



InterPlanetary Network Work Area

Overall Objective

The charter of this work area is to develop communications protocols, services, and associated tools to reduce the cost and increase the efficiency of the IPN and mission operations, and to develop information infrastructure technology supporting and enabling future space science missions

Goals and Products

- Develop new end-to-end protocols and applications services suitable for the IPN
 - End-to-end protocols
 - Specialized protocols and services for long-haul deep space links
 - In-situ protocols
- Develop middleware technology and protocols to support distributed, multi-spacecraft environments

Applications

Transparency provided to applications

Distributed Services

Interplanetary Networking

- Bundling protocols
- Store & forward routing
- End-to-end reliability
- Long haul transport
- IPN time synchronization

In Situ Protocols

- Self-organizing networks
- Network science services
- Location-aware protocols
- Energy-aware protocols
- Topology-dependent protocols
- QoS / prioritization

- Space-based networking
- Location-independent applications
- Topology-independent applications

