

International “Wireless for Space” - Workshop
January 15, 2007
University of Colorado
Colorado Springs, Colorado, USA

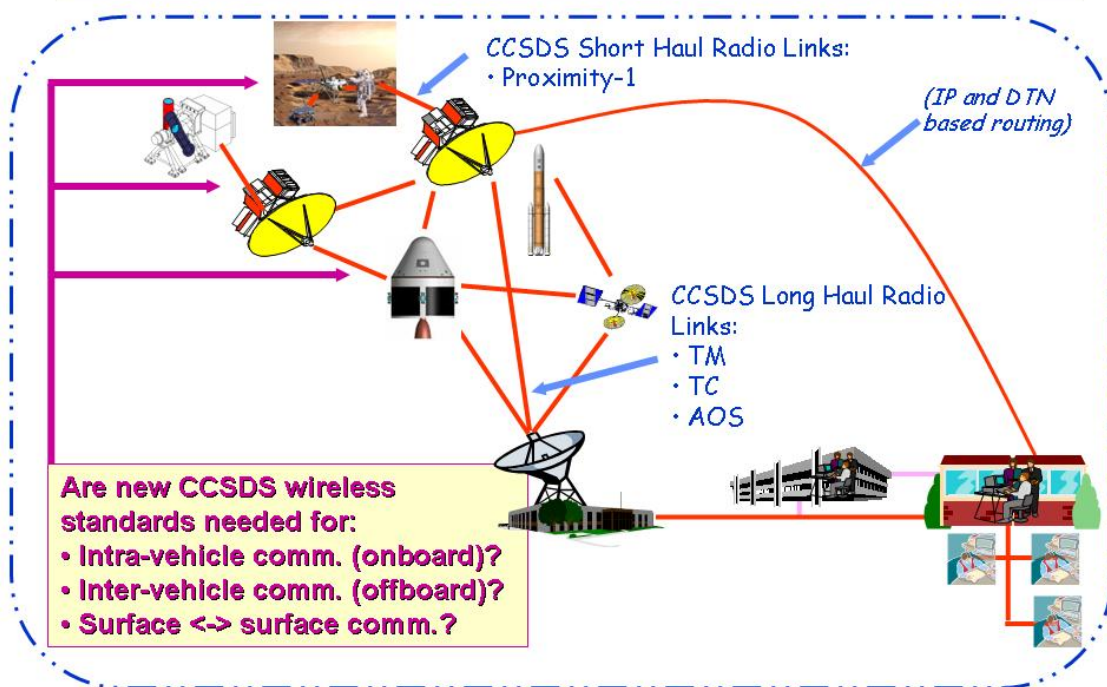
Call for Presentations and Technical Discussion Material

Sponsored by CCSDS and the University of Colorado

The workshop information and registration page can be found at:
<http://public.ccsds.org/meetings/2007Winter/wireless.aspx>



Next Generation CCSDS Wireless Standards?



Currently, CCSDS has mature, in-place international standards for long-haul (TM, TC, and AOS) and short-haul (Prox-1) wireless links, but international standards for wireless space networking based on commercial 802.x technologies do not yet exist for environments such as:

- a) In-vehicle extremely short range, wireless links and networking
- b) Inter-spacecraft short-range and medium-range, wireless links and networking
- c) Planetary surface-to-surface, wireless links and networking

This international workshop is the first dedicated specifically to address these space communications domains as inherently networked segments that will potentially make use of commercially-derived wireless technologies. The goal of the workshop is to initiate an exploratory dialog among the various stake-holders in the space mission community, interested space companies, and CCSDS technical standardization working groups considering the advantages / disadvantages and potential application of COTS-derived and especially the IEEE 802 family of wireless standards in the above described three contexts. The key questions to be answered are: (1) What are the mission requirements; (2) to

what extent can they be satisfied by adopting or adapting commercially-derived data communications Intellectual Property including PHY/MAC specifications and IEEE wireless protocols, and (3) what are the challenges of qualifying these technologies for spaceflight use?

This one-day informal workshop is sponsored jointly by CCSDS and the University of Colorado, and will be hosted by the University of Colorado on the Monday immediately before the start of the 16-20 January 2007 CCSDS Plenary meeting in Colorado Springs. Participation will be limited to 50-60 technical experts (with significant national space agency participation), to determine sufficient interest exists to further pursue these topics in a more formal manner.

Contributions (presentations containing views, position, experience, rationale) are invited on the potential application of commercially-derived wireless technologies to problems such as:

- In-situ surface Exploration, including surface-surface communications and surface infrastructure such as habitats.
- Planetary surface or space-based sensor webs and robots
- Manned vehicles, space stations, EVA
- Intra spacecraft communications, data distribution and acquisition
- Inter spacecraft communications
- Close range formation flying
- Fractionated S/C
- Satellite constellations
- Autonomous inspection devices
- Space suit, body-area-networks
- Crew health monitoring and physiological experimentation
- Non-intrusive monitoring
- Retrofit of new functions on existing platform
- Miniaturisation and flight qualification
- Use of commercially-derived wireless links for radio metric tracking

Abstracts must be received by 11 December 2006 and final presentation materials must be received by 10 January 2007. All contributors are responsible for obtaining clearance to present their work in an international forum.

Those interested in participating should contact the following technical chairmen as soon as possible:

Kevin Gifford, University of Colorado, gifford@rintintin.colorado.edu, or

Rodger Magness, ESA, rodger.magness@esa.int