

Proposal for an *Updated*
ITWG Technical Sub-Group:
“Direct Broadcast (DB)”

ITSC-16

Angra dos Reis, May 2008

Charter

- Discuss issues related to reception and processing of direct broadcast data from polar orbiting meteorological satellites including POES, MetOp, Terra Aqua, NPP/NPOESS, FY, GCOM spacecraft
- Not a forum to discuss science and algorithms; instead the group will work on the issues which allow the ITWG community of DB users to do science
- Cover all sensors including sounders (infrared and microwave) and imagers
- Absorb the current AAPP Technical Subgroup

Topics of Interest

1. Advocate for continuation of current DB capabilities
2. Provide information to the ITWG DB community on the transition from current polar orbiters (e.g., POES, Terra, Aqua) to new/future missions (e.g., MetOp, NPP, NPOESS, Fengyun, GCOM)
3. Forum for discussion of DB processing packages (AAPP, IAPP, IMAPP, IPOPP, and associated packages/utilities)
 - Advertise new features and versions
 - Discuss bugs, problems, feature requests
 - Provide feedback to package developers

Topic 1: Advocate DB

- Ensure continued availability of direct broadcast on current and future polar orbiting meteorological satellites
- Promote DB at a high level including the IAMAS, IUGG, ICSU, WMO, GEO, IRC, and the national space agencies.
- Provide a report (described on next slide) to the WMO for consideration by the Architecture and Data Committee of GEO.
- Seek ways to ensure the status and future plans for polar orbiting missions coincide with the needs of the ITWG and global community who receive and generate atmospheric products via direct broadcast.

Topic 2: Provide DB information

The group proposes to write a report to the ITWG on the status of current polar orbiting meteorological satellite missions which support DB (incl. instrument and software status), and which provides the information needed for transition to future missions.

- a. Survey of current polar orbiting satellites with real-time direct broadcast which support atmosphere products
- b. Summary of instrument payloads on board each satellite
- c. Summary of direct broadcast vs. playback operations for each spacecraft
- d. Expected lifetime of each satellite and status of mission support
- e. Schedule for launches of future satellites of the same type
- f. Ground station requirements for receiving data from the current satellite missions
- g. Survey of future polar orbiting satellite launch schedules, instrument payloads, and expected lifetimes
- h. Survey of all known freely available software packages for processing data from current polar orbiting satellites in order to generate atmosphere products
- i. Information on new software packages and enhancements to existing packages to support future polar orbiting satellites with direct broadcast capability and sensors required to generate atmosphere products.

The report will be presented to the WMO.

Topic 3: DB Software Packages

- Review available software packages and versions (e.g., AAPP, IAPP, IMAPP, IPOPP...)
- Ensure L1B calibration algorithms and LUTs are up to date and used by the DB community
- Discuss products planned for release or desired by the DB community
- Provide mechanism for algorithms developed in the DB community to be packaged and released
- Transmit recommendations to package developers on output formats (e.g., BUFR) for ingest into assimilation systems
- Understanding and preparing for future packages (e.g., IPOPP)

Action Items

1. Liam G. to draft a report titled “Status of Current Polar Orbiting Satellite Systems for Direct Broadcast Atmosphere Products and Plans for Future Systems”. John O., Nigel A., Frank O., and Kathy S. to review the draft report and prepare it for presentation to the ITWG.
2. Liam G. and John O. to present the report and other relevant information in support of continued availability of direct broadcast to the WMO, GEO, IRC, and national space agencies.
3. Nigel A. and Liam G. to evaluate the NOAA and Met Office utilities for converting AIRS L1B data into BUFR and recommend one version for porting and release as part of AAPP, IMAPP, or IPOPP.
4. Kathy S. and Nigel A. to draft a requirements document describing the needs of the DB atmosphere community for visualization for DB products.