LAST) ;  
. ,  
. ,  
. ,  
Flex_rtmp_tunneled_disconnect("disconnect_step0",  
"SessionId=0")
```



```

flex_rtmp_tunneled_connect("connect_step1",
"SessionId=1",
"Gateway=http://123.123.123.123:1935",
.
.
LAST);
.
.
.

Flex_rtmp_tunneled_disconnect("disconnect_step0",
"SessionId=1")

```

If a subsequent Flex\_rtmp\_tunneled\_connect command has the same gateway parameter as the previous Flex\_rtmp\_tunneled\_connect step and the Flex\_rtmp\_tunneled\_disconnect step is omitted, the script will pause indefinitely.

- **GraniteDS (Data Services)**

To create a script in GraniteDS, select **Use GraniteDS configuration** from **Recording Options > Flex > Configurations**. For code generation and replay, first copy the core and relevant application jar files to the client machine and then specify these files in the **Recording Options > Flex > Externalizable Objects** node.

The core jars are:

- dom4j.jar
- granite.jar
- hibernate3.jar
- jboss-seam.jar
- granite-hibernate.jar
- servlet-api.jar

If you have modified the granite-config.xml, copy it to the **<LoadRunnerInstallation>\dat directory**.

- When switching between BlazeDS and GraniteDS parsing (Recording Options > Flex > Configuration), VuGen must be restarted.
- LoadRunner cannot serialize both GraniteDS and BlazeDS/LCDS messages in the same script.
- **Flex RTMP messaging support.** All limitations that apply to AMF3 parsing apply to externalizable objects over RTMP.
- **flex\_rtmp\_receive\_stream step.** If the **Generate flex\_rtmp\_receive\_stream step** option is enabled, all transactions, comments, and rendezvous points that you add from the Recording toolbar are added to the script after the **flex\_rtmp\_receive\_stream** step in your script.
- Web diagnostics does not work for RTMP and RTMPT steps (even when the breakdown is enabled).
- **Manually Adjusting Recorded Flex RTMP Steps**

When the **Generate flex\_rtmp\_receive\_stream step** option is cleared in the **Flex:RTMP** pane of the Recording Options dialog box, LoadRunner generates **flex\_rtmp\_receive** and **flex\_rtmp\_send** steps for every communication with the server. This ensures that user actions such as **pause** and **seek**, as well as automatic requests that the client performs when **Dynamic Stream** is in use,

are included in the script, but this method also captures less-necessary lines of code that are difficult to read and may not be reliable during replay.

If you choose to clear the **Generate flex\_rtmp\_receive\_stream step** option in order to capture user data, follow the instructions below to remove the unnecessary steps from your script.

- a. Search for the **flex\_rtmp\_send** step containing the initial **play** argument. For example:

```
flex_rtmp_send("send_step2",  
    "ConnectionID=10",  
    "Snapshot=tRTMP6.inf",  
    MESSAGE,  
    ...  
    ...  
    MESSAGE,  
    ...  
    ...  
    "Argument=<arguments><string>play</string><number>0</number><null/>"  
    ...  
    LAST);
```

- b. Delete or comment out the **flex\_rtmp\_receive** steps that occur during streaming. For example:

```
//this is the start of the stream:  
// flex_rtmp_receive("recv_step2",  
//    "ConnectionID=10",  
//    "Snapshot=tRTMP7.inf",  
//    CHANNEL,  
//    "ChunkStreamID=2",  
//    CHANNEL,  
//    "ChunkStreamID=2",  
//    CHANNEL,  
//    "ChunkStreamID=4",  
//    CHANNEL,  
//    "ChunkStreamID=2",  
//    LAST);  
//  
// flex_rtmp_receive("recv_step3",  
//    "ConnectionID=10",  
//    "Snapshot=tRTMP8.inf",
```

```
// CHANNEL,
// "ChunkStreamID=5",
// CHANNEL,
// ...
// ...
```

- c. You can also remove certain **flex\_rtmp\_send** steps that are not related to user actions, such as "user control message" types. For example:

```
// flex_rtmp_send("send_step3",
// "ConnectionID=10",
// "Snapshot=tRTMP9.inf",
// MESSAGE,
// "DataType=user control message",
// "EventType=set buffer length",
// "MessageStreamID=1",
// "BufferLength=100",
// LAST);
```

- d. When you find a **flex\_rtmp\_send** step that represents a user action that you want to keep in your script, do the following:

- i. Manually add a **flex\_rtmp\_receive\_stream** step before the send step.
  - Make sure that the **ConnectionID** argument has the same value as the steps you removed above it.
  - The **Snapshot** argument is not relevant for the manually added step.
  - You can use the **ContinueToNextStepAfter = <msec>** argument to control the minimum play duration of the stream to download before continuing to the next step.
- ii. Determine the **flex\_rtmp\_send** steps that represent the user actions you want to keep. These will likely include arguments such as **pauseRaw**, **pause**, **seek** and **play2** (for Dynamic Stream). For example:

```
flex_rtmp_send("send_step5",
"ConnectionID=10",
"Snapshot=tRTMP62.inf",
MESSAGE,
"DataType=command message amf3",
"ChunkStreamID=8",
"MessageStreamID=1",
"Argument=<arguments><string>pauseRaw</string><number>0</number><null/>"
"<boolean>true</boolean><number>12000</number></arguments>",
LAST);
```

- iii. Determine whether there are some extra **flex\_rtmp\_send** steps that you can remove. For example, if you dragged a button to seek in the stream, subtle jerks in the motion may be recorded as separate pause and seek actions. In these cases, may not need all of them. Keep only those that describe the desired operations.
- iv. Identify the **flex\_rtmp\_receive** step that indicates that the server has received the end of the user action. For example:

//this is the confirmation from the server on the "seek" command.

```
flex_rtmp_receive("recv_step55",  
    "ConnectionID=10",  
    "Snapshot=tRTMP68.inf",  
    CHANNEL,  
    "ChunkStreamID=2",  
    CHANNEL,  
    "ChunkStreamID=2",  
    LAST);
```

- e. Repeat steps [2](#) - [4](#) for each set of unnecessary receive data and required user actions in your script.

### Java (All)

- Java Record Replay Protocol: Recording of JMS applications requires JDK version 1.6u32 or lower.
- Java over HTTP Protocol: Requires the JDK version 1.5 or higher.
- When recording on Internet Explorer 8 using the Java protocol, you must first close all instances of Internet Explorer before LoadRunner opens an Explorer instance for the record session.

### Listing Directory Service (LDAP)

- If an LDAP version 3 script fails during replay, modify the **mldpa\_logon\_ex** statement to specify the version number by adding "**Version=3**" after "**URL=..**"
- When recording LDAP scripts, the binary parameter values for certain LDAP functions (such as **mldap\_add** or **mldap\_modify**) are not recorded. Recording of binary parameters is part of the protocol's extended functionality and is not supported by VuGen.

### Media Player (MMS)

Media Player scripts fail with the error: Error -86801:Host access denied, <hostname> not available or missing.

**Workaround:** Call the **mms\_disable\_host\_check** function in all Media Player scripts.

### Microsoft .NET

- Applications that use the .NET Remoting Framework and are executed in CLR 2 (.NET frameworks 2/3/3.5), might crash during recording. During a crash you will receive a message containing the strings Version=4.x.x.x, and "is not registered for activation".

**Potential Workaround:** In the Microsoft .NET: Recording user interface under Support for previous.NET version, select "Emulate previous .NET versions in transport level", and then record again.

- When the application under test retrieves a server-activated object by calling **new RemoteObject ()**, VuGen generates a **RemotingServices.Connect** function.
- Applications using multiple processes or multiple application domains are only partially supported.
- Shared DLLs must be specified in the Recording Options only. Changes made in the Run-Time Settings to the list of shared DLLs have no effect.

#### Microsoft Remote Desktop Protocol (RDP)

- Clipboard sharing supports only short simple textual content.
- When recording with RDP Agent, applications which were developed using CBuilder may not record properly.
- Recording on RDP client versions 6.0, 6.1, or 7.0 will fail if the remote machine is running Windows Server 2008 with terminal services.

#### Workaround:

- When recording a script on a remote machine running Windows Server 2008 with terminal services, use RDP client versions 5.1 or 5.2.  
or
- When recording a script on a remote machine running Windows Server 2008 with RDP versions 6.0, 6.1, or 7.0, remove terminal services.
- RDP does not support 32 bit color depth. If recording uses this color depth, VuGen automatically switches to a lower color depth and a "[RDP Analyzer Warning ( 790: 418)] 32 bit color depth is not supported, switch to lower one" . warning log item appears in the Recording Window.

#### Silverlight

- REST services do not generate Silverlight service calls. However they can be recorded and replayed.
- You cannot edit the WSDL location in the Protocol and Security Scenario dialog box.
- The Update button in the Silverlight Service node of the Recording Options dialog box updates the service if the WSDL location has not changed.

If the WSDL location has changed, the service is re-imported (delete service and import service).

- Duplex (Polling) Binding for WCF Web Services is not supported.
- Silverlight 4 and 5 clients are supported, however applications developed using the new communication features such as **net.tcp** binding are not supported.
- VuGen snapshot viewer does not support Silverlight controls.
- The Silverlight Protocol does not support applications which use Japanese, Korean, Simplified Chinese, and Traditional Chinese.

#### TruClient

- **TruClient protocol versions.** If you edit a TruClient script using a later version of LoadRunner than the one on which you recorded the script, it may fail to replay in some cases.

Before modifying the script, save a backup copy of the script. **Workaround:** If the replay fails, re-record the script using the latest version of the TruClient protocol.

- **TruClient.** Firefox Security Warning dialog boxes are not displayed in TruClient during script development.
- The Ajax TruClient for FF protocol can only be used with applications that support the Mozilla Firefox browser.
- The Ajax TruClient for IE requires that IE9 is installed on the server.

- TruClient for will not record "mouse overs" when the element has a CSS rule of "Mouse Hover".

**Workaround:** Instead of mouse hovering, click the elements to open the drop down (the clicks are recorded).

- TruClient protocol step types and arguments are not localized.
- Ajax TruClient for IE does not support IP spoofing.
- Ajax TruClient for IE does not support modem speed.
- TruClient General Strings are not localized in the Japanese version.
- Only scripts from version LoadRunner 11 patch 2 or above can be opened in LoadRunner 11.50 version of VuGen.
- TruClient FF does not support Kerberos authentication. If the server also supports NTLM, TruClient FF will automatically move the authentication to NTLM and continue working.
- When you view Web page component breakdown graphs for TruClient Vusers, and some third-party components such as Mozilla's Necko are installed, Ajax TruClient measurements might not be available or might be less accurate than those of other protocols. For example the Time to First Buffer Breakdown graph, and measurements such as SSL Handshake, Client/Error Time might not be available.

### Web Services

- For large SOAP envelopes, Record and Replay snapshots are disabled.
- The **Import SOAP** feature is not supported for envelopes containing a single element larger than 500KB.
- Recording requests with attachments or security is not supported.
- For Axis toolkit, Web service calls that include both attachments and security are not supported.
- For .NET toolkit, SOAP version 1.2 is not supported for asynchronous calls.
- You can enter text strings up to 10 KB to encode to base 64. If your string is larger, use the **Get from file** option.
- VuGen supports Web Service messages over JMS message Queue, but does not support JMS Topics.
- JMS Bindings Extensions are not supported.
- All services in your script should have the same security scenario. This can be configured via the Protocols and Security tab.
- Asynchronous Web Service calls and custom user handlers are not supported for WCF.
- LoadRunner cannot replay scripts containing the **soa\_xml\_validate** function.
- When using "update service", steps that are already in the script will not display the updated properties (in the step argument view) until you close and reopen the app. After you reopen the app, step arguments are updated.

If the script is open when performing "update service", then on the script view arguments, the app throws an exception. **Workaround:** Close the script file while running "update service", or reopen the test after running "update service".

- A Web Service script might not open when you import the WSDL with the Axis toolkit.  
**Workaround:** Import the WSDL with the .Net toolkit.

If there is a problem recreating the scripts, do the following:

- 1) Create a new test.
- 2) Import the WSDL using .net toolkit.

- 3) Go to the directory of the new script.
  - 4) Copy the folder "WSDL" and paste it on the directory of the old script.
  - 5) In the directory of the old script open the 'default.cfg' file
  - 6) Under [WebServices] header, instead of "Toolkit=Axis" write "Toolkit=.Net"
- When you import a WSDL file into a Web Services script whose name contains non-English characters, if there are errors in the file, the error report is empty.

**Workaround:** Rename and save the script using only English characters.

**Protocol SDK:**

- Supports 32-bit and 64-bit OS MSIs for LoadRunner, VuGen and PC-Host only.
- Supports only 32-bit OS MSIs for PC-Server.
- For LoadRunner, VuGen, and PC-Host, PatchAddin support is for TARGETDIR files only.

**SAP (Click and Script)**

- You cannot define transactions to measure time of a subset of steps performed in a modal dialog.
- During recording, if a user double-clicks on a tree-view tree cell outside of its text, VuGen records "Select" instead of "Activate." This results in a missing POST in replay.
- If the list of retrieved values contains a scroll bar, you cannot select an item that requires scrolling in order to retrieve from the server.
- Scalability is lower than the SAP Web protocol, depending on the size and functionality of the business process.
- Does not support the **Replace with Alternate Navigation** run-time setting.
- In certain SAP environments (such as 6.20 and 6.40), the replay fails for tests that call the **web\_element** function and select an element whose tag name is "TD".

**WAN Emulation**

- There is no backward compatibility between the current LoadRunner/WAN Emulation integration and any previous integrations.
- The integrated 3rd party software may not comply with accepted Internationalization (I18N) conventions.
- Selecting either Use bandwidth, or Use custom bandwidth in the Network: Speed Simulation node in the Run Time Settings, may interfere with the WAN Emulation settings and could lead to unexpected behavior.
- WAN Emulation is disabled if the host used as the Load Generator is also used as the Controller.
- WAN Emulation is not supported if the load generator is running on a Linux platform.

**Web (HTTP/HTML)**

In previous versions of LoadRunner, the C type "char" is considered as "signed char". In LoadRunner 11.50 and up it is considered as "unsigned char". This means that if the user used "char" without specifying whether it is signed or unsigned, and performed arithmetic operations on this variable, then the results may be different when comparing LoadRunner 11.50 to old LoadRunner versions.

**Web Click and Script**

When using Windows 2003 R2, Web click and script steps do not generate after recording.

**Workaround:** This should work if you disable Internet Explorer Enhanced Security Configuration. It is enabled by default. (Control Panel->Administrative tools->Server manager->Configure IE ESC).

**Protocol Support Matrix****Support Matrix**

<b>Protocol</b>	<b>Async supported</b>	<b>IPv6 supported</b>	<b>64-bit recording supported</b>
AMF		X	
Citrix Nfuse		X	
DNS		X	
Flex	X	X	
FTP		X	
IMAP		X	
Java Over HTTP		X	X
LDAP			X
Microsoft .Net			X
Mobile HTTP		X	
Mobile TruClient		X	
Multi Winsock		X	X
Oracle (2-Tier)			X
Oracle NCA		X	X
POP3		X	
RDP		X	X
RTMP			
SAP – Web			X
Siebel Web			X
Silverlight		X	
SMTP		X	
TruClient FireFox		X	
TruClient Internet Explorer		X	
Click and Script family		X	



Web (HTTP/HTML)	X	X	X
Web Services	X	X	X

**Protocol Support Limitations****Async**

In all the protocols that support it, asynchronous recording will only be applied to web\_\* steps.

**IPv6**

Support for IPv6 is available for the protocols shown in the table above. The support for Web HTTP protocol has the following limitations:

- FTP from Web is not supported
- Web Breakdown is not supported
- Kerberos is not supported
- Spoofing from Web is not supported
- PAC file is not supported
- An explicit IP (in IPv6 format) in a URL argument cannot be used. For example, the following step will fail in replay:

```
web_url("IPv6",  
    "URL=http://[2001:0db8:85a3:0000::8a2e:0370:7334]/",  
    "Resource=0",  
    "RecContentType=text/html",  
    "Referer=",  
    "Snapshot=t1.inf",  
    "Mode=HTML",  
    LAST);
```

**64-bit recording**

The environment for 64-bit recording must be as follows:

- Windows 7 x64
- New VuGen x32
- AUT x64
- Script is Multi-protocol

In general 64-bit applications ported from a 32-bit client version should work identically to the 32-bit client.

However, there is a small risk that new clients will use the power of native 64-bit apps. For example, when using 64-bit long types for Identifiers in DB tables, the identifier value will be cut and the query will fail.

There are also specific limitations/requirements for some of the protocols, as described in the table below:

Protocol	Limitation
Java Over HTTP	JVM 32-bit must be installed for Replay to work.
Microsoft .Net	<p>There are two available 64-bit types for .Net apps (AnyCPU and pure 64-bit). LoadRunner only supports AnyCPU. There is currently no solution for pure 64-bit apps.</p> <p>For Replay, LoadRunner uses the same AnyCPU dlls that were used for Recording.</p> <p>Note: With LoadRunner 11.50 .Net Framework 4 should be installed. This package carries both versions of the libraries for 32 and 64 bit systems.</p>
Oracle (2-Tier)	Both 32-bit and 64-bit clients need to be installed (the 32-bit client is for Replay needs).

## VuGen

- **SAP (Click and Script) recording.** During recording, if you use a keyboard option instead of a UI element (for example, pressing ENTER instead of clicking the **log on** button), the step may not be recorded. In general, when recording your script, it is recommended to use UI elements rather than keyboard options.
- **Citrix snapshots.** Black snapshots may appear during record or replay when using Citrix Presentation Server 4.0 or 4.5 (before Rollup Pack 3).

**Possible workaround:** On the Citrix server select **Start Menu > Settings > Control Panel > Administrative Tools > Terminal Services Configuration > Server Settings > Licensing** and toggle the **Per User/Per Device**.

- For the following protocols, replay is supported, but recording is no longer supported: Siebel DB2, Siebel MSSQL, Siebel Oracle, and Voice XML.
- In **Test Result reports**, you can only use the **Export to HTML file** utility for scripts replayed in version 9.50 and later. To generate an HTML report for scripts created with earlier versions, run the script again in the 9.50 version (or later) of the product.
- If you terminated the **Protocol Advisor** immediately after the detection process started, the Protocol Advisor may leave a hung process of the detected application, causing all recordings and detection sessions that follow to fail.

**Workaround:** Manually terminate the hung process.

- The new Web snapshot model is backward compatible with previous versions of LoadRunner, however some snapshot data may be missing. If this occurs, regenerate the script.
- The JSON Data Format Extension does not work in Linux environments.
- For protocols using XML, replay fails to create a request when a parameterized input argument contains the ampersand (&) character.
- Replay of COM script in VuGen fails when the dll registration is missing the "ThreadingModel" string under the InprocServer32 folder of the GUID.
- You cannot open a script if its full file path contains non-English characters.
- When replaying a script recorded on the HP WebTours application, set the run-time settings to work with no proxy.

- If you open an HP site in the embedded browser and the site is not included in the trusted sites list, you will be prompted to add the site to the trusted sites list and after adding the site will receive a script error.

#### General

- To run LoadRunner on Windows 7 or Window Server 2008, you must have Administrator privileges and User Account Control (UAC) must be disabled.
- It is not recommended to install and uninstall a Load Generator standalone installation on the same machine with a VuGen standalone installation.
- The Load Generator cannot run Citrix scripts in service mode when the script was recorded using Citrix Client version 11.2 or higher.
- The Agent icon does not appear in Windows 2008 when the LoadRunner Agent service is launched.
- When LoadRunner Agent runs as service (**magentservice.exe**), files that are stored on remote network drives or referred to by UNC path cannot be accessed (script, parameter file, etc.). If you want to access files this way, run the LoadRunner Agent as process (magentproc.exe). If this is not possible, please contact Customer Support.
- The RealPlayer protocol is deprecated as of LoadRunner 11.50. In the next version, it will be discontinued.
- The WAP protocol is deprecated as of LoadRunner 11.50. In the next version, it will be discontinued.
- On the LoadRunner server, Internet Explorer Enhanced Security Configuration must be disabled to view help content. It is enabled by default. (Control Panel->Administrative tools->Server manager->Configure IE ESC).
- HP Service Test 11.2 cannot be installed on top of a LoadRunner 11.50 installation.

**Workaround:** Install Service Test 11.2 first then LoadRunner 11.50

- In LoadRunner 11.50 Correlation (RBC, Rule and Comparison) support for Siebel protocol is disabled.
- When using Windows 2008 R2 and opening a snapshot from the step navigator in SAP GUI and Web protocols, the snapshots might not open automatically. **Workaround:** Internet Explorer Enhanced Security Configuration must be disabled to view help content. It is enabled by default. (Control Panel->Administrative tools->Server manager->Configure IE ESC).
- Recording on 64-bit O/S's for 32-bit, and for 64-bit apps (running as a 64-bit application) is supported. Replay is only at 32-bit. See the support matrix and limitations above for more information.
- **Firefox.** If Firefox is set as the default browser, **Obtain the proxy settings from the default browser (Run-time Settings > Internet Protocol > Proxy)** does not work, and a direct connection is used.
- **Data Format Extensions.** A script that includes a DFE can only run on a load generator hosted on a Windows platform.
- If you have implemented your own version of DFE, the definition of class HTTPEntity in DfeDefinitions.h file has been updated in LoadRunner 11.50. All customer's DFE extensions need be recompiled. (NO code change is required).
- For Single WinSock scripts from LoadRunner 11, the recording log is not displayed in VuGen 11.50.
- If you are using a PAC file for proxy configuration, it is required that the PAC script directs 127.0.0.1 to a direct connection and not through a proxy.

#### GUI Vusers

- LoadRunner supports GUI Vuser scripts created using HP QuickTest. GUI Vuser scripts created in WinRunner are no longer supported.
- Windows Load Generator machines can only run one GUI Vuser at a time. To run multiple GUI Vusers in a load test, you need to open a terminal server session for each GUI Vuser. For more information, see the *HP LoadRunner Controller User Guide*.

### SiteScope

- If you are configuring the SiteScope System Resources Graph (System Resources Graphs > SiteScope), you cannot specify a specific SiteScope user account. LoadRunner uses the default SiteScope Administrator user.
- If you want to configure SiteScope monitoring with a SiteScope account other than the default SiteScope Administrator account, you need to explicitly assign a group with monitors to that account in SiteScope.

### Analysis

- Analysis currently supports Microsoft SQL Server versions 2005 and above.
- If you are using Microsoft SQL Server 2000, you need to either migrate Analysis data, or upgrade to Microsoft SQL Server 2005. The following tasks describe how to perform the migrating and upgrading procedures:

#### To migrate legacy Analysis data to a SQL 2005 server:

- a. From the SQL Server Management Studio, using Object Explorer, connect to an instance of SQL Server Database Engine.
- b. Expand Databases, right-click Analysis database, select **Tasks\Copy Database**.
- c. Follow the instructions in the wizard.

#### To upgrade SQL 2000 to SQL 2005:

- d. Backup Analysis database on the SQL 2000 (<http://msdn.microsoft.com/en-us/library/cc966495.aspx>)
  - e. Uninstall SQL 2000.
  - f. Install SQL 2005.
  - g. Restore Analysis data from backup. ([http://msdn.microsoft.com/en-us/library/ms177429\(SQL.90\).aspx](http://msdn.microsoft.com/en-us/library/ms177429(SQL.90).aspx))
- If you are using your own policy in an MS SQL server, you may need to add your own account to the Analysis database template (in the **<LR Installation>\bin\dat** folder).
  - When exporting Analysis reports to MS Word, take into account that the content load may affect the table format within the document. The RTF format is recommended.
  - The following Analysis default settings have been modified: **Include Think Time** is disabled and **Display summary while generating complete data** is enabled.
  - There is a limitation with MS Access and SQL queries when filtering a large number of transactions (greater than 100).
  - Even after running the <Language> User Interface Pack, the Analysis UI data generated from the sample session (in the **<LR Installation>\tutorial** folder) will display in English. Filtering the graphs will fail. **Workaround:** Re-generate the graphs and then the corresponding language from the <Language> User Interface Pack will display and filtering will work.

### Multilingual Support

#### Language Packs

- **LoadRunner User Interface Pack.** While installing the Language Pack a warning message may

be displayed that the HP LoadRunner Launcher Process is in use.

**Workaround:** Click **Continue** to continue the installation.

- The language pack of .Net Framework needs to be installed to show the localized strings.
- **Tutorial scripts.** After the Language Pack installation, all sessions and scripts in \HP\LoadRunner\tutorial are still in English.
- **LoadRunner User Interface Pack.** If you are working with a LoadRunner User Interface Pack, it is recommended that you install it before running LoadRunner for the first time.
- **Menus and toolbars.** If you install a LoadRunner User Interface Pack after running LoadRunner for the first time, the menus and toolbars may not get translated.

**Workaround:**

- Close LoadRunner and delete the following folder from the registry: **HKEY\_CURRENT\_USER\Software\<Folder Name>**, where **<Folder Name>** is the drive on which you installed LoadRunner.  
For example, if LoadRunner is installed on the C drive, the registry folder name would be: **HKEY\_CURRENT\_USER\Software\C:**
- Restart LoadRunner.
- **Report Templates in Analysis.** If you install a LoadRunner User Interface Pack after running LoadRunner for the first time, the Report Templates in Analysis (**Reports > Report Templates**) may not get translated.

**Workaround:**

- Close LoadRunner and copy the files from: **<LoadRunner User Interface Pack CD root>\Reporting** to folder **<LoadRunner installation folder>\bin\dat\Reporting**.
- Restart LoadRunner.

### **Non-Localized LoadRunner on Foreign Language Operating Systems**

- **Language support.** LoadRunner only supports English and the native language of the machine's operating system. For example, if you are using Japanese Windows XP, you can work with LoadRunner in Japanese and in English.
- **Installation path.** The path in which installation files for LoadRunner are located, and the path in which LoadRunner is installed, can contain only English characters.
- **Diagnostics add-in.** To use the Diagnostics add-in with Controller on a computer with a non-English operating system the Diagnostics\_9.0\_8.0\_LR\_Addin\_QCCR1152206 hotfix should be installed. For further assistance, contact HP customer support.
- **.NET Framework 3.5 failure.** Installing LoadRunner on a localized machine may result in a failure in the .NET Framework 3.5 installation process, and you will be asked to terminate the installation. This happens because the .NET 3.5 Framework installation attempts to download the Framework Language Pack but fails.

**Workaround:** Terminate the LoadRunner installation according to the Installation wizard's instructions and invoke the LoadRunner installation again.

- **Online Help.** The search functionality may not function as expected for strings that contain Chinese/Japanese characters (except Japanese full-width Katakana).

**Workaround:** Add a half-width space after each character in the search string.

- **Online Help.** For optimum performance of the online Help, you should install the latest JRE.
- **Japanese characters in Web (HTTP/HTML) scripts.** If you set the advanced recording option

to specify the encoding of an application, and the application uses different character encoding for different pages, then the recording log or script may display invalid Japanese characters. This does not cause any errors in the script replay.

- **Non-breaking spaces in Web protocols for Far Eastern languages.** A non-breaking space (&nbsp; &#160; &#xA0; \xA0', etc.) cannot be represented in some Far Eastern locale character sets (in which it is considered a lead byte). Instead, non-breaking spaces are converted to regular spaces (' ', \x20', etc.), both during script code generation and replay. This may cause replay problems, such as mismatches in length due to eliminating multiple regular spaces.

**Workaround:** To work around this issue, either:

- Remove/add space(s) from/to the script so the comparison succeeds.
- Specify regular expressions to avoid the issue.
- **Standalone installations.** The installation interface of the VuGen and Analysis standalone are in English and not localized.
- **Flex AMF call properties.** Multibyte symbols in Flex AMF call properties will be corrupted in the script text view.
- **ODBC protocol and Oracle-2T protocols.** When recording a script in VuGen using the ODBC or Oracle-2t protocols, if you stop the recording while the AUT is still open, VuGen may crash.

**Workaround:**

- Close LoadRunner.
- Open the file <LoadRunner installation folder>\dat\protocols\options\script\general.opt in a text editor.
- Comment out the following line by adding a semicolon at the beginning of the line:

**Option=DumpProcesses**

So it looks like this:

**;**Option=DumpProcesses****

- **PDF report.** In Analysis, a PDF report may be generated with unreadable characters if it contains non-English characters.

**Workaround:** Before you generate the PDF file, change the font in the Report Template that you are using.

- Select **Reports > Report Templates**.
- Select the template that you want to use.
- In the **Detailed Report** section, select the **Format** tab.
- For each UI element in the list, change the font to the desired font that supports the language in which the report is written.
- **Diagnostics add-in.** Using the Diagnostics add-in with Controller on a computer with a non-English operating system is not supported.

**Workaround:** Install the Diagnostics add-in with Controller on a computer with an English operating system. The generated results can be viewed with a localized version of Analysis. For further assistance, contact HP customer support.

## HP Software Support

You can visit the HP Software Support Web site at:

<http://www.hp.com/go/hpssoftwaresupport>

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To find more information about access levels, go to:

[http://h20230.www2.hp.com/new\\_access\\_levels.jsp](http://h20230.www2.hp.com/new_access_levels.jsp)

To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

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