

# **Breakout Session 2**

## **Business Case and Cost Benefit Considerations**

Presented to  
**GSAW 99**

by  
Marilee Wheaton, Chair  
Rhoda Novak, Co-chair

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# Presenters

- Barry Boehm, USC Center for Software Engineering
  - *Software Reuse Economics*
  - Provided framework to measure software reuse
  - Includes reusable asset investments, costs and benefits
  - Identified nonlinear reuse effects
  - Magnitude of reuse payoffs is situation-dependent
- Jairus Hihn, Jet Propulsion Laboratory
  - *The Impact of Faster, Better, Cheaper*
  - Increased use of rapid development and concurrent engineering
  - Impact is decreased development costs and increased overruns
  - Impact on quality and maintenance cost is undetermined
  - One root cause is miscommunication and different design representations between hardware and software personnel

# Presenters (continued)

- Ronald Leach, Howard University
  - *COTS, Components, Costs, Integration: the New C3I*
  - Focused on measurement of requirements
  - Vision (hallucination?) of ability to predict size and costs of real-time systems that combine COTS, reuse, and new software
  - Importance of the quality issue in reuse
  - Inclusion of reuse overhead costs
- Larry Sidor, The Aerospace Corporation
  - *The G-COST 1.0 Ground Systems Model*
  - Development of a tool for conducting ground system trades
  - Includes pay-back analysis for life cycle cost trades
  - Provided quick on-line demo of tool features and capabilities
  - Desire for collaborative partnerships to identify data

# Presenters (continued)

- Daniel Vanderwarker, The Aerospace Corporation
  - *Assessing Business and Technical Considerations for Product Line Development*
  - Provided background for GSAW survey of business, technical and organizational considerations for product line development
  - Stakeholders include buyer and developer perspectives
  - Identify barriers and incentives and degree of support
- Iva Voldase, TRW
  - *Satellite Ground System Cost Benefit Trade-offs of COTS Items Using Parametric Cost Models*
  - Does COTS usage sometime make the cost increase?
  - Trade-offs include software size, development environment , staffing, integration costs, schedule
  - Included flow chart of COTS multi-faceted decisions

# Breakout Session Discussions

- Reuse domain drives assumptions and results
- Government long term maintenance of systems with multiple COTS products and contractors
- Need to 'sync and stabilize' on COTS baseline
- Migration from organic maintenance versus operators 'in-house' paradigm
- Issues of increasing reuse across domain and satisfaction of user requirements
- Use-case IPTs to gather requirements and iterate