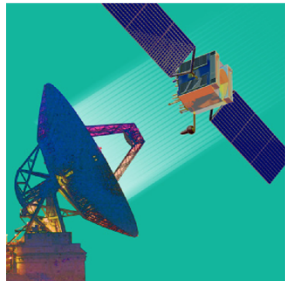


Working Group Outbrief



Ground System Architectures Workshop



Session 11B

Achieving the Resilient Enterprise Through Model-Based Engineering

*Ryan Noguchi and Robert Pettit IV,
The Aerospace Corporation*



Session 11B

Session Goals

- Opportunities for Enabling the Resilient Enterprise through MBE
 - Anyone have experience with this?
 - Architecting, Acquisition, Development, Operations
 - How does MBE need to evolve to better do this?
- Open discussion on Model Based Systems Engineering and Model Based Software Engineering for Ground Systems
 - Case studies
 - Lessons learned
- Discussion of a Collaborative effort to develop a Ground System MBSE framework
 - Interest in sustained collaboration outside of GSAW?
- Prepare outbrief slides to brief to the plenary session tomorrow

Ground System Architectures Workshop



Session 11B

Presenters/Panelists

- None; open group discussion
- 25 participants



Session 11B

Key Points – Achieving the Resilient Enterprise

- Multiple perspectives for achieving a resilient enterprise
 - Improving resilience of an individual system
 - More robust engineering of systems
 - Improving resilience at the enterprise level
 - More robust architecting of an enterprise to provide redundancy, agility, etc. across multiple systems
 - Improving resilience at the data layer
 - Common data formats improve interoperability, ability to adapt to system failures by using alternate systems
 - Improving resilience of systems engineering and other processes
 - Faster, more agile engineering change processes, etc.
 - Faster, better-informed decision-making, faster recovery
 - Improve ability to communicate with non-engineers



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Key Points – Achieving the Resilient Enterprise



- Improving resilience of the workforce
 - Shared knowledge, less variation between individuals' mental models
 - Cultural barriers, individuals afraid of losing “power” or being replaced by “more efficient” model-driven processes
 - Facilitate greater flexibility in downstream sustainment by reducing lock-in to the developer
- Improving resilience of software development
 - Software architecture modeling helps flush out disconnects
- Improving resilience of architecture
 - Functional layer is often the most robust and enduring
 - Serves as a good point of departure for exploring alternatives



Session 11B

Key Points – Collaboration on Modeling Framework



- Presented a proposed collaborative project to develop a Ground System MBSE framework and library
 - Capture best-practices in system modeling
 - Facilitate model interoperability
 - Establish common language for communicating within our community
- Challenges include:
 - Establishing appropriate scope and level of detail to standardize
 - What's in scope, what's NOT in scope
 - Achieving consensus among a diverse group of stakeholders
- Interest in starting this collaboration
 - Tag onto INCOSE Space Systems Working Group
 - Anyone else interested in participating? Contact us