Working Group Outbrief

Ground System Architectures Workshop

Session 11A
Challenges and Experiences of Adopting Agile Ground Software Development

Supannika Mobasser and Steve Rosemergy,
The Aerospace Corporation

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Presenters/Panelists

- Sue Mobasser, Aerospace
- Steve Rosemergy, Aerospace
- Andre Choi, Aerospace
- Aaron Gould, Vencore
- Michael Brady, L-3
- Rita WiltBerger, Aerospace
- Michael Koller, ESA
- Phil Inslee, Ball Aerospace
- Jeff Potter, NG
- Peter Yoo, SPAWAR
- Kevin Book, SPAWAR
- Sharon Badillo, CCSD/HNCS
- Eva Powell, Alinea
- Ron Bolton, Digital Globe
- Laura Gordon, Raytheon
- Aaron Gregory, NRO/BPO/CAAC
- JonPaul Mozee, GD
- Samuel Lee, USAF
- Clay Hyink, NG
- Joe Baumeister, NASA
- George McCary, Aerospace
- Barbara am Ende, Aerospace
- Davice Nuce, Parsons Corp
- Sherry Stukes, JPL
- Alan Jensen, GS-MS
- Barry Boehm, USC
- Kim Bell, Aerospace
- Jovanna Bunch, Aerospace
- Robyn Haleski, Aerospace
## Ground System Architectures Workshop

### Schedule

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<th>Time</th>
<th>Presentation and Discussion</th>
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<tr>
<td>1:00 – 1:30pm</td>
<td>Session Overview</td>
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<tr>
<td>1:30 – 2:15pm</td>
<td>“Embracing Change to Overcome Challenges with Large-Scale Agile Software Development”, Steve Rosemergy, The Aerospace Corporation</td>
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<td>2:15 – 3:00pm</td>
<td>General discussions&lt;br&gt;- Pains, struggles, and barriers in adopting agile ground software development</td>
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<td>3:00 – 3:30pm</td>
<td>Break</td>
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<td>3:30 – 4:15pm</td>
<td>“Agile Fit Check”, Sue Mobasser, The Aerospace Corporation</td>
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<td>4:15 – 5:00pm</td>
<td>Discussion&lt;br&gt;- Failed Agile attempts&lt;br&gt;- Going forward, how to increase agility?&lt;br&gt;- Agile Guidance</td>
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Key Takeaways

• Teach Agile in ACQ 101
  – Have a proper agile training for both acquirer and developer
• Need a supportive collaboration infrastructure
  – All about people: people have to work together and trust each other
• Plan for evolving requirements
• Having open discussions
  – Contractors tell the Government exactly what you want
  – Increase face time between Government and Contractor
• During source selection
  – Ask the right questions on how the contractor applies agile practices
• CDRLs: consider tailoring up instead of tailoring down
• Better understand what we want to measure and how to measure them
Failed Agile attempts

- Learn Agile on the fly
- Solely rely on individuals and tacit/tribal knowledge
- Lack of integration infrastructure to support agile teams
- Not enough system and software engineering to begin development
- Developing overlapping capability threads
- Use selection criteria such as lowest-cost technically acceptable
- Handle performance requirements as a user story
  - Assign performance requirement to a sprint
  - Tacking on Information Assurance at the end
- User stories not ready when sprint planning begins
- Not having a definition of done
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Pains, struggles, and barriers in adopting agile ground software development

- Disconnect between Government processes (acquisition, contracts, security A&A) vs. the tempo of Agile
- Agile doesn't scale well using current best practices, “A Bridge Too Far”
- The government business model doesn’t always align with the principles and values of the agile manifesto (predefined scope and delivery)
- Understanding how to measure “done” and the metrics to determine an equivalent to earned value
- High personnel turnover can impede effectiveness of agile teams
- Rigidity of user story
  - Some user stories can’t really fit in a sprint, need a flexible sprint
- Not enough of continuous integration and testing
• Any questions or comments, please contact
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