Working Group 9B
Architecture-Centric Evolution, Evaluation & Elaboration (ACE3) of Software-Intensive Systems

Chairs
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ACE3 Session Goals

• Address stakeholder needs in evolution, evaluation, and elaboration of architectures in software system lifecycle
  - Presentations from members of government agencies, contractors, academia, and federally funded research and development centers

• Promote central role of software architecture during acquisition/development of software-intensive systems
  - Forum for elucidating high-level recommendations for improving architecture practices, representation techniques, and analysis tools
1. **Elaboration**
   - Architecture-based management of “requirements-creep” risk
   - Architecture constructs/tools for seamless requirement-to-implementation trace

2. **Evolution**
   - Architecture constructs/tools for supporting system evolution requirements
     - Maintainability
       » Upgrades, changes & integration of COTS products for system implementation
     - Extensibility
       » Increased system size, complexity, environments, services & interoperability
     - Executability
       » System performance and reliability

3. **Evaluation**
   - Challenges to architecture evaluation within software system acquisition
   - Architecture constructs/tools required for software system evaluation
ACE3 Presentations

• Acquisition Perspective
  ❖ Frank Sisti, Air Force Space and Missile Systems Center
  ❖ Maj. Mark Tuttle, Air Force Space and Missile Systems Center

• Overseeing Perspective
  ❖ Dr. Charles Hammons, Software Engineering Institute
  ❖ Dr. Peter Hantos, The Aerospace Corporation
  ❖ Dr. Phillip Schmidt, The Aerospace Corporation

• Development Perspective
  ❖ George Haley, Product Line Manager, Northrop Grumman
  ❖ Jeff Garland, “Large-Scale Software Architecture Book Coauthor,” CrystalClear Software
  ❖ Ted Faison, “Component-Based Development Book Author,” Faison Computing

• Research Perspective
  ❖ Dr. Hadar Ziv, Institute for Software Research, University of California, Irvine

• Moderators
  ❖ Dr. Sergio Alvarado, The Aerospace Corporation
  ❖ Dr. Scott Turner, The Aerospace Corporation