Session Goals

• Determine the points of conflict between Space and Ground

• Identify what could be done to
  – Minimize conflict
  – Reduce cost/schedule
  – Improve mission assurance
Presenters/Panelists

- Suzanne Dawes – Aerospace
- Myron Hecht – Aerospace
- Larry Miller – Aerospace
- Mark Reid – JHU APL
- Takahiro Yamada - JAXA
Key Points

• Standardization can provide significant benefits reducing disconnects between space and ground
  – Common databases
  – Standardized telemetry and command formats
  – Standardized interfaces and satellite procedures
  – ESA/JAXA/NASA all benefit to varying degrees

• Programs can benefit from additional specific system engineering functions applied early in the mission
  – Chief Data Engineer across space/ground
  – Human factors
  – Fault Management
Conclusions

• All commands to vehicle should be practiced in FSW simulator environment
  – If operators have difficulty with procedures or tracking anomalies be prepared to adjust the procedures
• Consider requirements over the mission not over each segment
  – Where requirements are implemented can have dramatic effect on the mission
• Develop CONOPS for failure and anomaly resolution
  – Helps to make sure that HCI is usable
  – Execute Stress tests of the mission (ground and space) in anomalous situations to ensure safe operations and to understand how the system degrades
• Consider Dynamic Logic modeling to ensure race and deadlock conditions are eliminated