Breakout Session 10A
Architecture-Centric Evolution & Evaluation (ACE2) of Software-Intensive Systems

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Committee
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ACE2 Session Goals

• Promote central role of software architecture during acquisition/development of software-intensive systems
  ❖ Improved responsiveness to changes in requirements and complexity
  ❖ Early identification of flaws
  ❖ Streamlined system implementation, testing, and maintenance

• Explore how to specify and evaluate software system architectures that support software system evolution
  ❖ Techniques for software architecture representation
  ❖ Tools for software architecture analysis
  ❖ Software system architecting practices, standards, and policies
1. Architecture as a Basis for Understandability
   - Provide views of software system with levels of granularity appropriate for each stakeholder (acquirer, overseer, developer, tester, and operator) to have insight into system functionality

2. Architecture as a Basis for Assessing Maintainability
   - Link requirements to system implementation so that stakeholders can assess degree of system change and cost/schedule impact from upgrading, changing, and integrating COTS products used in implementation

3. Architecture as a Basis for Assessing Extensibility
   - Link requirements to system implementation so that stakeholders can assess degree of system change and cost/schedule impact from new requirements on system size, complexity, environments, services, and interoperability

4. Architecture as a Basis for Assessing Executability
   - Support development of executable models so that stakeholders can assess impact of new requirements on system performance and reliability
ACE2 Session Agenda

• First Segment (13:00 – 15:00)
  - Lt. Col. Laura Pope, Air Force Space and Missile Systems Center
  - Dr. Joel Sercel, MILSATCOM Joint Program Office
  - Dr. Linda Northrop, Software Engineering Institute
  - Dr. Peter Hantos, The Aerospace Corporation
  - Discussion and formulation of findings

• Second Segment (15:15 – 17:00)
  - Capt. Bryan Berg, Air Force Space and Missile Systems Center
  - Peter Shames, Jet Propulsion Laboratory
  - Jim Boegman, Raytheon
  - Dr. Allen Nikora, Jet Propulsion Laboratory; Myron Hecht and Douglas Buettner, The Aerospace Corporation
  - Discussion and formulation of findings