Workshop: Mobile Performance Testing Series I

May 10, 2016

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Chris Trimper
Western New York Chapter Leader
Performance Engineering SIG Leader

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Today's Speakers

Silvia Siqueira
Product Marketologist
Hewlett Packard Enterprise

Gaspare Marino
Product Marketing Manager
- Performance Engineering
Hewlett Packard Enterprise

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Questions

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Introduction to mobile performance testing

Silvia Siqueira
Product Marketologist

Gaspare Marino
Product Marketing Manager - Performance Engineering

Agenda

—Thrive to the new now: digital transformation

—Why mobile performance testing and its challenge

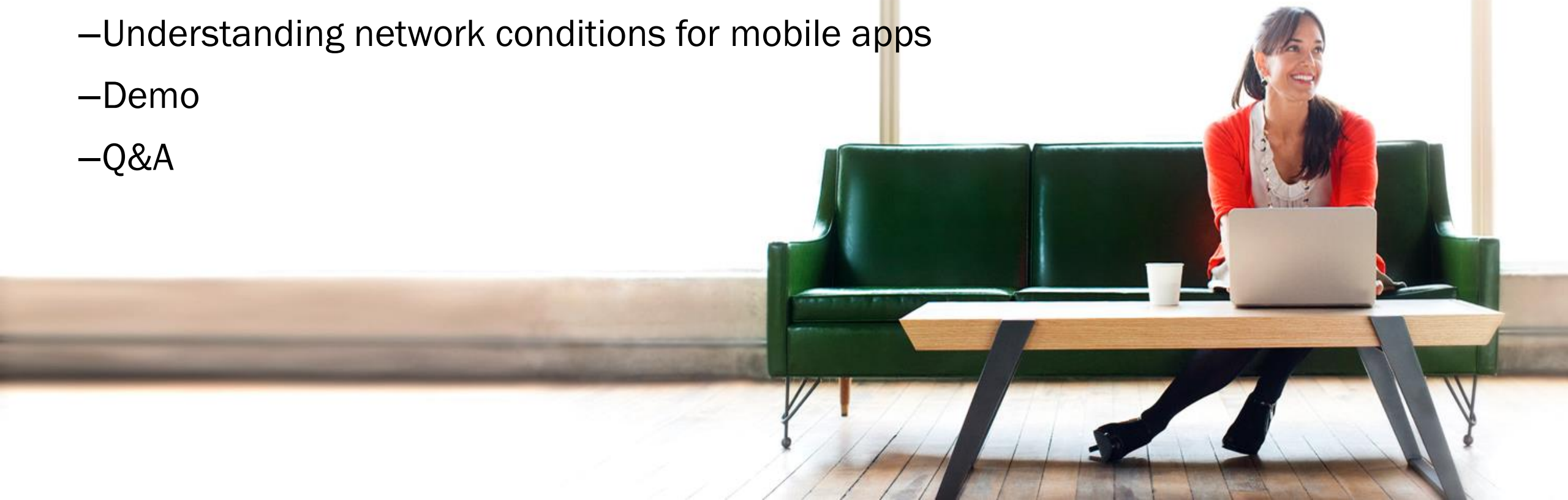
—Mobile performance explained

—HPE LoadRunner and HPE Mobile Center: test on real devices

—Understanding network conditions for mobile apps

—Demo

—Q&A

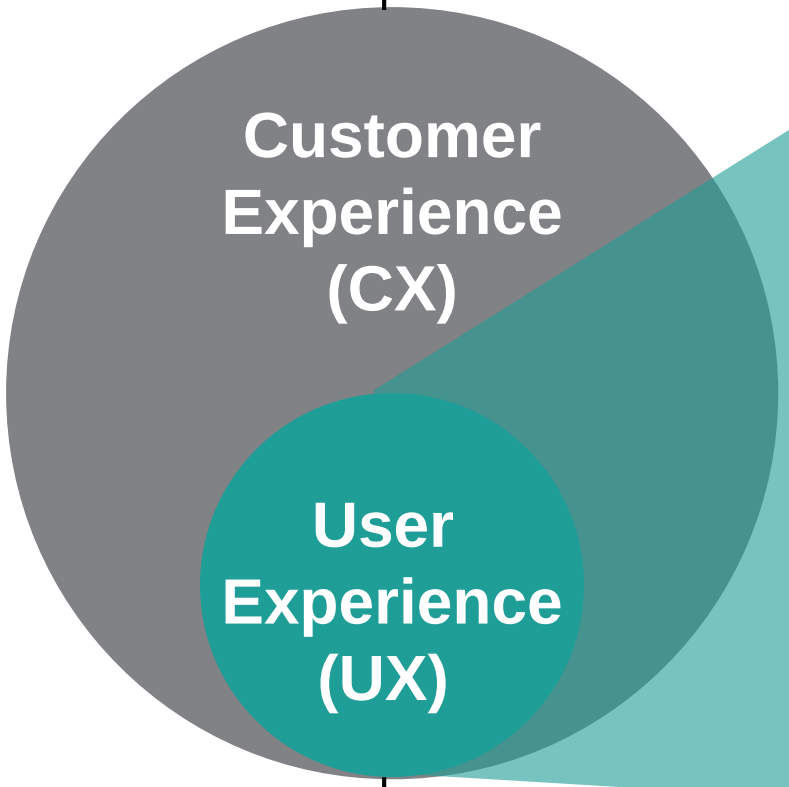


Thrive to new now!
Digital transformation

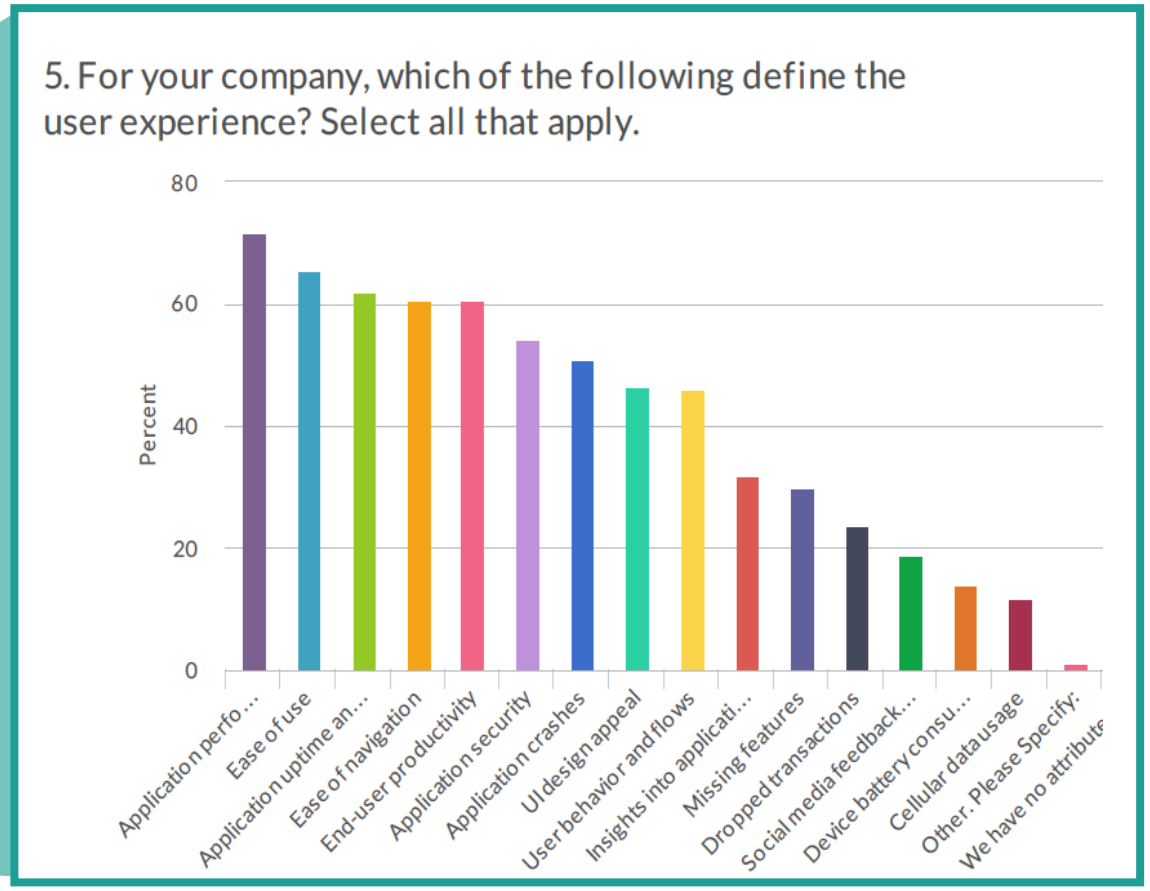
Why mobile performance testing?

Deliver great customer experience

All the interactions a person has with your brand



The perceived quality when users are interacting with your brand



Dimensional Research April 2016

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Build

Build a memorable digital experience based on extensive real-world testing.

Monitor

Find out how users are experiencing your app with continuous analytics and performance monitoring.

Optimize

Continuously improve the digital user experience by uncovering and fixing any performance or security issues.

www.hpe.com/software/digitalUX

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Client

Network

Back-end

Complete end-user response time

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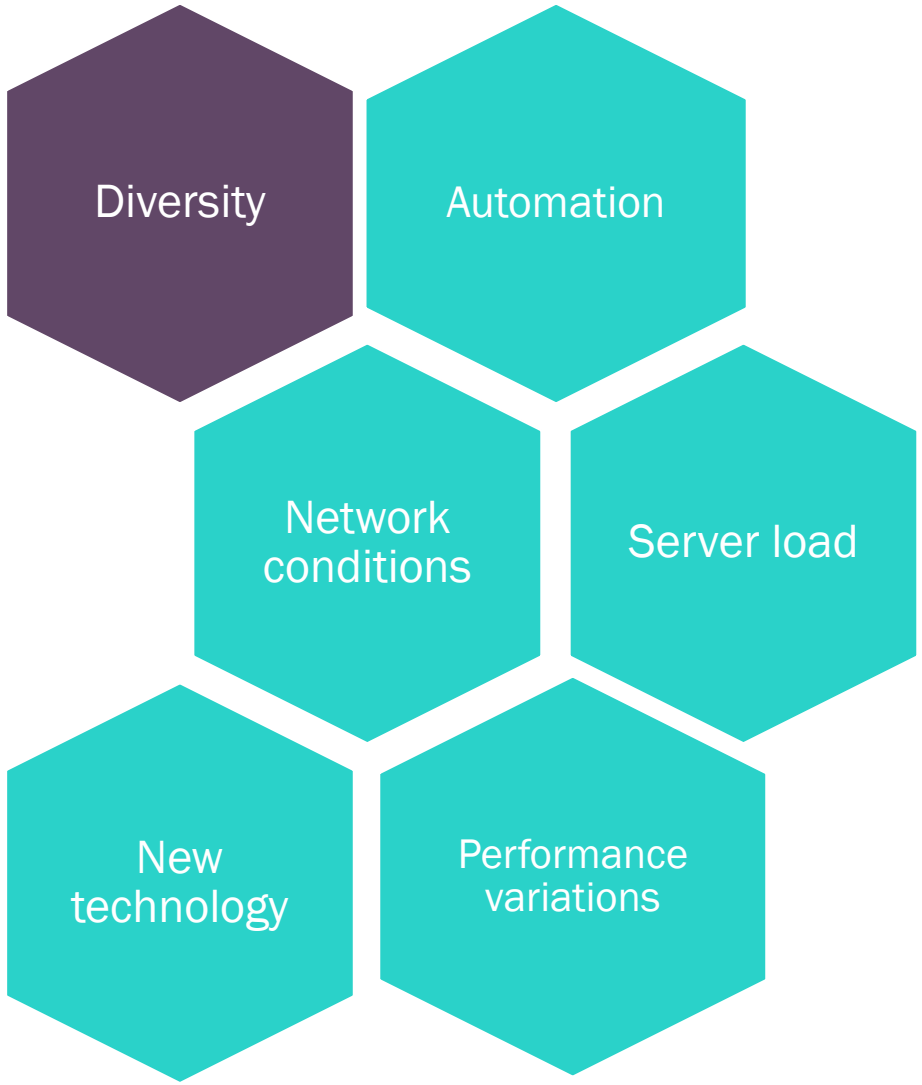
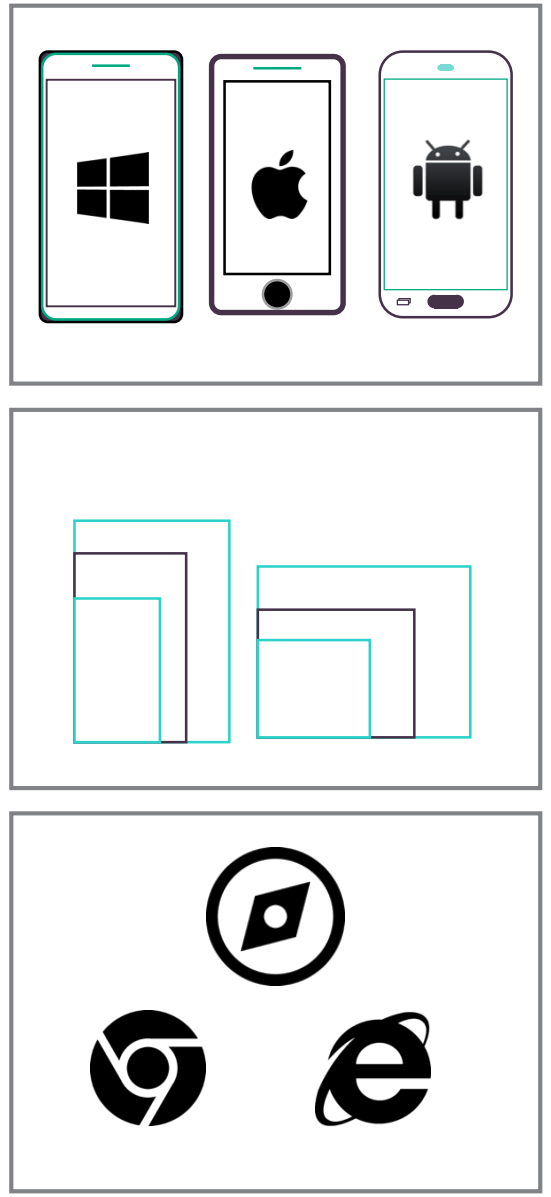
It is not an easy task...

Challenges in mobile performance testing





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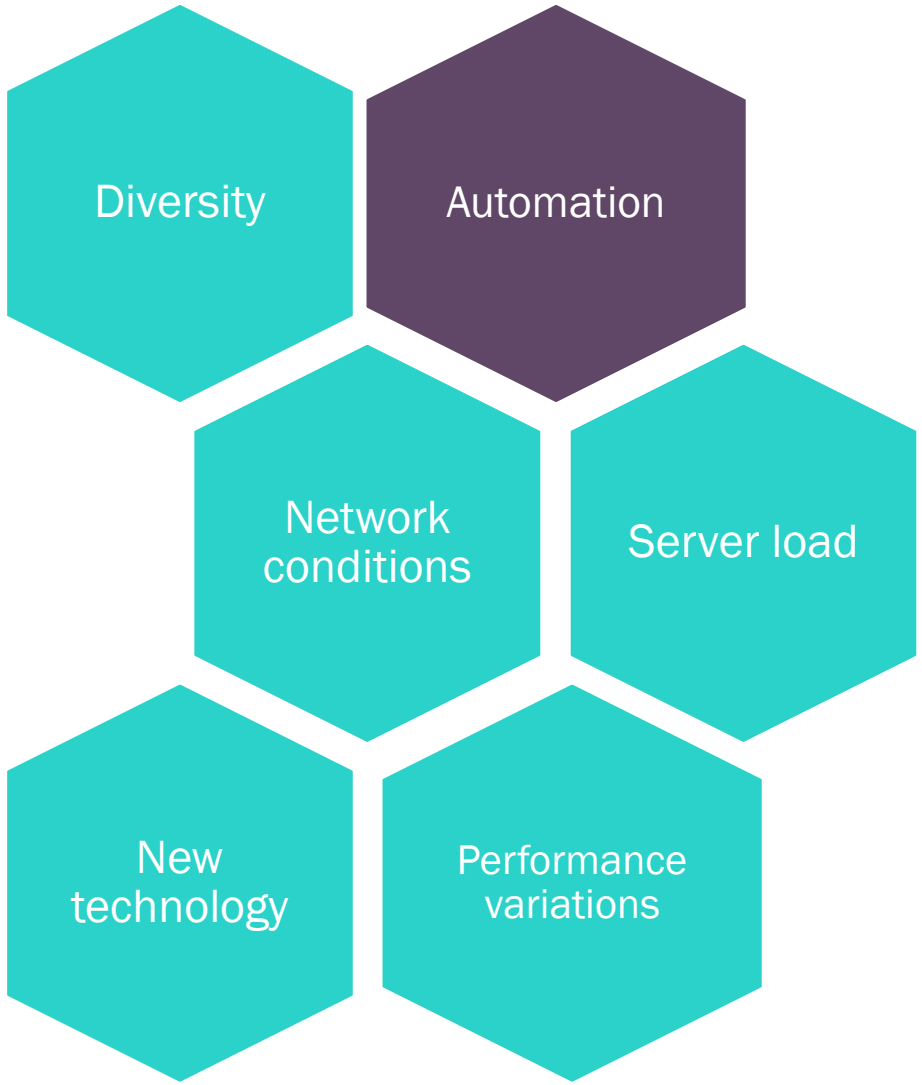
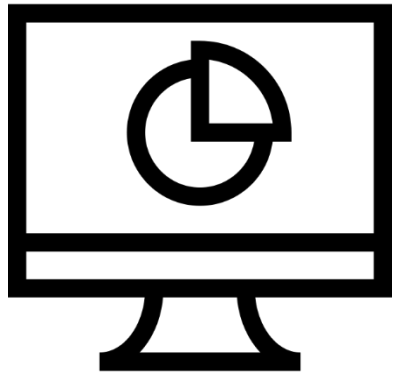
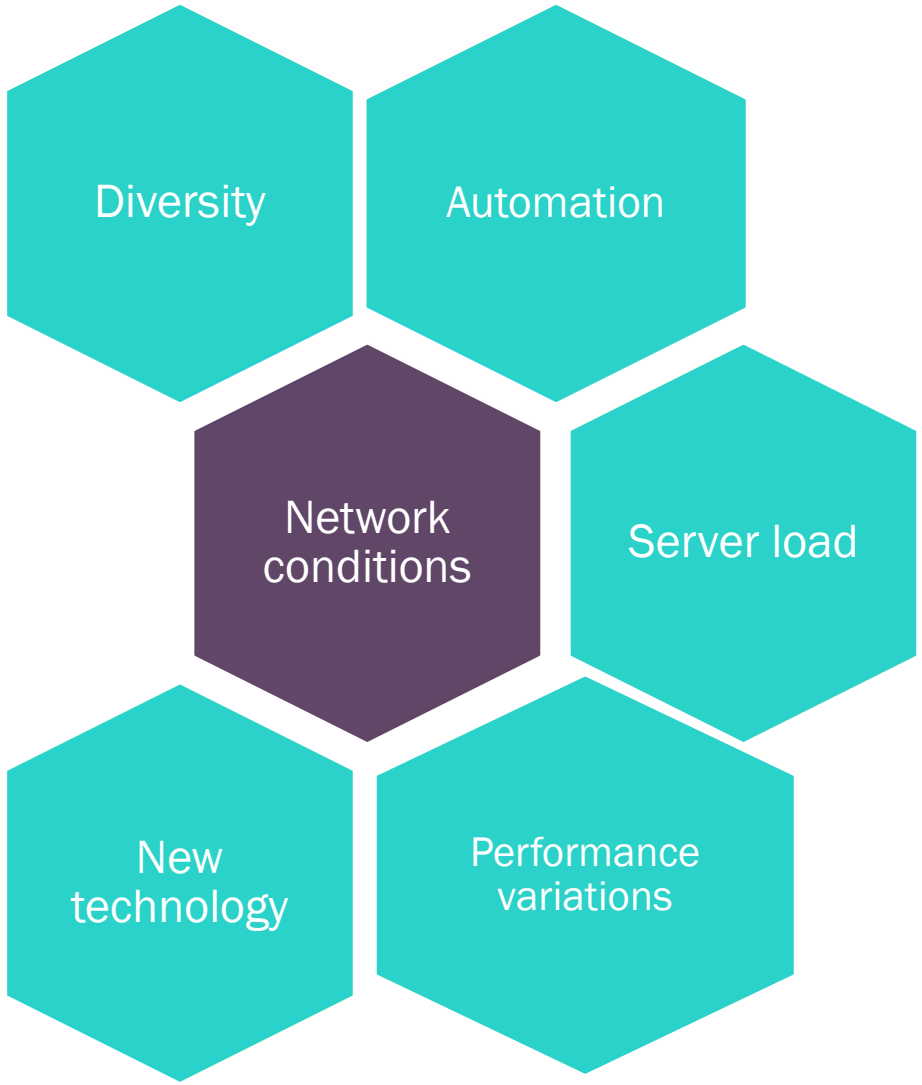
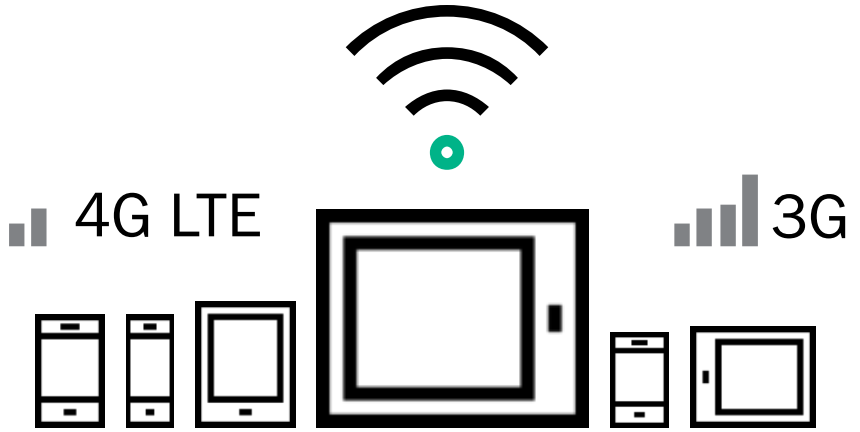
Challenges in mobile performance testing





Challenges in mobile performance testing





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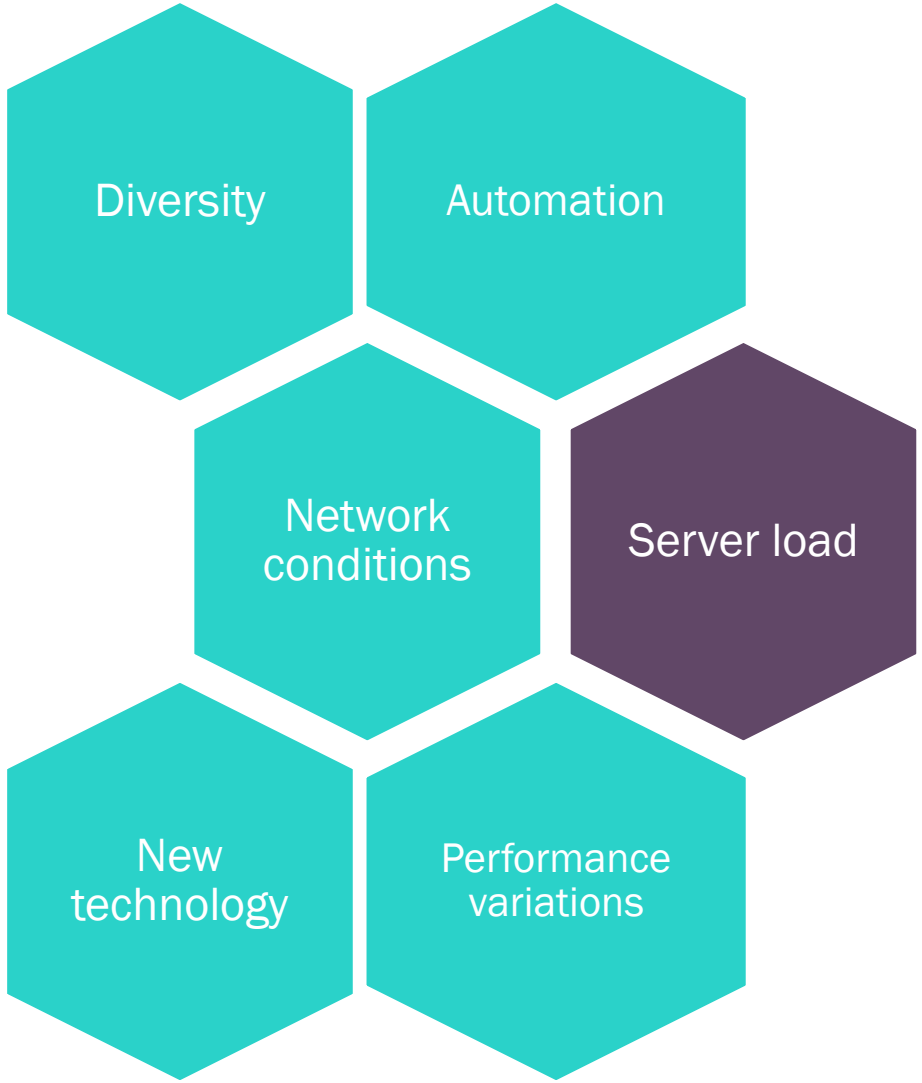
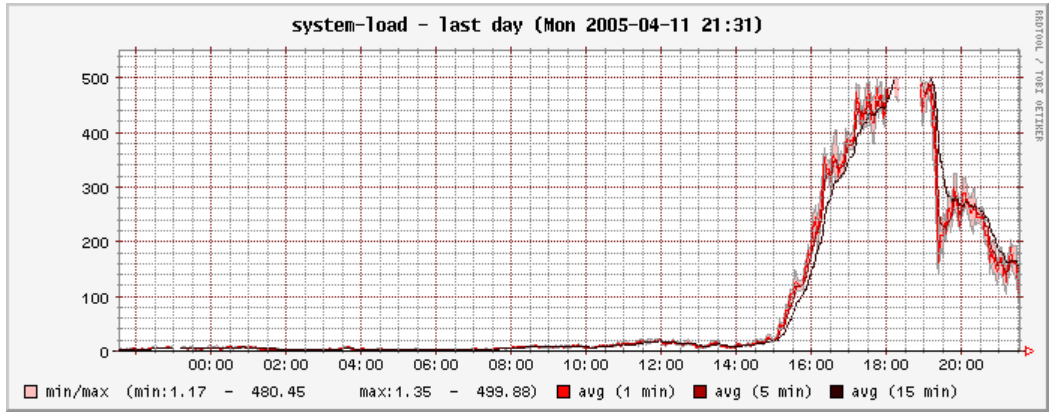
Challenges in mobile performance testing





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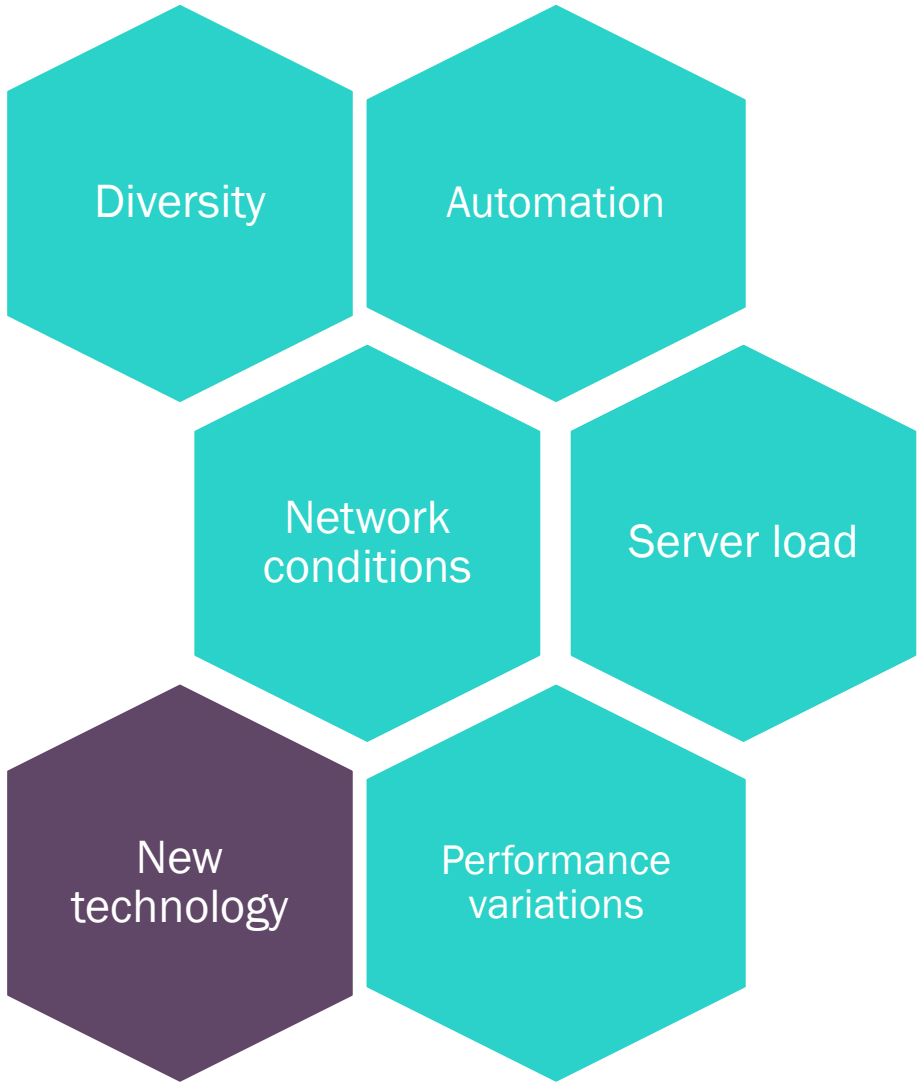
Challenges in mobile performance testing



The future is landing

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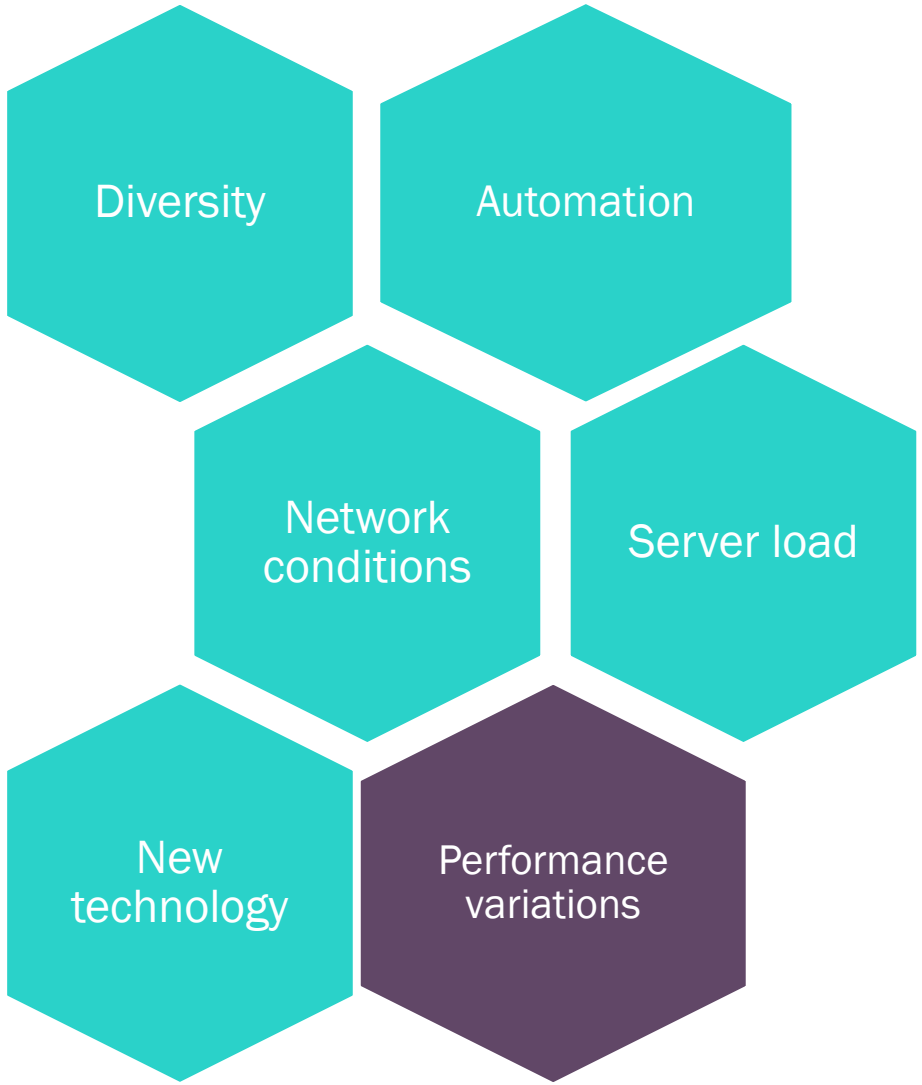
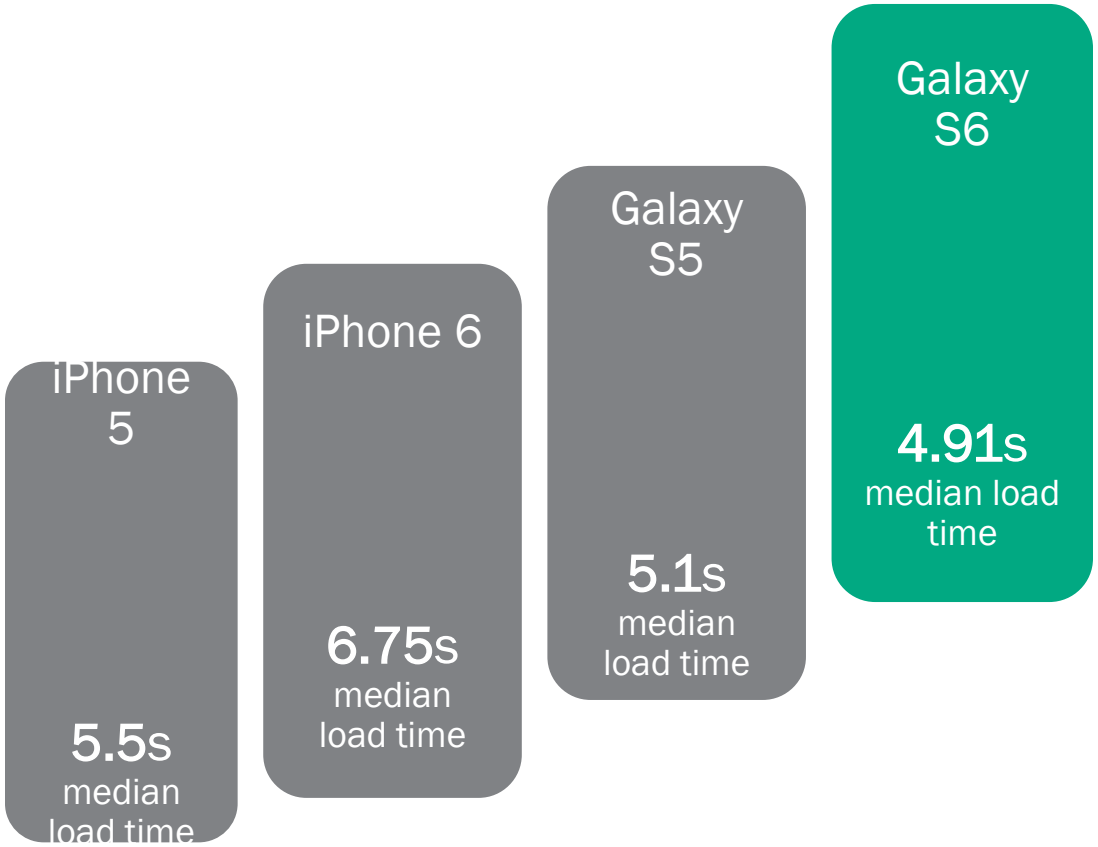
Challenges in mobile performance testing





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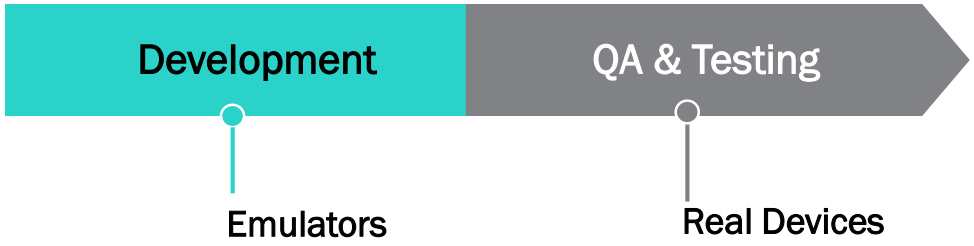
Mobile web vs. native vs. hybrid apps

Mobile web, native, and hybrid apps have different infrastructure.

The trade-offs using emulators

Pros	Cons
• Speed • Control • Convenience • Cost • Efficiency	• Power and battery • Performance • User experience • Device-specific flaws and bugs



Mobile performance explained

How to select a script type for mobile applications in HPE LoadRunner

Mobile application - HTTP/HTML

Develop scripts using mobile devices or device emulators communicating with servers over HTTP.

Client application: either a **browser based** or **native** application.

TruClient – Mobile Web

Record user activity in browser-based mobile applications using TruClient technology.

Client application: **browser based** mobile version of a web site.

TruClient - Native Mobile

Record user activity in native and hybrid mobile applications using TruClient technology (*Requires HPE Mobile Center*).

Client application: **native** or **hybrid** mobile application.

Mobile application - HTTP/HTML

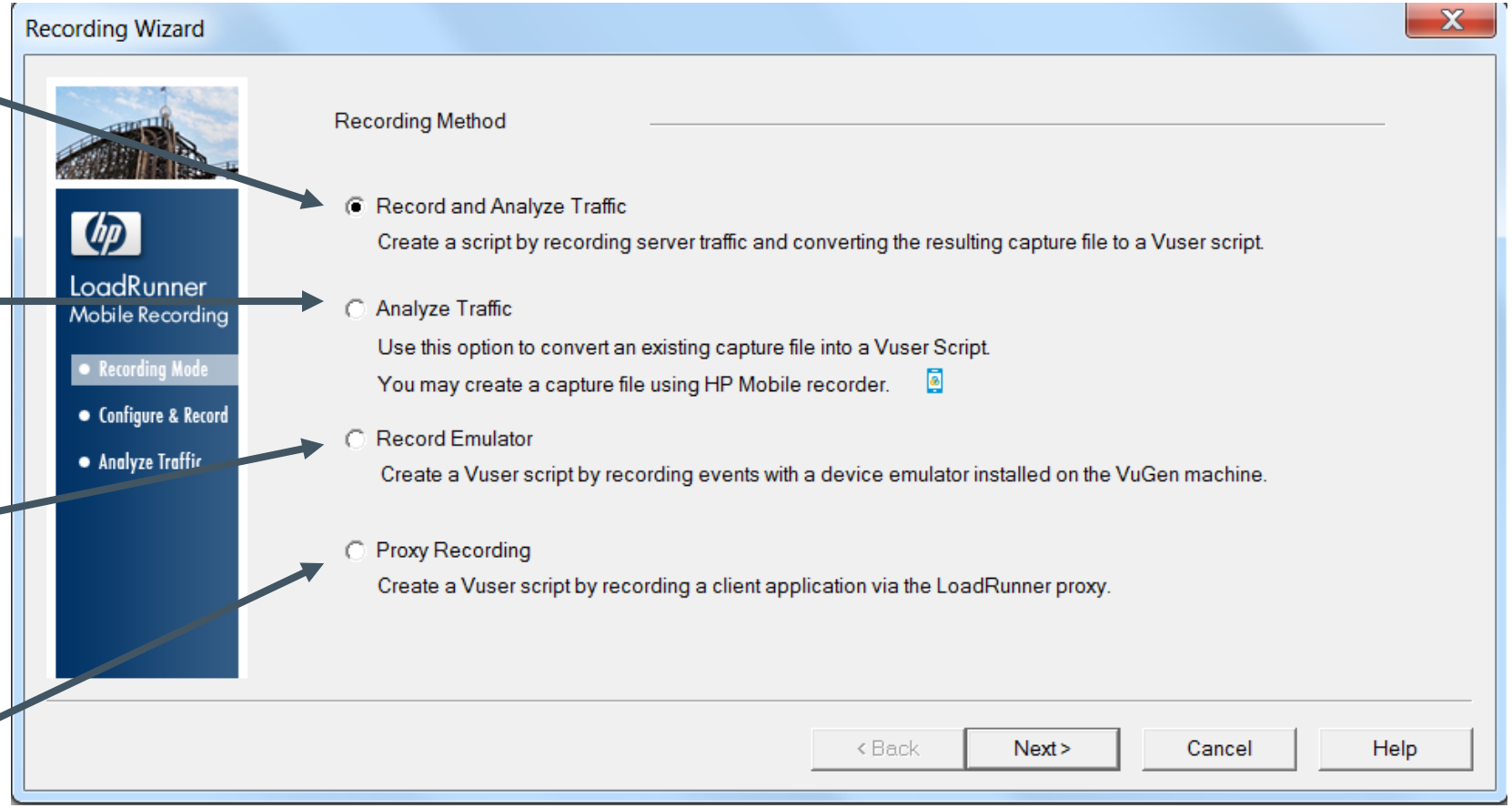
Recording methods

VuGen connect to **agent** and generate script based on captured traffic

Script generation based on existing **.pcap** network traffic file

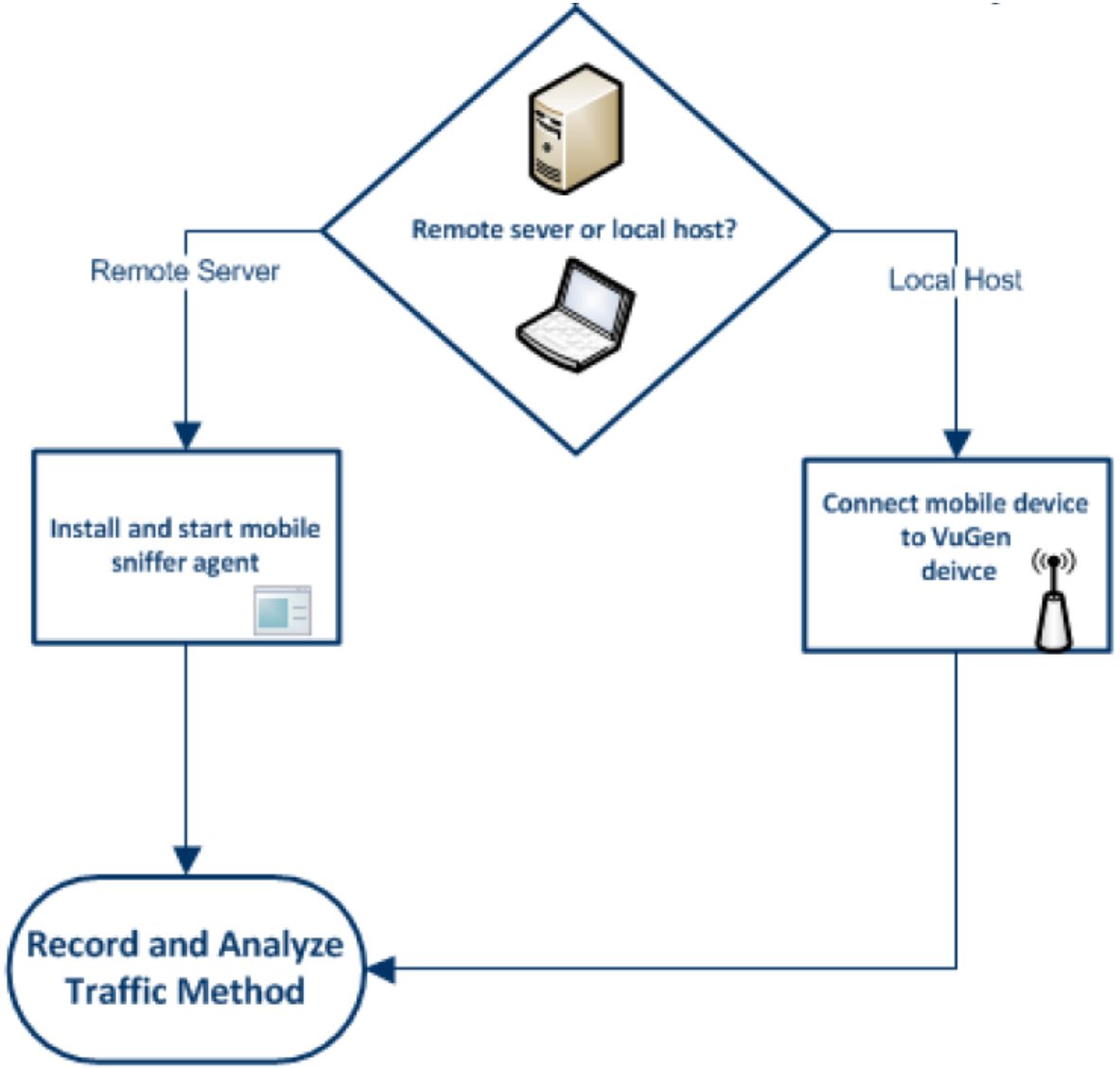
VuGen record against supported mobile **emulator**

VuGen listening to specified **proxy** and port and record activities remotely



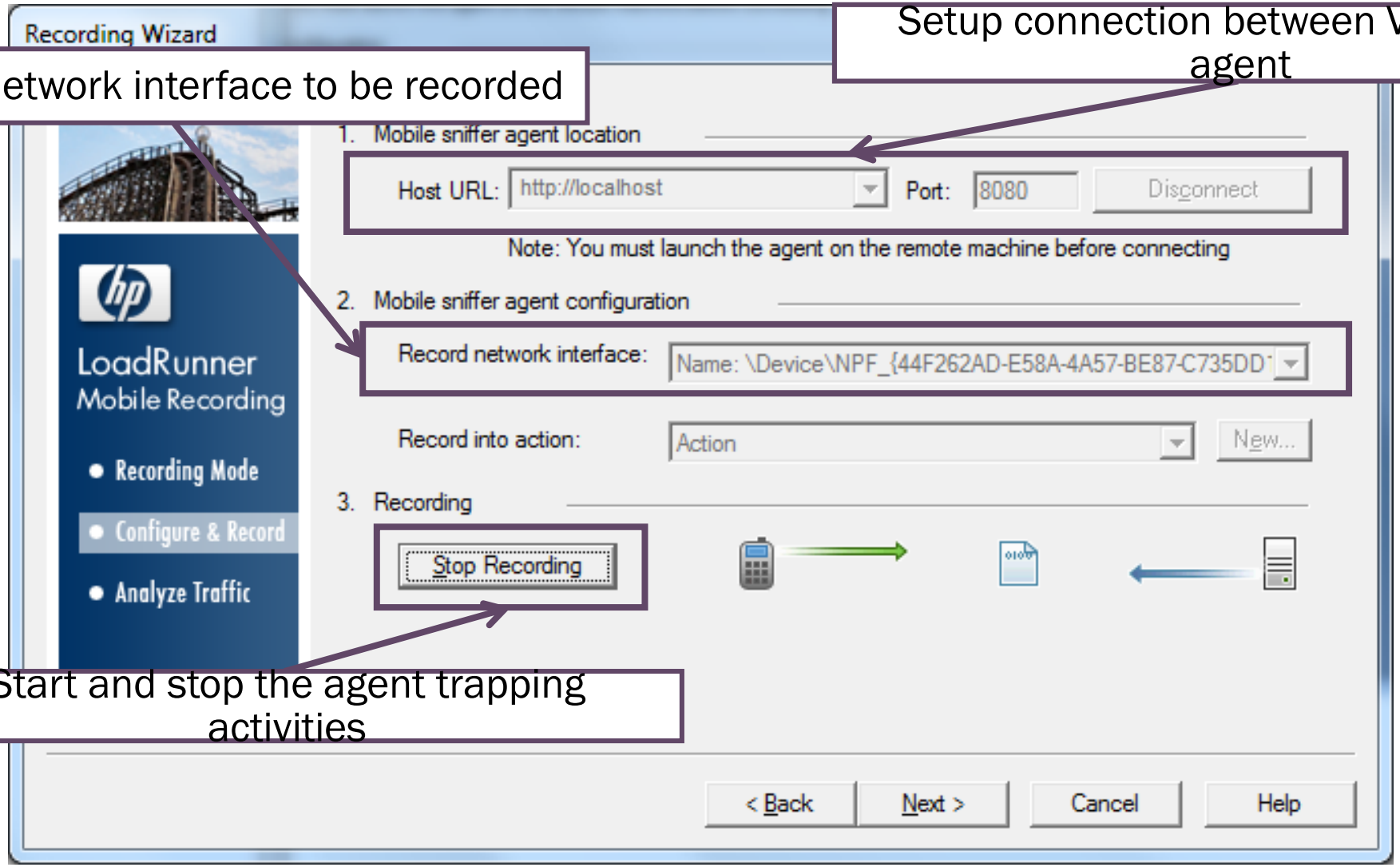
Option 1: record and analyze traffic

How it works



Option 1: record and analyze traffic

VuGen and Agent communication



Setup connection between VuGen and agent

Select the network interface to be recorded

Start and stop the agent trapping activities

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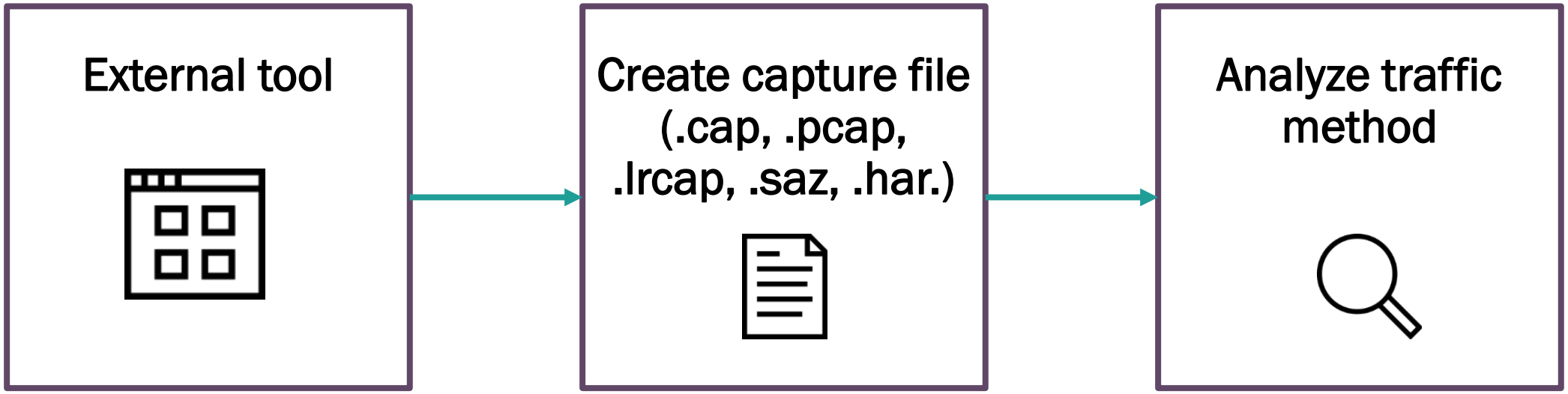
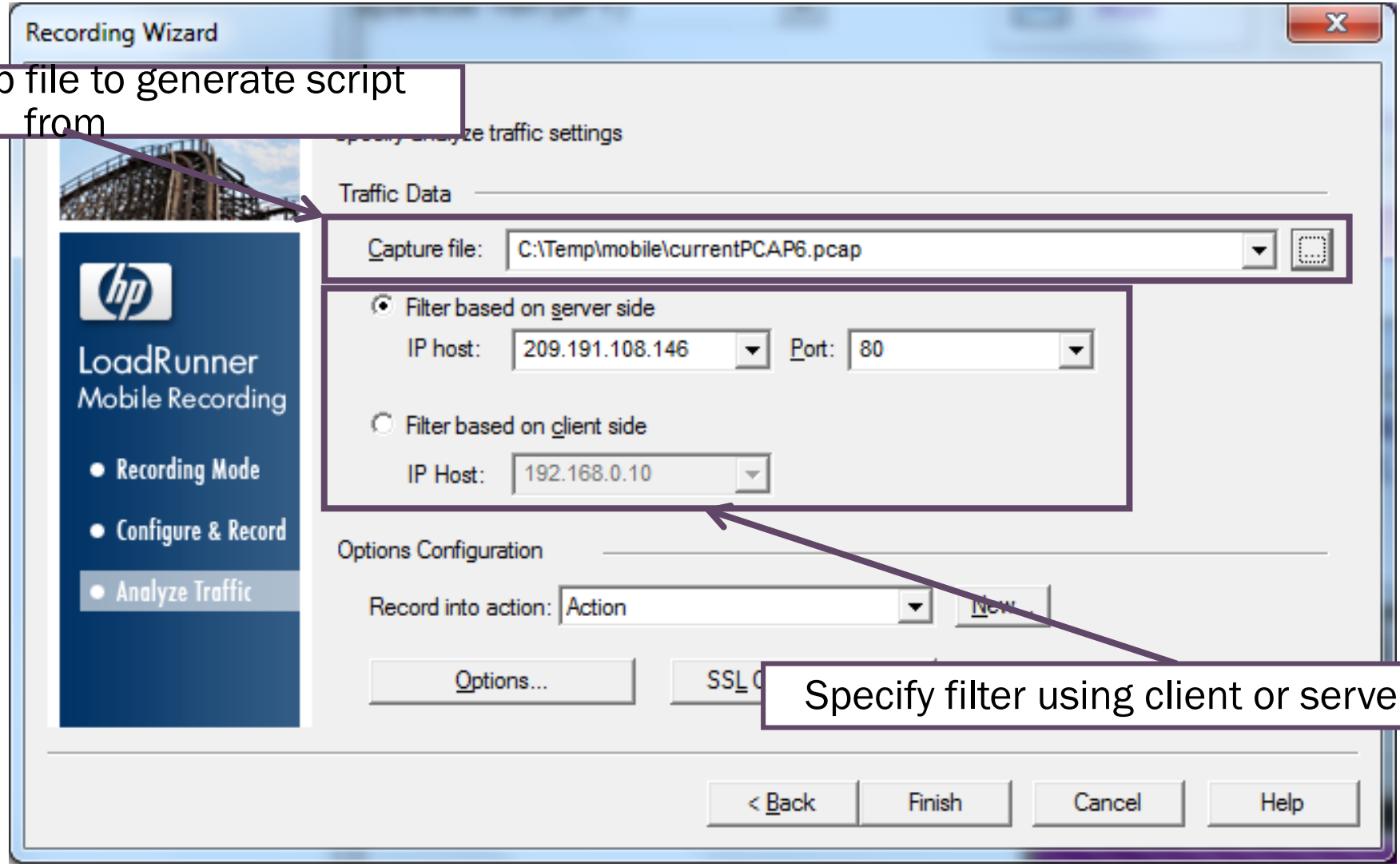
Option 2: analyze traffic

How it works



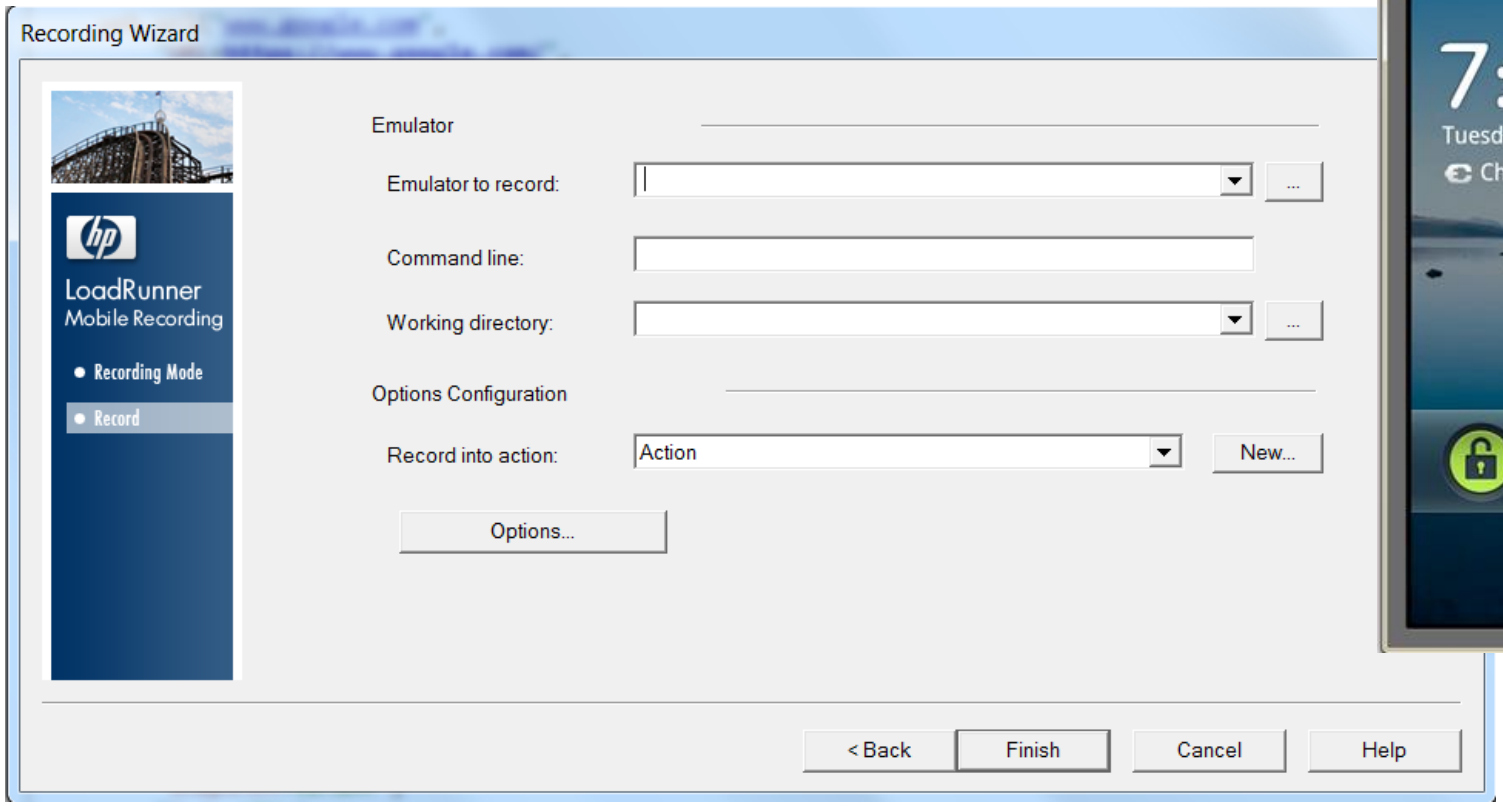
Option 2: analyze traffic

Options



Option 3: record emulator

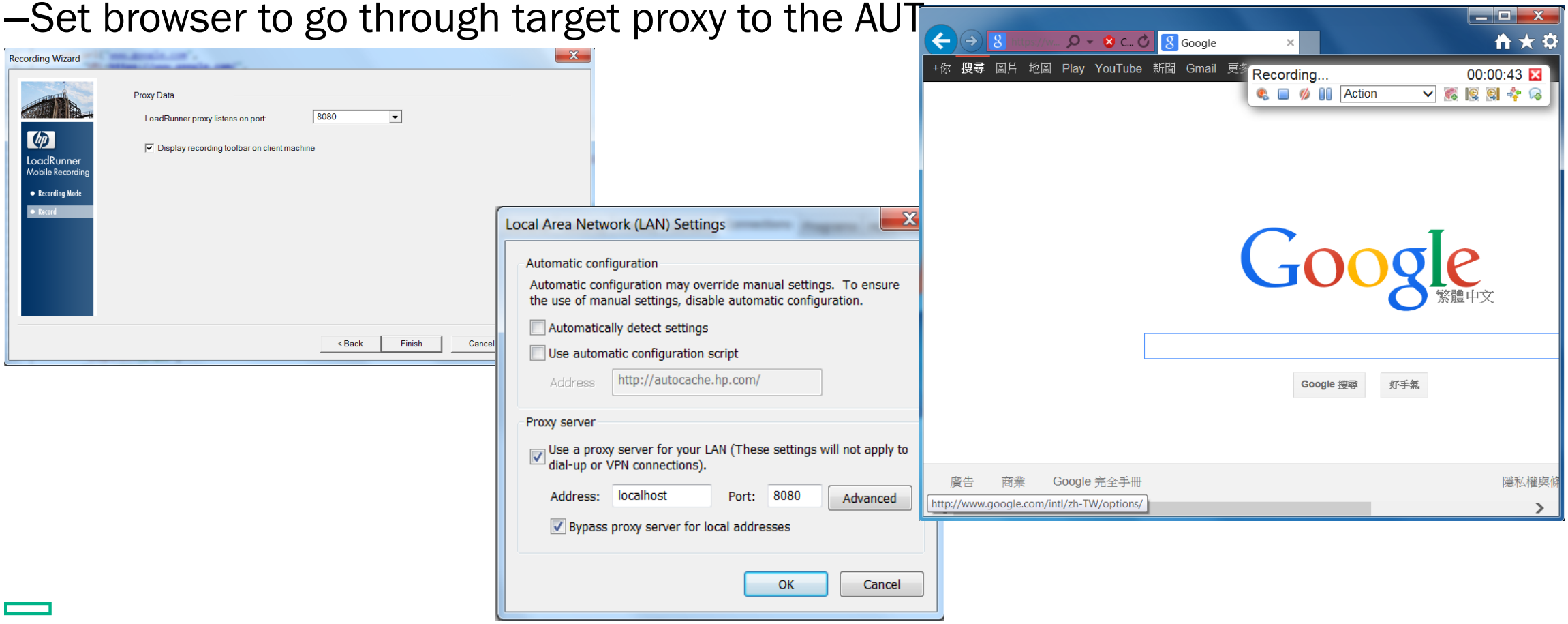
Point to Windows-based emulator applications



Option 4: proxy recording

–Configure VuGen to listen to recording machine at a specific port

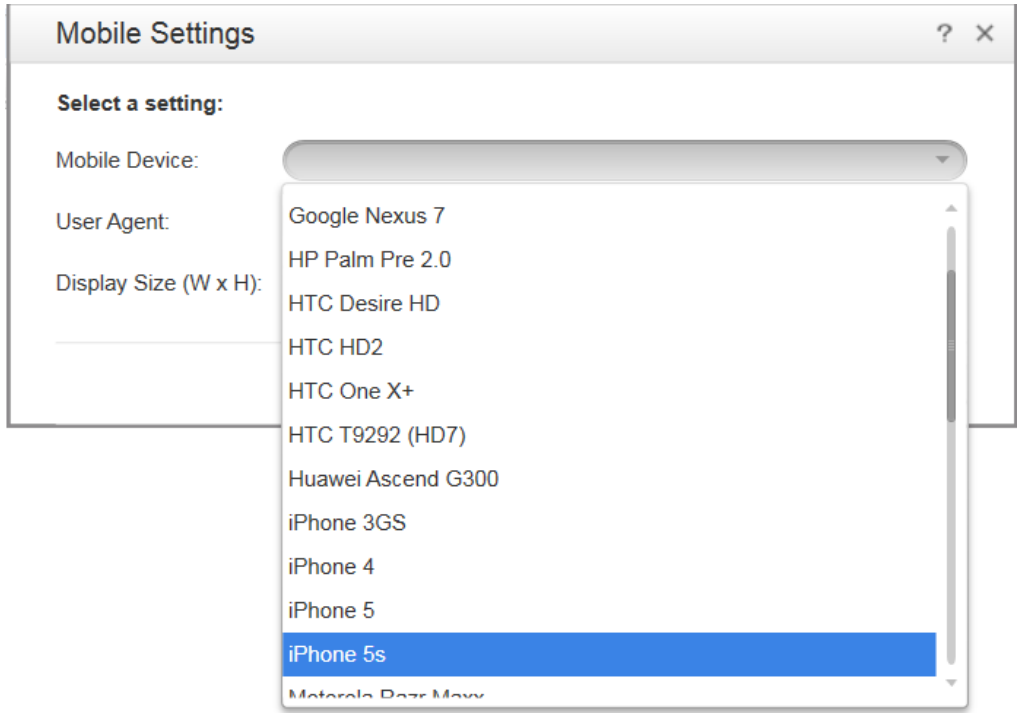
–Set browser to go through target proxy to the AUT

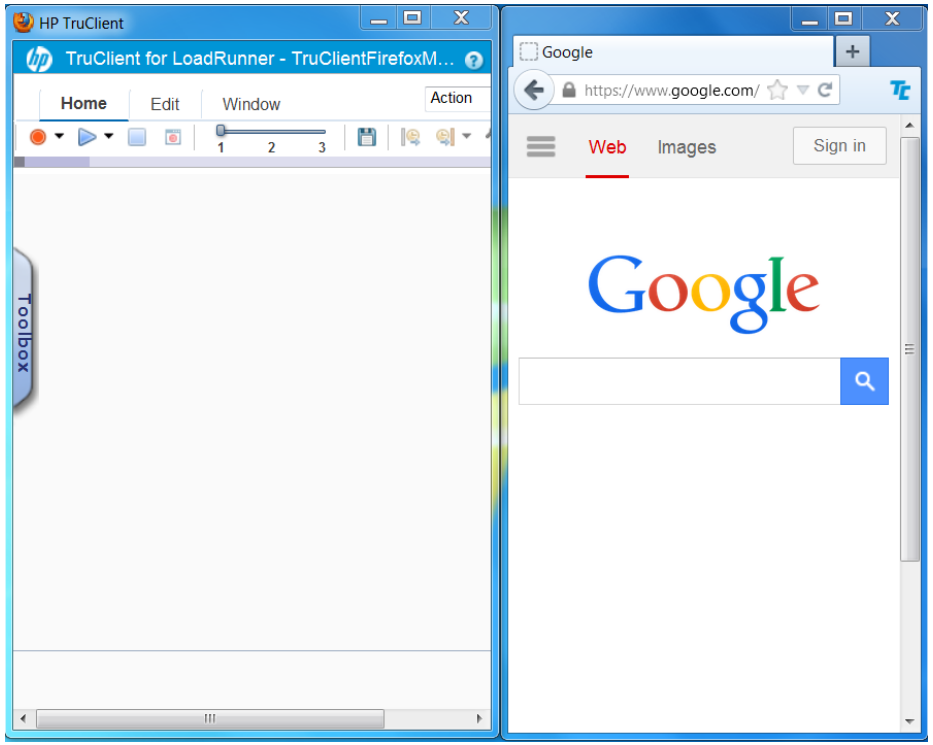


TruClient – Mobile Web

TruClient – Mobile Web

- Solution based on TruClient technology
- Emulate different mobile devices using Firefox
- Measure end-to-end performance experience





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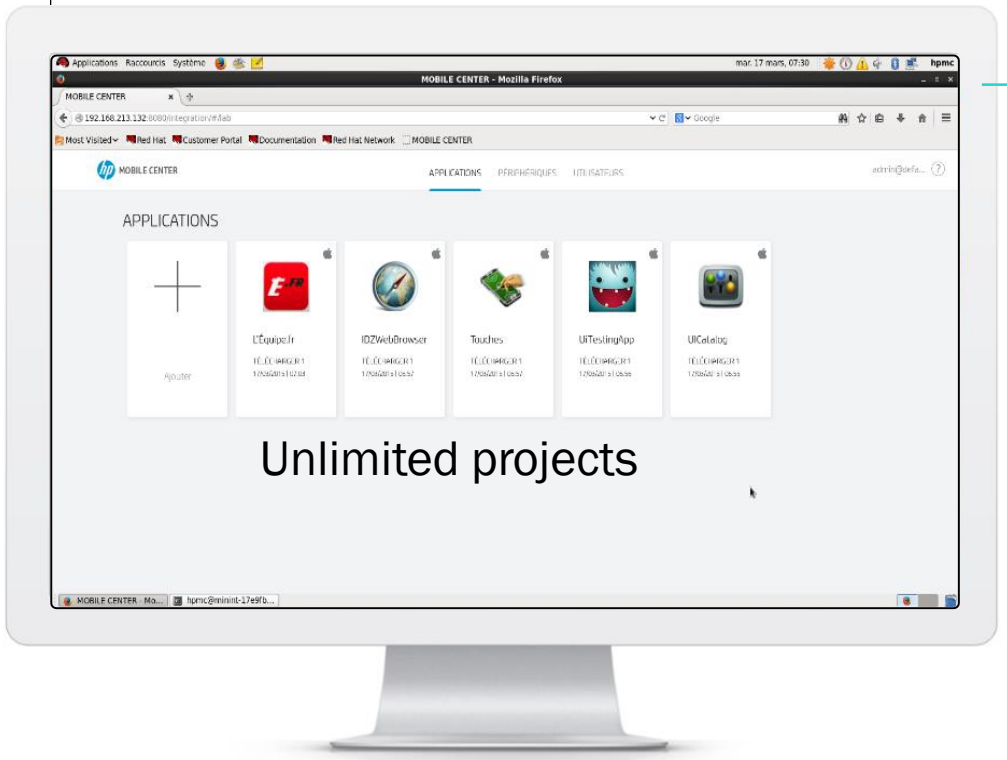
Load Runner TruClient – Native Mobile

Test on real devices

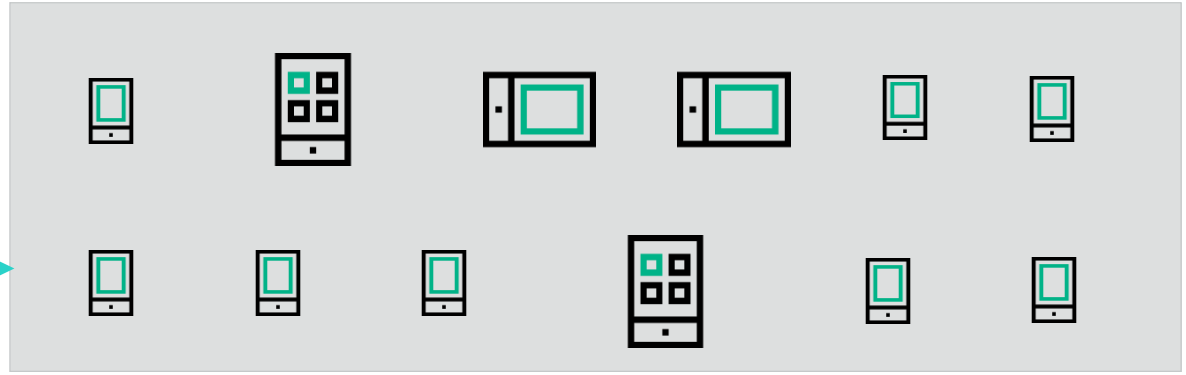
HPE Mobile Center

Manage your lab



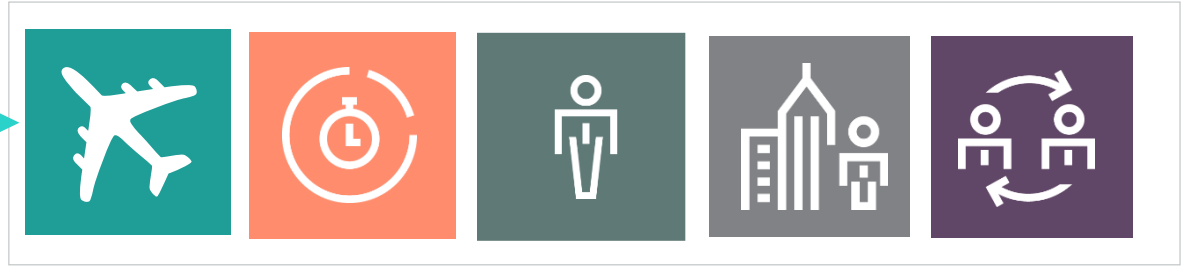
Unlimited projects

Manage devices and OS



On-premise, iOS and Android, plug and play

Manage apps



Distribute, install, remove, start, stop

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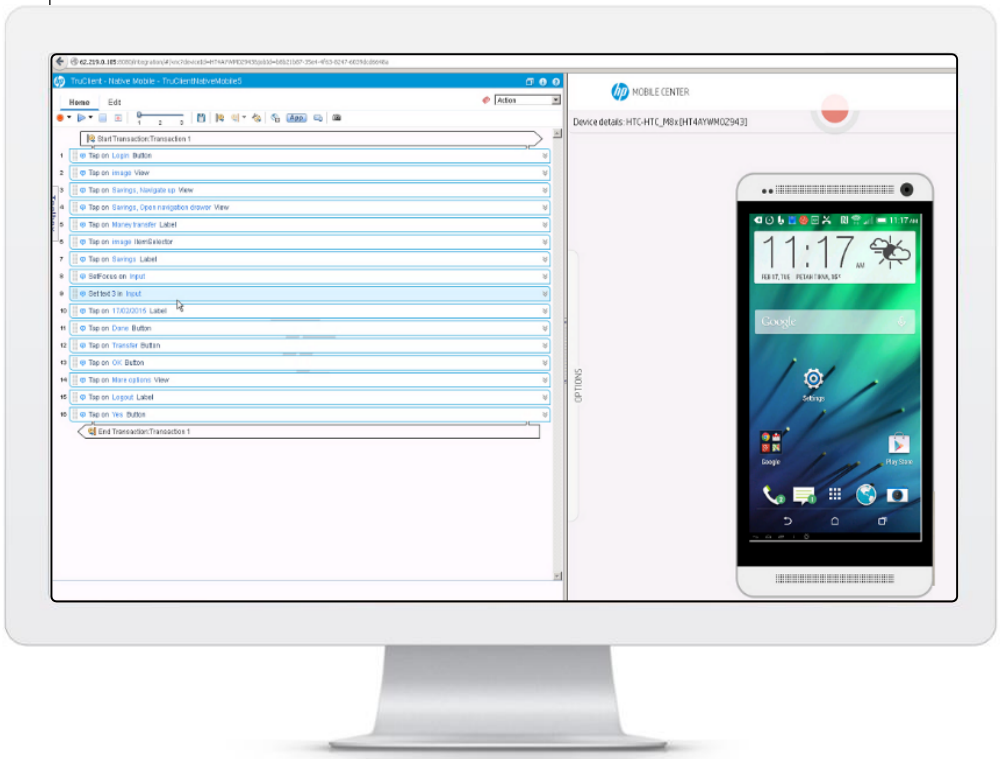
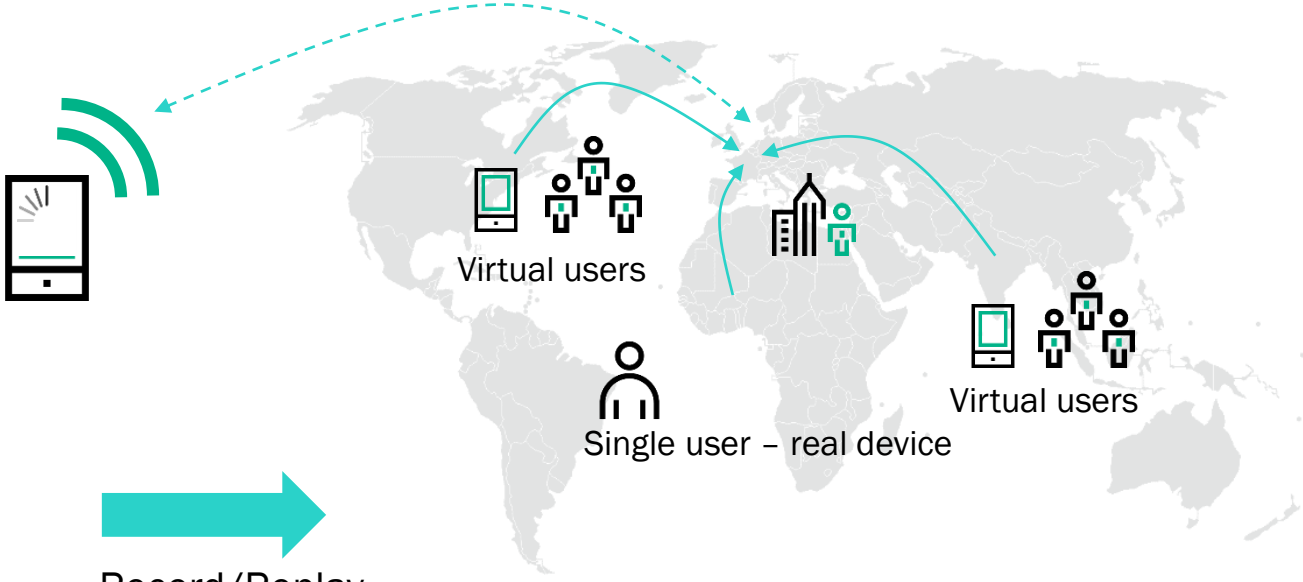
Measure the *real* user experience

HPE LoadRunner and HPE Mobile Center

For web, hybrid and native apps





Record/Replay

Scriptless via VuGen technology

Includes real network conditions

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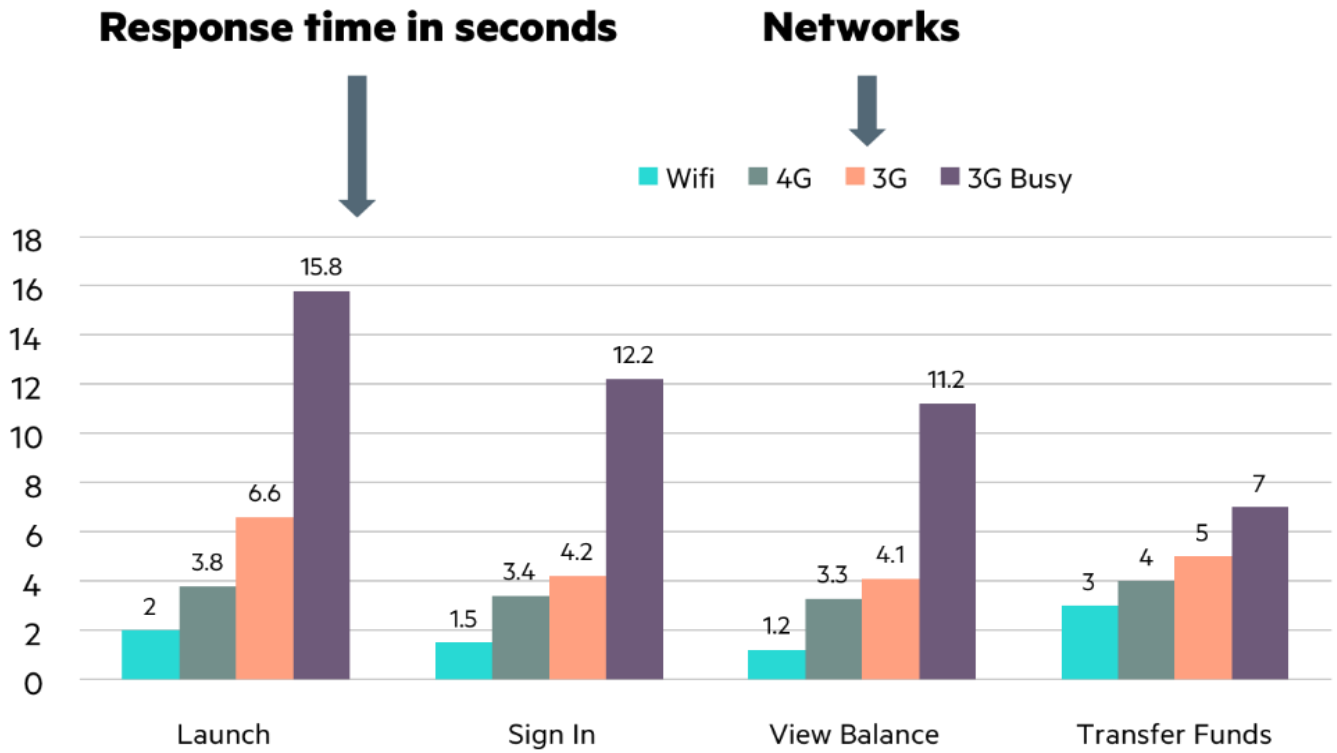
Understanding network conditions for mobile apps

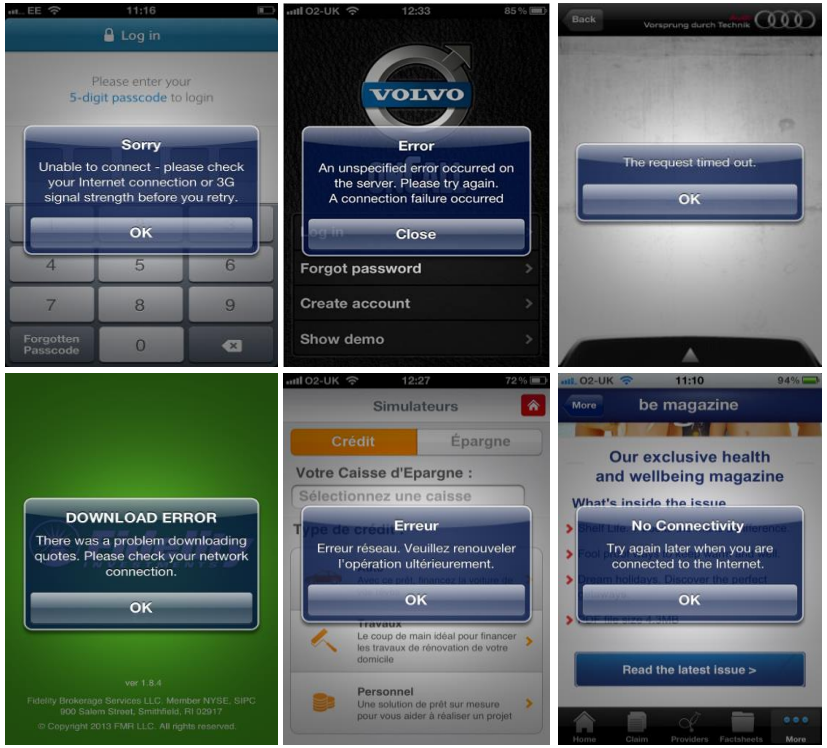
How networks impact mobile performance

Network conditions might have a huge impact on user experience

TRT increase



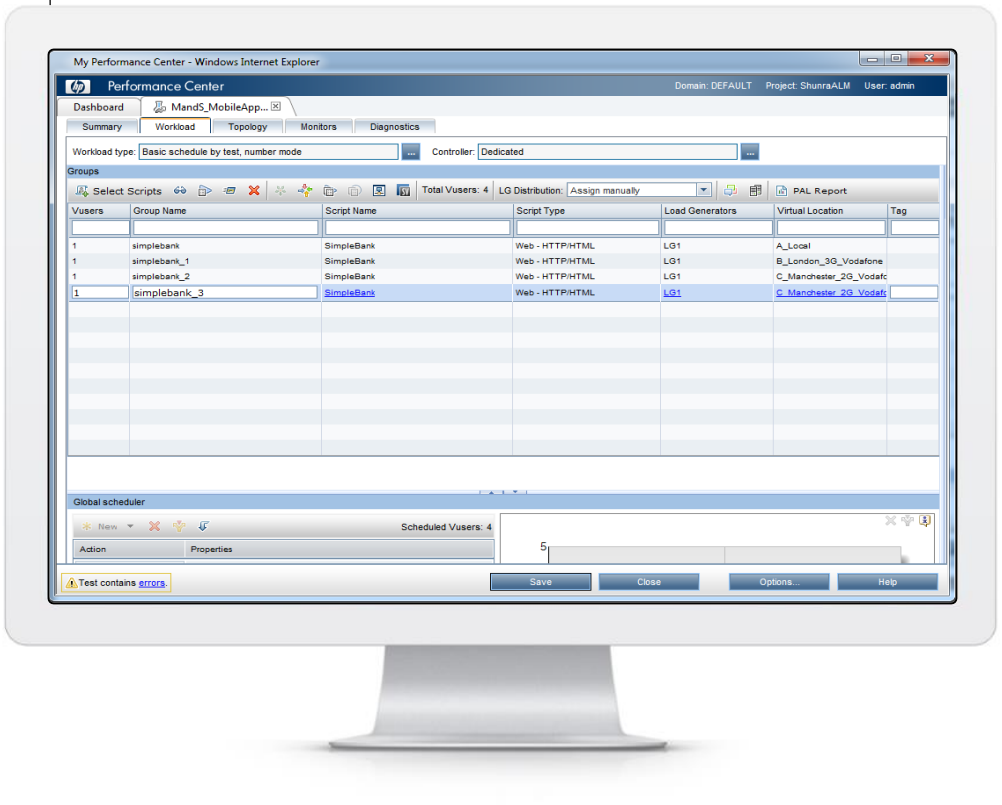
Errors



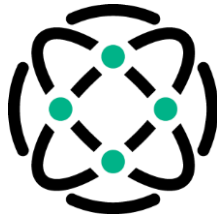
Virtualize network conditions

HPE Network Virtualization

Optimize your applications prior to deployment



2.5G/3G/4G/WIFI emulation



- Discover and capture production network conditions
- Emulate and recreate real-world network conditions in the lab
- Identify the attributes that impact Performance

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Demo

Thank you

www.hpe.com/software/mobileload

Upcoming Performance Engineering Events

- "Performance Engineering as a Competitive Differentiator"
  - SIG Webinar 5/11/16 11:00 am EST
  - Register here: http://www.vivit-worldwide.org/events/EventDetails.aspx?id=808996&group=
  - Our expert panel will collaboratively discuss how the capabilities of Performance Engineering have been recognized as a significant competitive differentiator across all: geographies, industries and market
- Vivit Deep Dive Session at HPE Discover on HPE LoadRunner and Network Virtualization
  - Monday, June 6 at 1:00 pm PDT
  - Register here: http://www.vivit-worldwide.org/events/EventDetails.aspx?id=805468&group=

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