Use of SCAMPI^SM^ C for Agile Methodology

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Approach to Agile at LM IS&S -

**Background**

- LM IS&S CMMI® Maturity Level 5
  - SE/SW/SS/IPPD
- Agile perceived as a way to do things faster, cheaper, better
  - “We don’t need no stinking process.”
- LM IS&S starting to see RFPs “requiring” Agile
  - But there were different perceptions of Agile both within IS&S and by customers
Approach to Agile at LM IS&S

Therefore, IS&S saw the need:

- To provide a clear definition of Agile for IS&S and communicate that definition
- To understand the strengths and weaknesses of Agile and adopt it in the right way, for the right reasons, for our business
- To define the blend of Agile and plan-driven methodologies that will provide best value for our programs and customers while still ensuring a disciplined approach
Agile methodologies drive changes across the organization, yet none of the industry Agile methods address the full scope of issues that impact IS&S.
Establish an Agile Core Team (ACT)

- Gather and share information and lessons learned about Agile across IS&S. Support proposals and customer “education”
- Generate an "Agile Reference Model" (ARM) which describes a Systems and Software Engineering Agile life cycle
- Use the ARM to identify and resolve Agile impacts to other organizations
- Define agile program/project selection criteria:
  - Means to identify risks if Agile were to be used.
- Validate the IS&S Agile life cycle through use on pilot programs.
- Communicate to the organization.
  - Training materials, business development materials, engineering tool recommendations, etc.

Take incremental, high-value steps toward defining the IS&S Agile processes
Use of SCAMPI℠ Cs for Intent

- Agile Reference Model (ARM)
  - By February 2006, the Agile Core Team had established a draft Reference Model
  - Focused on Engineering portions of process (Software and Systems)
- Organization wanted to ensure that the results of ARM were compatible with CMMI®
  - Use of SCAMPI℠ C for Intent was an ideal fit
  - Plan to use a series of SCAMPI℠ Cs for intent as the Agile Reference Model gets refined for other process areas
Agile SCAMPI\textsuperscript{SM} C Process and Scope

- Used SCAMPI\textsuperscript{SM} Class C Method for Intent
  - Limited scope to Specific Practices of Engineering Process Areas
  - Obtained Senior Management sponsorship
  - Worked with Agile Core Team to get access to documentation and identify interviewees
    - Agile Reference Model was objective evidence for \textit{intent}
    - \textit{No implementation evidence available}
- Used Practice Implementation Indicators (PIIs) to record findings
  - From documentation review and interview
  - SCAMPI\textsuperscript{SM} C requires at least one item of objective evidence (direct, indirect, affirmation) for each practice
- Results reported to Agile Core Team and Sponsor
# Agile SCAMPI<sup>SM</sup> C Participants

## Experienced Team Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Introduction to CMMI (date attended)</th>
<th>Engineering Experience (# years)</th>
<th>Management Experience (# years)</th>
<th>Life Cycle Experience (# years)</th>
<th>Reporting Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Lead</td>
<td>October, 2003</td>
<td>15 years</td>
<td>5 years</td>
<td>20 years</td>
<td>Direct Report to Sponsor</td>
</tr>
<tr>
<td>Team Member 1</td>
<td>February, 2005</td>
<td>22 years</td>
<td>5 years</td>
<td>20 years</td>
<td>Direct Report to Sponsor</td>
</tr>
<tr>
<td>Team Member 2</td>
<td>October, 2003</td>
<td>15 years</td>
<td>5 years</td>
<td>10 years</td>
<td>Direct Report to Sponsor</td>
</tr>
<tr>
<td><strong>Team Totals</strong></td>
<td></td>
<td><strong>52 years</strong></td>
<td><strong>15 years</strong></td>
<td><strong>50 years</strong></td>
<td></td>
</tr>
</tbody>
</table>

## 2 Interviewees from Agile Core Team

- About 1/3 of Agile Core Team
Summary of Results

- Very high correlation of intent of ARM to CMMI® Specific Engineering Process Area
  - 41 “Green” Specific Practices
    - Intent adequately addressed
  - 4 “Yellow”
    - Intent partially addressed (RD SP3.1, TS SP3.2, VER SP2.1, VER SP2.2)
  - 1 “Red”
    - Intent absent or poorly addressed (VER SP2.3)

- Recommended that documentation be enhanced to make sure intent is explicit
  - Document how the method handles interfaces, reviews, recording decisions, and constraints

- Recommended method be updated to include:
  - Measurements, Operations Concepts, End User Documentation, Peer Reviews
Actions Since SCAMPI\textsuperscript{SM} C

- Measurement section generated for ARM and is in the review process
- "Product Vision" defined in ARM is consistent with Concept of Operations
- Pair Programming being viewed as one form of "Peer Reviews"
  - Other reviews being defined in ARM

Next SCAMPI\textsuperscript{SM} C for Intent being planned 1Q07
Summary

- Agile Reference Model (ARM) being defined by IS&S to ensure consistent, best-value approach
  - Customers are driving the need to address
  - Organization is driving the need to maintain CMMI compliance
    - Goal is to define the blend of Agile and plan-driven methodologies that will provide best value for our programs and customers while still ensuring a disciplined approach
    - SCAMPI$^{SM}$ Cs for Intent are an effective tool to ensure ARM is consistent and compatible with CMMI