Working Group 11A
Architecture-Centric Evolution (ACE) of Software-Intensive Systems

Chairs
John Arcos, The Aerospace Corporation
Sergio Alvarado, The Aerospace Corporation
Sheri Benator, The Aerospace Corporation
Eric Dashofy, The Aerospace Corporation
Jeff Estefan, Jet Propulsion Laboratory
Scott Hendrickson, The Aerospace Corporation
Mark Nixon, The Aerospace Corporation
Phil Schmidt, The Aerospace Corporation
ACE Working Group Goals

• Eighth of a GSAW series
  ❖ Forum for software-intensive system experts, users, developers & researchers to collaborate and elucidate high-level recommendations for improving software architectures representation, development, & analysis

• Topic
  ❖ Innovative Approaches to Software Architecture Development and Analysis

• Presentations & panel discussions
  ❖ Focus on innovative approaches, both applied (including experiences and lessons learned) and in early / research stages.
ACE Invited Presenters/Panelists (1)

• **Evolving Software Architecture for Current Applications**
  - Evolution of the GPS Control Segment as Related to Software Architecture
    - Alex Polack and Mike Campbell, The Aerospace Corporation
  - Role of Software Architecture as Part of the NASA Study on Software Complexity
    - Dan Dvorak, NASA JPL
  - Evolution of a Service-Oriented Architecture (SOA) Command & Control (C2) System
    - Ryan Telcamp, The Boeing Company
  - Use of New Software Development Tools/Strategies to Enhance Ability to Deploy Ground Systems from Product Lines
    - Chris Newton, Michael Klug, Northrop Grumman
  - Fault-Tolerant Architectures: Discussion of Techniques Ensuring System Operation during Periods of High Loading and/or Component Failure
    - Stephen Harrington, Booz Allen Hamilton
ACE Invited Presenters/Panelists (2)

• Model-Based Engineering and Analysis Techniques
  ❖ Quantitative Architectural Modeling and Analysis using AADL
    – Myron Hecht, The Aerospace Corporation
  ❖ Lessons Learned in Current Applications of Model-Driven Engineering
    – Stephanie August Loyola Marymount University
  ❖ Domain-Specific Design Analysis and Code-Generation Frameworks
    – George Edwards and Nenad Medvidović, University of Southern California
  ❖ Survey on Model-Based Software Development Techniques
    – Yongjie Zheng, University of California, Irvine