3 tips to move from performance testing to performance engineering

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Today’s Speakers

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• Session Q&A:
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Webinar Control Panel

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Questions
“Working software is the primary measure of progress.”

Principles behind the Agile Manifesto
What is your release cycle?

- Quarterly
- Monthly
- Weekly
- Less than a week
How often do you run performance tests?

- Once per release
- More than once per release
- Once across multiple release
- Every sprint
What is the average time that you have for performance testing?

- Less than a week
- 2 weeks
- A month
- More than a month
Performance engineering is the key to meeting your business demands...
Simple apps but still complex to test for performance

TIME to execute the test

User experience
The journey…
From performance testing to performance engineering

Performance testing

- When: Late Stage
- Why: Risk-assessment
- Who: Quality Assurance
- What: Load Testing

Performance engineering

- When: Continuous
- Why: Business improvement
- Who: DevTest, DevOps
- What: App Optimization

We help our customers outperform their user experience!
Evolution to Performance Engineering
High performance value delivered

Load Testing
Take down your servers
- SLA based
- Wide range of technologies

Performance Testing
User performance
- Client side performance
- Correlated with load testing
- Network conditions underestimated

Performance Tuning
Continuous testing
- Analyze operations data to realistically address performance profiles

Lifecycle Virtualization
Virtualize your dependencies
- Eliminate 3rd party dependencies
- Adjust to modern challenges with location-aware applications

Performance Engineering
High performance value delivered
- Continuous business feedback and improvement
- Built-in and automated performance
- Optimized applications for business and customer value
- Collaborative and interactive team focused on quality

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3 tips to move from performance testing to performance engineering
Tip #1
Accelerate Dev Test by continuous testing

Shift left and include performance tests
Helping Dev/Test load test in Continuous Integration (CI): HP LoadRunner provides developers with tools and APIs to infuse performance testing earlier

- **Build load** test scripts during development integrating with Visual Studio or Eclipse
- **Run** Unit tests in Load Scenarios
  - Support for nUnit, jUnit and Selenium tests as part of LoadRunner or Performance Center scenarios
  - Add performance tests as build steps in Jenkins
- **PC REST API** to support Continuous Delivery processes
Continuous testing / Accelerate Dev Test
Integration with Dev tools – Unit test

Add LoadRunner APIs to Unit Tests in Visual Studio or Eclipse

Execute Unit Tests using the LoadRunner Engine

Verify Output within the IDE

Create LoadRunner scenario from the IDE

Integration with Jenkins: Automate test scheduling, execute tests and view results as part of the build plan
Continuous testing / Accelerate Dev Test
Integration with Dev tools – Unit test

- Add LoadRunner APIs to Unit Tests in Visual Studio or Eclipse
- Execute Unit Tests using the LoadRunner Engine
- Verify Output within the IDE
- Create LoadRunner scenario from the IDE
- Integration with Jenkins: Automate test scheduling, execute tests and view results as part of the build plan
Continuous testing / Accelerate Dev Test
Integration with Dev tools – Unit test

Value: Accelerate application delivery by integrating performance testing in Agile and hybrid environments

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Available only on LoadRunner
Continuous testing / Accelerate Dev Test
Integration with Dev tools – Jenkins

Value: Accelerate application delivery by integrating performance testing in Agile and hybrid environments

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Available with LoadRunner and Performance Center
Continuous testing / Open APIs

- REST API to support Continuous Delivery processes:
  - Schedule, Run, Stop, Collate, Analyze tests via REST API
  - Create Monitors, Topologies
  - Connect to Continuous Integration solutions

Available only with Performance Center

NOTE: all product views are illustrations and might not represent actual product screen shots
Simple – Single TruClient Protocol

One script to test them all…

Agile/Continuous/DevOps

All product views are illustrations and might not represent actual product screens

This is a rolling (up to 3 year) roadmap and is subject to change without notice
Simplified end user experience
Performance and usability enhancements

- New Performance Center Dashboard
- Topology/Timeslot view and updated Run-time settings
- **Chrome and Safari support** in Performance Center
- **New PC Reports** - Test trending, protocol granularity
- **Performance Improvements** - VuGen correlations and Performance Center uploads
- Documentation Enhancements
Tip #2
Realistic testing using production feedback
How do we do performance test intelligently?

80% of people use only 20% of the application
Compare tests with real production flows

Stage One: Collect production metrics

- Configure & collect logs and metrics in production and compare with test
Compare load test to production

Fix testing discrepancies
Automatically generate tests based real user behavior

Stage Two: Automatically create tests

- Run data mining and analytics algorithms to identify common user flows, URLs, peak and average user loads, geographical distribution and client types
- Automatically generate test scenarios, scripts, network virtualization profiles

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Tip#3
Root cause analysis
Early performance testing
Focus on single user performance

User story: For example, XYZ component response times should be <10 ms
User story: For example, ABC GUI elements response times should be < 20 ms
User story: For example, business process response times should be < 100 ms
Early performance testing
Focus on single user performance

Slowest performing methods

Application performance optimization using HP Diagnostics
Application monitoring under load
Network virtualization + performance

Response Time (seconds)

- Local User (No NV)
- WiFi (Remote Branch)
- 4G
- 3G

<table>
<thead>
<tr>
<th>Activity</th>
<th>Local User</th>
<th>WiFi (Remote Branch)</th>
<th>4G</th>
<th>3G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch App</td>
<td>1.2</td>
<td>3.2</td>
<td>6.3</td>
<td>9.2</td>
</tr>
<tr>
<td>Log In</td>
<td>1.3</td>
<td>5.2</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>View Account</td>
<td>4.3</td>
<td>7.4</td>
<td>12.3</td>
<td>22</td>
</tr>
<tr>
<td>Sign Out</td>
<td>1</td>
<td>2</td>
<td>2.3</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Response Time (seconds)
Mobile testing

Native mobile app support

- Integrate with HP Mobile Center
- Record & Replay using TruClient directly on your device
- Load your application using LoadRunner and test for single-user experience with TC Native Mobile
Demo
Tip #1  Accelerate dev test by continuous testing
Shift left and include performance tests

Tip #2  Realistic testing using production

Tip #3  Root cause analysis / feedback
Evolution to performance engineering
High performance value delivered

- SLA based
- Wide range of technologies
- Client side performance correlated with load testing
- Network conditions underestimated
- Analyze operations data to realistically address performance profiles
- Eliminate 3rd party dependencies
- Adjust to modern challenges with location-aware applications
- Continuous business feedback and improvement
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- Upgrade to newer versions, Performance Center or SaaS
- Add Diagnostics, Network Virtualization, Service Virtualization

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## HP performance testing solutions

### Performance testing solutions
- StormRunner Load
- LoadRunner
- Performance Center on-premise
  - Delivered on SaaS
- Monitor with SiteScope

### Profiler solution to pinpoint root cause
- Diagnostics

### Detect network behavior
- Network Virtualization

### Virtualize test environment
- Service Virtualization
Why HP performance testing?

- Large installed base: 10,000+ customers
- More platforms supported: 50+ protocols
- Comprehensive and affordable: Price reduced; no more controller fee, pay as you go, VUDs as low as 0.56 cents
- Size and staying power: #17 Fortune 500 | 300K staff
- Largest community: Millions of users WW
- TruClient Technology: Unique, easy and fast to simulate transactions and test
- Top analyst rankings: Gartner Group and IDC application test reports
- Network Virtualization: Exclusive offering
4 FREE offerings…

Performance Analytics Report
For your website

HP Performance Center on SaaS:
Free Trial
http://on.hp.com/LP_M8-371L34U_HPSS_WW_EN-US_SaaSHPcom_PCPPerformanceGate

HP StormRunner Load
Free Trial
https://saas.hp.com/signup/try/stormrunner-load
Thank you

Fill out the survey or send us an email to request a Demo of the next release & Roadmap*

Email: vicky.villalobos@hp.com

*Under NDA
Additional Resources

To compare Performance Center products and select the right trials to meet your current business needs go to:


Also see the Application performance engineering e-book at:

Thank you

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