

# Network Mobility Alternatives

August 17, 2005 1:00 – 5:00 pm

The breakout session began on time.

The Goals of the session were to:

1. Obtain some guidance for upcoming research
  - Areas that need work
  - Prioritization
2. Discuss development of and experimental network
  - Who is interested in participating?
  - What issues need to be addressed?
  - Where should this network reside?

Issues to be consider for new technologies included:

- Multihoming
  - Off the Aircraft
  - At Corporate Network (Multiple ISPs)
- Security and its influence on architecture and protocols
- Alternative Radio Links
  - Commercial and/or specially developed for Aeronautics
  - Media Access Technology (IPv6, QoS, Fast handover)

Short Presentations were provided in the following order

- Transport layer mobility (Wes Eddy)
  - Host Identity Protocol (HIP)
  - Stream Control Transmission Protocol (SCTP)
  - shim6 (for multi-homing)
- Network (Will Ivancic)
  - New developments by Cisco in mobile-IPv4 for use of multiple links and policy-based routing
- Application layer mobility for ATN (Chris Dass)
- Media Access Issues: IP over VDL-3 results (Jim Griner for Brian Frantz)

## Significant comments / Results

- NASA GRC should get involved in the ICAO IPv6 working group.
  - This is being worked
- All parties present are interested in working together or at least being aware of what each other is doing relative to Network Centric Operations (SWIM, NCO, Airborne Internet, or whatever other buzz word or wishes to use to describe this general area).
- New transport technologies for mobility should be investigated such as HIP and SCTP.
- SCPT and NEMO may be a nice marriage rather than competing technologies
- The concept of messaging should be added to information mobility – particularly when considering intermittent connectivity.
  - There is probably not a need to be connected all the time.
  - Delay Tolerant Networks (Disaster Tolerant Networks) fits this concept.
- Setup a mail list for all interested parties to informally exchange ideas.
  - This has been accomplished. The list is:  
[exp-aeronet-wg-request@lists.nasa.gov](mailto:exp-aeronet-wg-request@lists.nasa.gov)