Process Increments: An Agile Approach to Software Process Improvement
Who Am I?

• Amr Noaman
  – Agile Adoption Service Owner, SECC
  – 10 years development experience with many companies, including IBM and Vodafone
  – SCEA, CSP
  – EPG member for 3 years
  – 5 years Agile experience as a practitioner, coach and trainer
Agenda

• Process Increments
• Experience Report Overview
• Observations and Findings
A process increment is a process improvement chunk which can be implemented in a relatively small time (1-2 weeks) and still provide value for the organization.
Process Increment Example

Version Control

- Verify that code of at least one project is on version control
- Verify that VC tool is integrated with the IDE
- Verify that team is using check-out check-in (copy-update-merge) procedure to update code
- Verify that the code update procedure is documented in the CM guidelines
Slicing/Splitting Process Increments

Typical vertical slicing in a User Story

Typical areas/layers in a Process Increment

Gain knowledge
Practice on live (not pilot) projects
Guidelines & process documentation
Automate (if applicable)
Slicing/Splitting Process Increments

Learn about Sprint Planning

Apply to one or two sprints

Document the procedure & guidelines

Use an excel sheet to automate calculation

Product (continuous) Integration

Apply to one live project

Document the tool guidelines

Use CruiseControl, Hudson CI, etc.
Slicing Process Areas – The Process Increments Way

‘Software configuration management (SCM) is the task of tracking and controlling changes in the software’
-- Wikipedia
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SPI Projects are Typical Agile Project

Iteration 1 → Iteration 2 → ... → Iteration 12

6 Months

2 Weeks
Inside an Iteration

Learn new process increments, or further detail an old one. Time-boxed to one day.

Review and evaluate whether the process increment is done-done or not.

Define what is practiced into guidelines or process documentation.

Practice and apply to live projects. This is the major part of the iteration time. The team passes through all the pain of trying new tools, concepts, procedures, etc.
Working with Multiple Functional Teams & Projects

- Management Increments
- Technical Increments
- Testing & QA Increments

Done Done Done Done Done

Done Done

Done Done Done Done
Estimating & Planning The Improvement Project

• Process Increments are size-estimated using Planning Poker

• The whole project is planned as one release

• Improvement Velocity:
  – The size of completed process increments in an iteration
Tracking the Improvement Project

• Burn-up chart in SPI projects
  – Added a sense of achievement
  – The project progress is visible to the whole team
  – ‘Other’ teams/departments get involved
  – Project progress is visible to senior management!
Agenda

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## Improvement Velocity Readings

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Scope (points)</th>
<th>Total Completed (points)</th>
<th>Accomplished</th>
<th>Average Velocity (points/iteration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>251</td>
<td>182</td>
<td>72.5%</td>
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<td>222</td>
<td>96.5%</td>
<td>20.2</td>
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</tbody>
</table>
Improvement Velocity Run Chart

Average Improvement Velocity of All Companies
Role Contribution in Actual Improvement

- Management: 43%
- QA/Testing: 20%
- Development: 37%
Learning by Example

• Walk the talk and talk the walk
• The SPI project was a typical project model for the team
Conclusion

• Process Increments is an excellent way for managing SPI projects:
  – More structured
  – Clearly identifies the project scope
  – Enhances project visibility
  – Gets the whole team involved, not a single role or group
  – Typical Agile project model for the team