INTERAGENCY OPERATIONS ADVISORY GROUP

2010 Annual Report

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IOAG 2010 Annual Report

This 2010 Annual Report of the Interagency Operations Advisory Group (IOAG) provides an overview of the activities over the past year, with reference to the objectives defined in the IOAG 2010 Work Plan. It is intended to keep all stakeholders and partners better informed of the IOAG's work and progress made in defining the tools and methods for the future interoperability in the domain of space communications.

The year 2009 had marked a critical period in which the IOAG fulfilled the mandate given by the second Interoperability Plenary (IOP-2) to improve its processes so as to provide a forum for space agencies to share their cross support experiences and plans with the view to working collectively towards the further development and implementation of standardized interfaces. The central role of IOAG to harmonize requirements and to establish common objectives and plans was enhanced through better coordination with, on the one hand the projects and the user communities (International Lunar Network [ILN] and International Space Exploration Strategy Group [ISECG]) and, on the other hand, the standardization organizations (Consultative Committee for Space Data Systems [CCSDS] and Space Frequency Coordination Group [SFCG]).

In 2010, the IOAG held two meetings: first, a "mini-IOAG" meeting, IOAG-13a, in Huntsville, Alabama, in April, on the occasion of the Space Ops 2010, and second, a plenary session, IOAG-14, in London, in November, partly as a joint meeting with the CCSDS.

These meetings gave the IOAG the opportunity to continue the exchanges between the member Agencies and to update the IOAG reference tables that are now displayed on the web site : Communication Assets, Mission Model and Cross Support Mission Model.

Several of the key objectives the IOP-2 assigned to IOAG and initiated in 2009 came to a conclusion in 2010, including:

- the production and endorsement in March 2010 of a ground-based Cross Support Service Catalogue, called "IOAG Service Catalogue #1," requested by the IOP for 2011; and,

- the initial definition of a multipoint Cross Support Service Catalogue, called IOAG "IOAG Service Catalogue #2," that provides the platform of standardization for extending cross support into space. This document is planned to be finalized in December and should be endorsed by IOAG in February 2011.

These two catalogues identify the services required to operate missions in various cross support scenarios and points at the standards elected by IOAG to support the data exchanges and their management. During the IOAG-14 meeting with CCSDS, it was generally agreed that the service catalogues will be a great reference between the two organizations, both for IOAG to monitor and report on the infusion of the existing services and standards throughout the member agencies, and for IOAG and CCSDS to improve their coordination for the development of the new standards identified as "to be written" in the catalogues. On that

occasion, the discussions on the prioritization of these developments were very fruitful between the two communities.

Another major achievement this year was the production by the IOAG's Space Internetworking Strategy Group (SISG) of a first version of the "Operations Concept for a Solar System Internetwork (SSI)," which was also one of the objectives given by the IOP-2. This document was handed over to CCSDS to serve as a reference for the definition of an "SSI candidate architecture" that would be part of the CCSDS standards. The IOAG request to CCSDS to lead this development is under evaluation and feedback is expected in the first quarter of 2011 in the form of a plan of work and its associated schedule. This activity will be one driver for the scheduling of the next IOP-3, currently planned no earlier than late 2012. In the short term, the SISG has been put in dormant mode, but could be re-activated, if necessary.

Year 2010 was also the occasion for the IOAG to initiate new activities that will be part of the 2011 Work Plan and on which more reporting will be given next year. This includes:

- A new liaison with the International Committee on Global Navigation Satellite Systems (ICG) to exchange information on the user requirements and possible services in the domain of Positioning, Navigation and Timing (PNT), in particular for the GNSS Space Service volume was approved. The format of this liaison is to be defined in the first half of next year and cross attendance to each other's meetings may be anticipated starting from the second half of 2011;

- The "Optical Links Study Group" was formed with the objectives first to collect information from the member agencies on their plans and views, and later to assess the need for cross support in various mission scenarios and the required coordination to identify the technical aspects to be agreed upon to enable the interoperability of optical assets. The study will be conducted during 2011 and will be completed with a report to be approved by IOAG for information of CCSDS and SFCG, as appropriate.

- The "Mission Operations Services Coordination Group" was formed with the objective to investigate the status of the activities related to the Mission Operations domain of CCSDS and to propose strategic guidance to IOAG on the way forward. It is expected that this informal group will allow the IOAG to decide whether further IOAG-sponsored activity is appropriate and what could be the medium term objectives to be submitted, if necessary, to the decision of the IOP-3. The ultimate outcome of this initiative could be a "Service Catalogue #3," still to be identified and consolidated.

In addition to the follow-up of the already engaged activities, on the agenda of the IOAG meetings for 2011 are, among other items, the establishment of the IOAG collective priorities in the activities to be developed, the continuous promotion of the services and their supporting standards as elected by the IOAG, the analysis of the ISECG roadmap that should contain valuable information on the definition and planning of communication architectures for complex Exploration missions, or also, the exploration of the future needs for Ka band.

Four meetings are planned in 2011 to iterate on these subjects:

- IOAG-14a : tele-videoconference on 30 March

- IOAG-14b : "mini-IOAG" on 2 or 3 June in Stockholm
- IOAG-14c : tele-videoconference on 20 September
- IOAG-15 : plenary meeting hosted by CNES in Toulouse, on 6-8 December

For any further information please consult the IOAG web site (www.IOAG.org) or contact the IOAG Secretariat (Barbara.Adde@nasa.gov).