Systems-of-Systems

Important – But Easier Said Than Done

March 4, 2004
Space Exploration Management

- Mission Success
- Do It Right the First Time
- Leverage Expertise of Many Different Organizations & Infrastructures
- Need to have a clear understanding of
  - Cost, Schedule, Performance
  - Across Many Different Systems & Platforms
- Understand the Full Impact of Epochs -- Many Spirals and Sub-Spirals
  - Inter-related Cost and Schedule
- Manage Risks
- SEIT Early and Often

Thick Integration Capability
SEIT Functions

- Architecture Definition and Modification
- Effects Based – Parametric Analysis
- Requirements and Analysis Decomposition and Allocation
- Defining and Controlling Interfaces
- Configuration Management
- Commonality/Standard Definition and Monitor & Control
- Risk, Margin, TBX Management, Retirement and Reallocation
- Test and Verification Standards
- Program Execution Cadence

The Eyes, Ears and Muscle of the Program Manager
Attributes

- Now Thru Program Entire Life Cycle
- Mission Understanding -- Best People
  - With Recent H/W & S/W Program Experience
- Consistency of Purpose – Watch IPTs
- Disciplined Process & Controls
- **Timely** and Analytic Based Decision Making

Cost, Schedule, Cross Program Synergy
Systems of Systems Integration Models

*Missile Defense Agency Systems Integration*
- Two National Teams
- Industry & Government
- Requirements & Architecture Focus
- OCI Fire Wall

*A/F Transformational Communications Architecture*
- Large SEIT of Many Companies
- Industry & Government
- Total Systems of Systems SEIT
- OCI Fire Wall

**Full Spectrum Mission Support**

*THADD*  *MKV*  *Space Segment*  *Tech Development*  *Network*  *Space Segment*  *Tech Development*