What’s New in HPE LoadRunner and HPE Performance Center 12.53
July 7, 2016
Hosted By

Robert Linton
V.P. Application Lifecycle Management
CorTechs Inc.
TQA SIG Leader
Today’s Speakers

Marino Gaspare
Product Marketing Manager - Performance Engineering
Hewlett Packard Enterprise

Yoav Karnibad
Functional Architect
Network Virtualization
Hewlett Packard Enterprise
Housekeeping

• This “LIVE” session is being recorded
  Recordings are available to all Vivit members

• Session Q&A:
  Please type questions in the Questions Pane
Webinar Control Panel

Toggle View Window between Full screen/window mode.

Questions

Q. Is it compatible with all web browsers?
A. Yes.

Q. How much time is required for the upgrade?

Type your questions here.

Susan
Webinar ID: 850-600-483

GoToWebinar
What’s New in HPE LoadRunner and HPE Performance Center 12.53

Gaspare Marino – LR & PC Product Marketing Manager
Yoav Karnibad – Functional Architect NV Group
Agenda

- Introduction
- Thrive to the new now
- What’s new in LoadRunner 12.53?
- What’s new in Performance Center 12.53?
- What’s new in Network Virtualization for LR/PC 12.53?
- System Configurations
- Q&A
A quick history of Performance Engineering

1999

LoadRunner

Market leader
Rich protocol set
Top class analytics

2006

Performance Center

Enterprise ready
Collaboration
ALM integration

2014

StormRunner Load

True SaaS delivery
Cloud testing
High scale

2016
“HP is the market share leader in performance testing and test management, making investments in expanding its capabilities to incorporate cloud and mobile, and connecting DevOps features, including integration into continuous integration tools and lifecycle virtualization solutions.”

2015 Gartner Magic Quadrant
Thrive to the new now

Intelligent performance & Insights for best user experience

Hewlett Packard Enterprise
Version 12.53 provides new and innovative capabilities...

“We like LR very much, the tool is growing with us, as we change technologies, we can always go back to LR and continue work with the same primary tool“ – SAS USA, beta customer program
Introducing version 12.53

**DevOps**
- Continuous Testing using IDE/Ci/Git Integration
- REST GUI Editor in VuGen
- PAL 2.0 - Automatic scripts generation from production

**Digital**
- Javascript
- Web Enhancements
- TruClient RORA
- Other Protocols Updates
- New configurations

**Analytics**
- NV Analytics & NV Insight Report
- New HTML Report Style

**Open**
- REST APIs
- Jenkins Integration
Newly Supported Platforms and Environments
Updates for modern and innovative technologies

Innovation for the Future

Operating Systems & Platforms
- Windows 10
- SUSE Linux Enterprise Server 12
- Red Hat Linux 7.2 (Enterprise)
- hLinux (HPE’s Debian-derivative)

Add-ins
- Visual Studio 2013 add-in
- Visual Studio 2015 add-in
- Upgraded Eclipse IDE add-in

Browsers
- Microsoft Edge Browser
- Updates to TruClient browser versions:
  - Chromium 46
  - Firefox 40.03
  - Internet Explorer 10 and 11
  - Internet Explorer 9 is no longer supported.
What’s new in LoadRunner 12.53?
New Content Overview

Web Standardization
- Streaming
- HTTP/2
- PCAP parsing
- Edge Browser

TruClient
- Client Side metrics
- SAPUI5
- Object Identification
- Upgrade Browsers
- TC for Mobile Center

Protocols
- New PCoIP
- Java usability
- Flex usability
- Java 8
- Java 64bit replay

VuGen
- GIT integration
- REST editor
- Usage Analytics
- Protocols Usability

Integrations
- VS2013/5 plugins
- Eclipse plugins
- NV Integration
- Digital Ocean
Web Standardization
Web Standardization

WHAT?
- Media Streaming
- Easy REST API testing
- HTTP/2 support
- Improved PCAP parsing
- Edge browser recording and emulation

WHY?
- **Streaming** - Video & Audio now mainstream technologies
- **REST** - Ability to run a single REST command outside context of script
- **HTTP/2** - Support new HTTP abilities, based on Google/SPDY
- **Edge** – now supplied with Win10

HOW?
- Aligning all Web related features into single Protocol (Web HTTP)
- **Streaming** – Video/Audio as part of Web HTTP protocol; provide unified APIs and specific metrics
- **REST** - Provide a REST step-builder Editor
- **HTTP/2** – ability to Record/Replay an HTTP/2 web site
Audio/Video Recording
Understand how audio/video streaming impacts performance

• Ability to record audio/video streaming with Web HTTP/HTML and Mobile protocols.

• Understand how video and audio streaming impact performance.

• Root cause analysis to find performance bottlenecks caused by media streaming issues pre-production.

• HTML5 and HLS
REST GUI Editor in VuGen

1. Select Insert in Script
2. Enter REST API URL: http://kalimanjaro.hpswlabs.adapps.hp.com/rcgi-bin/temp/echo_post.asp?Key1=1234
3. Add URL Parameter Key1: Value 1234
4. Add Headers: Header1: Value 4321
5. Run Step
VuGen – Git Integration
Git Integration

**What?**
- Ability to connect and work with local/remote repository
- Provide a free integration for popular, open source SCM

**Why?**
- Provide integrated alternative to ALM SCM
- Popular source control system
- Improved team collaboration especially agile teams

**How?**
- VuGen integrates with Git, via the Version Control menu
- Enables the user to upload scripts from a Git repository and perform common actions
VuGen interfaces with Git Repository

1. Version Control
2. Import from Remote Repository
3. Solution Explorer
4. Git Options
TruClient Enhancements
## TruClient Protocol

<table>
<thead>
<tr>
<th>What?</th>
<th>Why?</th>
<th>How?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client side metrics</td>
<td>Improve the User Experience analysis</td>
<td>Provide all of the above OOB in simplified and usable way</td>
</tr>
<tr>
<td>SAPUI5</td>
<td>SAPUI5 – commonly used in Enterprises</td>
<td></td>
</tr>
<tr>
<td>Record Replay Heuristics improvements</td>
<td>Minimize the need to edit the script after Recording</td>
<td></td>
</tr>
</tbody>
</table>
Client side metrics available via HAR viewer of TC file

- Expose time stamps so Performance Engineers can better measure the client side performance
- For Mobile and Web
- Provided by TruClient
TruClient End Event
New ‘End Event – Object Exists’

- The step will end when the chosen object exists on the page.
‘Automatic’ Object Identification

- Recommended (default) identification method.
Ability to control Actions during Recording

- User can add Actions during Recording, or switch actions during recording.
Desktop Protocols – PC Over IP
PC over IP Protocol

What?
- Add new remote access protocol (like Citrix, RDP)
- Used by multiple vendors

Why?
- Widely used for Virtual Desktop infrastructure (VDI)
- Used in VMWare products and in Amazon AWS

How?
- Similar concept to RDP and Citrix protocols
PCoIP Screens
What’s new in Performance Center 12.53?
Enhanced Online Graphs

- Dynamic interactive graphs
- Ability to merge various graphs into one
- Enhanced usability
Administration Reports

- Web interface for admin dashboard
- Cross project reporting according to time range
- Multiple views for various usage reports
Usage Report

- Easy-to-read Usage Reports.
- Simplified for efficient department chargebacks.
Enhanced PAL Data Set Creator

- Enhanced usability and added the ability to define time ranges using the Scheduler Assistant graph. This graph samples your log to help you identify peak time ranges.
Early Visibility to Test Runs
Jenkins Plugin Supports Performance Center Trending

- Easily view Performance Center Trending reports directly within Jenkins.
- Team members have access to the metrics they need sooner.
Enhanced Service Virtualization Integration
Analysis: New HTML report style

- New design
  - Fonts, Logo and style
  - Matches NV Analytics Report design
What’s new in Network Virtualization for:
LoadRunner 12.53
Performance Center 12.53?
Network Virtualization — Do We Really Need It?

What is Network Virtualization?

How slower networks effect applications?
• Slow app performance
• Timeout exceptions
• Non-reproducible application issues
• System capacity degradation
Distributed Application — Real World

- US Data Center: 3 sec, 12 sec, 8 sec, 31 sec, 57 sec
- European Data Center: 1 sec, 41 sec, 9 sec
- APAC Data Center: 2 sec, 4 sec, 2 sec, 8 sec, 11 sec, 73 sec

Hewlett Packard Enterprise
Distributed Application - In the Lab
Network Impact on user experience - remote locations

- Launch: 1 sec
- Manage Policy: 5 sec, 19 sec, 32 sec
- Sign In Attempt: 3 sec, 21 sec, 28 sec

Network Impact: Remote locations

- Local in NY
- London to NY
- Tokyo to NY

Hewlett Packard Enterprise
Network Impact on System Capacity

Load Test - **Without** NV

- Response (TRT) < 10 seconds
- Capacity > 500+ Users

Load Test – **With** NV

- Response (TRT) > 40 seconds
- Capacity < 200 Users
Network Virtualization for LoadRunner 12.53 and for Performance Center 12.53
Define Virtual Locations

1. Select virtual location definition method
   - Custom: Manually specify virtual location parameters.
   - Global Library: Define virtual location parameters based on world-wide network measurements.
   - Import from a file: Import virtual location parameters captured by HPF Network Capture or created by NV Network Editor.

2. Network profile settings
3. Runtime settings
4. Summary

Next  Cancel
Define Virtual Locations - **Custom**

1. Select virtual location definition method
   - Custom
     - Manually specify virtual location parameters.
   - Global Library
     - Define virtual location parameters based on world-wide network measurements.
   - Import from a file
     - Import virtual location parameters captured by HPE Network Capture or created by NV Network Editor.

2. Network profile settings
   - Latency
     - 0 - 6000 ms
     - 200
   - Packet loss
     - 0.00 %
     - 0.2
   - Download Bandwidth
     - 10240
   - Upload Bandwidth
     - 28.8
Define Virtual Locations - Global Library
Define Virtual Locations - Network Capture

1. Select virtual location definition method
   - Custom: Manually specify virtual location parameters.
   - Global Library: Define virtual location parameters based on world-wide network measurements.
   - Import from a file: Import virtual location parameters captured by HPE Network Capture or created by NV Network Editor.

2. Network profile settings
   - Import network profile from a file:
     Specify the .xml or .xlsx file. The file must contain a network profile captured by HPE network capture or created by NV Network Editor.
     - Driving in a car

3. Runtime settings

4. Summary
Add Virtual Location to groups

<table>
<thead>
<tr>
<th>Vusers</th>
<th>Group Name</th>
<th>Script Name</th>
<th>Script Type</th>
<th>Load Generators</th>
<th>Virtual Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>internaldemo_specialoffer</td>
<td>InternalDemo_SpecialOffer</td>
<td>Web - HTTP/HTML</td>
<td>myd-vm22720</td>
<td>Driving in a car</td>
</tr>
<tr>
<td>20</td>
<td>internaldemo_specialoffer_1</td>
<td>InternalDemo_SpecialOffer</td>
<td>Web - HTTP/HTML</td>
<td></td>
<td>In a coffee shop</td>
</tr>
<tr>
<td>40</td>
<td>internaldemo_specialoffer_2</td>
<td>InternalDemo_SpecialOffer</td>
<td>Web - HTTP/HTML</td>
<td></td>
<td>3G Busy</td>
</tr>
<tr>
<td>60</td>
<td>internaldemo_specialoffer_3</td>
<td>InternalDemo_SpecialOffer</td>
<td>Web - HTTP/HTML</td>
<td></td>
<td>4G Good</td>
</tr>
</tbody>
</table>
Runtime TRT by Location graph

3G Busy
3G
4G
## Analysis Summary

**Scenario Name:** Scenario1  
**Results in Session:** C:\Users\belhfd\AppData\Local\Temp\2\res\res.1r
**Duration:** 1 minute and 0 seconds.

### Statistics Summary

<table>
<thead>
<tr>
<th>Maximum Running Users</th>
<th>Total Throughput (bytes)</th>
<th>Average Throughput (bytes/second)</th>
<th>Total Hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>loc100</td>
<td>7,295</td>
<td>106,643</td>
<td>29</td>
</tr>
<tr>
<td>loc200</td>
<td>5,085</td>
<td>98,357</td>
<td>27</td>
</tr>
<tr>
<td>loc300</td>
<td>5,085</td>
<td>98,357</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>21,165</td>
<td>302</td>
<td>63</td>
</tr>
</tbody>
</table>

### Average Hits per Second

<table>
<thead>
<tr>
<th>Average Hits per Second</th>
<th>1.106</th>
</tr>
</thead>
</table>

### Transaction Summary

**Transactions:** Total Passed: 218 Total Failed: 0 Total Stopped: 31  
**Average Response Time**

<table>
<thead>
<tr>
<th>Action Transaction</th>
<th>Pass</th>
<th>Fail</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>loc100</td>
<td>74</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>loc200</td>
<td>72</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>loc300</td>
<td>72</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

**Transaction Name**

<table>
<thead>
<tr>
<th>SLA Status</th>
<th>Minimum</th>
<th>Average</th>
<th>Maximum</th>
<th>Std. Deviation</th>
<th>90 Percent</th>
<th>Pass</th>
<th>Fail</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action Transaction</td>
<td>0.203</td>
<td>0.541</td>
<td>3.691</td>
<td>0.55</td>
<td>0.608</td>
<td>31</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>loc100</td>
<td>0.203</td>
<td>0.222</td>
<td>0.325</td>
<td>1.84</td>
<td>0.305</td>
<td>27</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>loc200</td>
<td>0.403</td>
<td>0.465</td>
<td>0.605</td>
<td>1.409</td>
<td>0.606</td>
<td>27</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>loc300</td>
<td>0.603</td>
<td>0.803</td>
<td>1.308</td>
<td>0.919</td>
<td>0.606</td>
<td>27</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

**Transaction Name**

<table>
<thead>
<tr>
<th>SLA Status</th>
<th>Minimum</th>
<th>Average</th>
<th>Maximum</th>
<th>Std. Deviation</th>
<th>90 Percent</th>
<th>Pass</th>
<th>Fail</th>
<th>Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>loc100</td>
<td>0.203</td>
<td>0.237</td>
<td>0.304</td>
<td>0.047</td>
<td>0.306</td>
<td>29</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>loc200</td>
<td>0.603</td>
<td>0.803</td>
<td>1.114</td>
<td>0.606</td>
<td>0.606</td>
<td>27</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

**You can define SLA data using the SLA configuration wizard**  
**You can analyze transaction behavior using the Analyze Transaction mechanism**
Network Virtualization Insights Report 12.53
## NV Insights Report

### Workload Type:
- **Basic schedule by test, number mode**
- **Controller:** 16.60.162.68

### Groups
- **Select Scripts**
- **LG Distribution:** Assign manually
- **Virtual Location Editor...**

<table>
<thead>
<tr>
<th>Vusers</th>
<th>Group Name</th>
<th>Script Name</th>
<th>Script Type</th>
<th>Load Generators</th>
<th>Virtual Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>script_1_test_1_test</td>
<td>Script_1_Test_1_Test</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>script_1_test_1_test_1</td>
<td>Script_1_Test_1_Test</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>London to US EC</td>
</tr>
<tr>
<td>1</td>
<td>script_1_test_1_test_2</td>
<td>Script_1_Test_1_Test</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>3G Busy</td>
</tr>
<tr>
<td>1</td>
<td>script_1_test_1_test_3</td>
<td>Script_1_Test_1_Test</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>3G Busy</td>
</tr>
<tr>
<td>1</td>
<td>script_1_test_1_test_4</td>
<td>Script_1_Test_1_Test</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>4G Good</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>3G Busy</td>
</tr>
<tr>
<td>1</td>
<td>script_2</td>
<td>2</td>
<td>Web - HTTP/HTML</td>
<td>16.59.63.153</td>
<td>4G Good</td>
</tr>
</tbody>
</table>

### Global Scheduler
- **Scheduled Vusers:** 18
- **Action Properties:**
  - **Initialize:** Initialize each Vuser just before it runs
  - **Start Vusers:** Start All Vusers **simultaneously**
  - **Duration:** Run until completion
## NV Insights Report

### Test Runs

<table>
<thead>
<tr>
<th>Run ID</th>
<th>Run Name</th>
<th>Test</th>
<th>State</th>
<th>SLA Status</th>
<th>Execution Date</th>
<th>Duration</th>
<th>Tester</th>
<th>Timeslot</th>
</tr>
</thead>
<tbody>
<tr>
<td>3173</td>
<td>AdhocRun_2010-03-27_12...</td>
<td>test1</td>
<td>Finished</td>
<td></td>
<td>2010-03-27 12:22:20</td>
<td>9</td>
<td>sa</td>
<td>86945</td>
</tr>
<tr>
<td>3172</td>
<td>AdhocRun_2010-03-27_12...</td>
<td>test1</td>
<td>Finished</td>
<td></td>
<td>2010-03-27 12:03:00</td>
<td>9</td>
<td>sa</td>
<td>86944</td>
</tr>
<tr>
<td>3171</td>
<td>AdhocRun_2010-03-27_10...</td>
<td>test1</td>
<td>Finished</td>
<td></td>
<td>2010-03-27 10:59:44</td>
<td>10</td>
<td>sa</td>
<td>86943</td>
</tr>
<tr>
<td>3170</td>
<td>AdhocRun_2010-03-27_0...</td>
<td>test1</td>
<td>Finished</td>
<td></td>
<td>2010-03-27 00:05:41</td>
<td>9</td>
<td>sa</td>
<td>86948</td>
</tr>
<tr>
<td>3169</td>
<td>AdhocRun_2010-03-20_23...</td>
<td>test1</td>
<td>Before Collating Results</td>
<td></td>
<td>2010-03-20 23:53:22</td>
<td>11</td>
<td>sa</td>
<td>86937</td>
</tr>
</tbody>
</table>

### Results

<table>
<thead>
<tr>
<th>ID</th>
<th>Type</th>
<th>Name</th>
<th>Modified By</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>14895</td>
<td>Output Log</td>
<td>output_mdb.zip</td>
<td>sa</td>
<td>2010-03-27 12:31:08</td>
</tr>
<tr>
<td>14896</td>
<td>Raw Results</td>
<td>RawResults.zip</td>
<td>sa</td>
<td>2010-03-27 12:31:13</td>
</tr>
<tr>
<td>14897</td>
<td>HTML Report</td>
<td>NVInsights.zip</td>
<td>sa</td>
<td>2010-03-27 14:12:09</td>
</tr>
<tr>
<td>14898</td>
<td>Analyzed Result</td>
<td>Results.zip</td>
<td>sa</td>
<td>2010-03-27 14:12:09</td>
</tr>
<tr>
<td>14999</td>
<td>HTML Report</td>
<td>Reports.zip</td>
<td>sa</td>
<td>2010-03-27 14:12:09</td>
</tr>
<tr>
<td>14900</td>
<td>Rich Reports</td>
<td>RichReports.zip</td>
<td>sa</td>
<td>2010-03-27 14:12:09</td>
</tr>
</tbody>
</table>
Network Virtualization Licensing

• NV license is managed by LoadRunner Performance Center
• License by amount of NV Vusers
• Community license:
  • 2 NV Vusers
  • NV Insights report for 2 Locations for 30 days
  • NV Analytics report in VuGen for 30 days
System Configurations
## Supported setup in LR 12.53

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor speed</strong></td>
<td>Dual-Core 2.2 GHZ or faster</td>
</tr>
<tr>
<td><strong>Operating system</strong></td>
<td>• Windows Server 2008 R2 SP1 64-bit</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2012 R2 64-bit</td>
</tr>
<tr>
<td></td>
<td>• Windows 7 SP1 64-bit</td>
</tr>
<tr>
<td></td>
<td>• Windows 8.1 64-bit</td>
</tr>
<tr>
<td></td>
<td>• <strong>Windows 10 (64-bit)</strong></td>
</tr>
<tr>
<td><strong>Memory (RAM)</strong></td>
<td>Recommended: 8 GB or higher</td>
</tr>
<tr>
<td><strong>Screen resolution</strong></td>
<td>Minimum: 1366x768</td>
</tr>
<tr>
<td><strong>Browser</strong></td>
<td>Microsoft Internet Explorer 10 or 11, Edge, Chrome, Firefox</td>
</tr>
<tr>
<td><strong>Available hard disk space</strong></td>
<td>Minimum: 40 GB</td>
</tr>
</tbody>
</table>
## Supported setup in PC 12.53

**ALM & PC servers, PC Hosts**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALM / PC server</strong></td>
<td>• Microsoft Windows Server 2008 R2 (SP1) 64-bit&lt;br&gt;• Microsoft Windows Server 2012 64-bit&lt;br&gt;• Microsoft Windows Server 2012 R2 64-bit</td>
</tr>
<tr>
<td><strong>Windows Operating system</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PC Hosts / Load generators</strong></td>
<td>• Microsoft Windows Server 2008 R2 (SP1) 64-bit&lt;br&gt;• Microsoft Windows Server 2012 R2 64-bit</td>
</tr>
<tr>
<td><strong>Windows Operating system</strong></td>
<td>• Microsoft Windows 7 SP1 64-bit&lt;br&gt;• Microsoft Windows 8.1 64-bit&lt;br&gt;• <strong>Microsoft Windows 10 64-bit</strong></td>
</tr>
<tr>
<td><strong>Memory (RAM)</strong></td>
<td>Recommended: 8 GB or higher</td>
</tr>
<tr>
<td><strong>Screen resolution</strong></td>
<td>Minimum: 1366x768</td>
</tr>
<tr>
<td><strong>Browser</strong></td>
<td>• Microsoft Internet Explorer 10 and 11 (On Microsoft Windows only)&lt;br&gt;• Google Chrome 49.x (On Microsoft Windows only)&lt;br&gt;• Mozilla Firefox 45.x (On Microsoft Windows only)&lt;br&gt;• Apple Safari 9.x (On Mac OS only)</td>
</tr>
<tr>
<td><strong>Database server</strong></td>
<td>• Oracle 12c&lt;br&gt;• Microsoft SQL Server 2012&lt;br&gt;• Microsoft SQL Server 2014</td>
</tr>
</tbody>
</table>
Help Center Enhancements

- Help Center is now available on the Web, providing easier access and more up-to-date user assistance.
- By default, all the Performance Center help buttons open the online help.

http://admhelp.saas.hpe.com/main/Content/AdmHelpCenter.htm
### Why HPE Performance Testing?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large install base</td>
<td>10k+</td>
</tr>
<tr>
<td>More platforms supported</td>
<td>50+ protocols</td>
</tr>
<tr>
<td>Comprehensive &amp; affordable</td>
<td>Competitive pricing, pay as you go, VUDs as low as $0.56</td>
</tr>
<tr>
<td>Size &amp; staying power</td>
<td>Fortune 50</td>
</tr>
<tr>
<td>Largest community</td>
<td>Millions of users worldwide</td>
</tr>
<tr>
<td>TruClient technology</td>
<td>Unique, easy and fast to simulate transactions and test</td>
</tr>
<tr>
<td>Top analyst rankings</td>
<td>Leader of Gartner Magic Quadrant 2016 for Software Test Automation</td>
</tr>
<tr>
<td>Network Virtualization</td>
<td>Exclusive offering</td>
</tr>
</tbody>
</table>
Thank you
Thank you

• Complete the short survey and opt-in for more information from Hewlett Packard Enterprise.

www.hpe.com

www.vivit-worldwide.org