Performance Testing in an Agile World

Presented by:

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PERFORMANCE TESTING
IN AN **AGILE WORLD**

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**What we will discuss today**

1. Performance testing in a Waterfall/Agile process
2. Why fitting Performance testing in Agile is difficult?
3. A Case Study to explain the different levels of collaboration
4. Scrum of scrums approach for programs with multiple scrums
Waterfall-Gurukula

Agile-School
We learnt it the Hard way...
The case study-The Project

Multiple Scrum Teams

1. 3 scrum teams running in parallel with their own codebases during the course of the release

2. Infrastructure team
3. Governance team
Sample Release Plan

Roll-out plan & Issues

- Application was rolled out in phases to the CSR’s and Self-service users

- Issues
  - Adoption rate was low
  - Complaints - overall call handling time increased
  - Training/Performance

(Sadly both!)
## Release Integration-Performance Testing Model

- **Role**: Member of the infrastructure team
- **Challenges faced**
  - Performance team and Core team speak different languages
  - Bottlenecks are not real/reliable
  - Integrated rule-sets are available just before the release
  - Performance team is not identified/accepted as a part of the Core team

- **Strengths**
  - Low cost to the project
  - Flexible demand management for the CoE

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### Integrated Build and Performance Test

Release Integration-Performance Testing Model

<table>
<thead>
<tr>
<th>Scrum-1</th>
<th>Sprint-1</th>
<th>Sprint-2</th>
<th>Sprint-3</th>
<th>Sprint-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrum-2</td>
<td>Sprint-1</td>
<td>Sprint-2</td>
<td>Sprint-3</td>
<td>Sprint-4</td>
</tr>
<tr>
<td>Scrum-3</td>
<td>Sprint-1</td>
<td>Sprint-2</td>
<td>Sprint-3</td>
<td>Sprint-4</td>
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</table>

- **Integrated Build**
- **Performance Test**
Student-Teacher Analogy

When the student and the teacher speak different languages—it makes it really hard to evaluate.

Release Integration-Performance Testing Model Lessons Learned

- Performance analyst should be a part of the Sprint planning
- Performance analyst should be a part of the infrastructure team
- Performance issue, root-causes = Unknown Unknowns
- Performance analysts and core team should understand each other
Student-Teacher Analogy

Student understand the language but may not really have the answer for the questions-known Unknowns

What = 汉语拼音 (hanyupinyin)

Sprint Integration-Performance Testing Model

• **Role**: Member of the infrastructure team
• **Challenges faced**
  - Performance team cannot keep up with the application delivery
  - Bottlenecks are identified but the root-causes are not known
  - Code used for performance testing is not in synch with development
  - Performance sign-off became a critical path bottleneck to release

• **Strengths**
  - Performance Analyst understands the application, performance critical use-cases, environment and data
Integrated Build and Performance Test
Sprint Integration-Performance Testing Model

**Sprint Integration-Performance Testing Model Lessons Learned**

- Performance Analyst should be a part of the scrum teams
- Sr.Perf Analyst should drive integrated performance tests holistically
- Performance issues, root-causes = Known Unknowns
- Scrum team to conduct their own performance tests prior to rule-set integration
Student-Teacher Analogy

Known language with continuous evaluation and feedback processes-known Knowns

Scrum of scrums approach

- **Role**: Active members (pigs) of all the scrum meetings that run concurrently
- **Sr. Performance Analyst** drives the daily performance meeting:
  - **The agenda will be**
    - Performance tests executed yesterday
    - Blockers/bottlenecks identified
    - Readiness for integration

**Challenges**
- Management’s commitment to dedicate time and resources to drive the performance effort
- Organizational culture shift for developers to commit on performance user stories

**Strengths**
- Performance analysts understand the application, performance critical use-cases, environment and data
- Bottlenecks are identified but the root-causes are also known-Known Knowns
Integrated build and Performance Test Scrum of scrums model

Scaled-down perf tests in Dev env

Scrum-1
Sprint-1 Sprint-2 Sprint-3 Sprint-4

Scrum-2
Sprint-1 Sprint-2 Sprint-3 Sprint-4

Scrum-3
Sprint-1 Sprint-2 Sprint-3 Sprint-4

Integrated Build
Performance Test

Sprint Integration-Performance Testing Model Lessons Learned

Performance should be owned and evaluated continuously

Improved performance with a significant increase in the effort and cost

Performance issues, root-causes = Known Knowns

Early performance analysis with creative performance tests
Summary

• Management’s realization on the criticality of performance in Agile projects
• Sr. Performance Analyst required to manage projects with multiple scrums
• Performance analysts to embed within each scrum teams to understand the project
• Performance user stories to be collectively owned by the entire team
• Significant increase in the cost