

Interoperability and Space Exploration

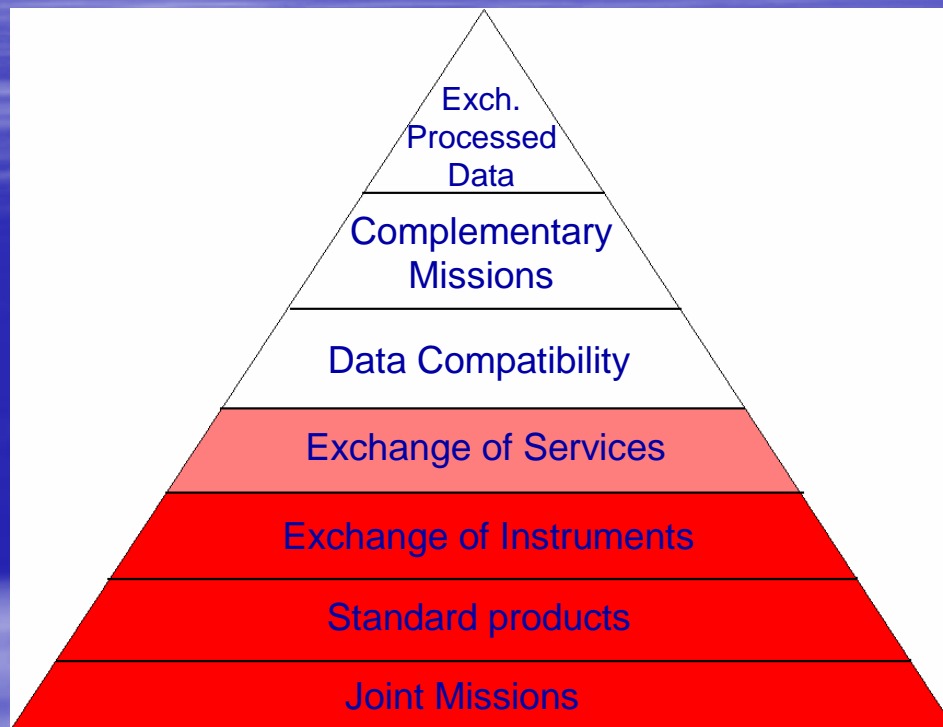
Space Agencies Perspectives

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Interoperability in Space

- Interoperability is something natural in Space
 - Government programs
 - ISS/Manned Flights
 - Earth Observation : Meteorology
 - Science
 - GPS/Galileo
 - Commercial Market
 - Standard Telecommunications Equipments
 - Range and in-orbit operations
 - Launch operators backup agreements

Different Levels of Interoperability



Orfeo (Pleiades/Cosmoskymed)

A-Train

GPS/Galileo

DSN, Ground Stations

Meteorology

T/C Equipments, SSTL microsats

Cassini-Huygens

What is the need (or the ambition) for Exploration?

Where Should it Apply?

- Hardware, interfaces
 - Still early as no architecture has been discussed
- Software
 - Critical Path
- Data Structure and Processing
 - Need for an open framework based on heteronomy, partnership and networking
- Procedures and Methodology
 - Potential cultural issues
- Field of application of Instruments
 - i.e. Moon vs. Mars

Interoperability vs. Cooperation?

- Can a large endeavor, requiring many technical exchanges be carried out successfully on a day-to-day basis?
- Should Interoperability be a turnaround strategy to avoid dealing with the difficulty of joint collaboration?
- Strong Programmatic Coordination is the paradigm
 - If we succeed in organizing it, interoperability will be a natural objective
 - If we don't, it will be a necessity