INTERAGENCY OPERATIONS ADVISORY GROUP

IOAG-14b Minutes

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Prepared by: Barbara Adde, Secretariat
Date: 13 September 2011

FINAL DRAFT

Attendance:

Chair: Jean-Marc Soula
Secretariat: Barbara Adde, Stephanie Wan, Irene Tzinis

Members:
CNES: Jean-Marc Soula
DLR: Martin Pilgram
ESA: Michael Schmidt, Gian-Paolo Calzolari, Klaus-Juergen Schulz
JAXA: Hiroshi Inoue
NASA: Phil Liebrecht, John Rush, Roger Clason, Ken Perko, Les Deutsch, Wallace Tai, Madeline Butler, Kim Cashin

Observers:
UKSA: Peter Allan
KARI: Sangil Ahn

Liaison:
CCSDS: Adrian Hooke, Mike Kearney, James Afarin

Agenda:
See Attachment 1. The agenda is also available on the IOAG website (www.ioag.org).

Introduction/Opening:
The Chair opened the meeting and welcomed all participants. The agenda, which focuses on progress of different Action Items (AI) in preparation for IOAG -15 and IOP-3, was accepted without comment. A quorum was achieved within half-hour of the commencement of the presentations.

AI 14a-02: Optical Laser Study Group (OLSG) Report:
The OLSG status was provided by co-chair Mr. Schulz, who presented the team's findings on the L2 scenario. He stated that the OLSG will continue to investigate safety concerns for laser uplink, and are beginning to explore potential parameters necessary for cross-support, in particular the frequency and wavelength. He will work closely with the SFCG liaison on this activity. Mr. Hooke asked if for the exchange of site weather data a new standard would be required, and was informed that this would require an exchange to the format definition only.
Mr. Liebrecht also noted that eye safety is a concern when the laser is a payload on a human spacecraft, such as the International Space Station, and that this needs to be considered; this was accepted by the OLSG co-chairs, Mr. Schulz and Mr. Rush.

The next steps for the OLSG are to finish the L2 scenario; NASA is calculating the final link availability and data volume transfer. Following that, the OLSG will decide on the next scenario to study. Mr. Schulz indicated that several agencies -- JAXA, DLR, and CNES – have strong interest in the Low Earth Orbit (LEO) scenario. The group plans a face-to-face meeting 27-29 September at ESOC to start preparing the final report for IOAG-15. They will also contact the astronomy community regarding potential sites for laser stations.

The OLSG agreed to provide a status report at the IOAG-14c teleconference scheduled for 20 September. At this time they expect to have the L2 scenario completed and have decided on the next scenario to study.

NASA and other members praised the OLSG's approach to the topic and their progress.

AI 14a-03 and -04: Mission Operations Study Coordination Group (MOSCG) Revised Status:
The Chairman noted that three agencies responded to AI 14a-03. Several agencies do not see the need to create a dedicated WG at this stage. There are no volunteers to co-chair the MOSCG, making it difficult to plan for extension of the MOSCG. Mr. Schmidt stated that the CCSDS Working Group would like to have the IOAG priorities in this area; their initial list was provided on the IOAG website for the participants by Mr. Soula, who also serves on the CCSDS.

Mr. Liebrecht noted that while the IOAG could add value, he thinks it would be of almost no utility without consideration of the strategic perspective because challenging topics would not be addressed. Because the IOAG charter doesn't include mission operations, he recommended the IOAG develop a logical approach to present to the IOP-3 for approval. Currently, there is a lack of resources within the agencies to move forward. Mr. Hooke noted that the "O" in IOAG refers to ground operations, which differs from the project mission operations to which the CCSDS Working Group refers. Considering that most of the IOAG membership is part of the CCSDS, he said, the Working Group can continue in its present mode of receiving input from the agencies directly until IOP-3, provided that it is held in the near future.

Mr. Liebrecht agreed with Mr. Hooke that the IOAG needs to engage the human spaceflight community, which has huge interest in international standardization, as much as the robotic community.

AI 14b-01: All member and observer agencies to review mission operations standards priorities and provide its priorities in terms of mission objectives for the CCSDS standards provided in the chart at this meeting, and send feedback to CCSDS in the short term. Due: 13 September, 2011.

CNES, DLR, ESA, JAXA and UKSA agreed with these actions. NASA did not object.

AI 14b-02: All member and observer agencies to provide input on how to develop the IOAG recommendations to IOP-3 concerning Mission Operations, and finalize by e-poll. Due: 4 November, 2011.

AIs 14a-05 and -06: ICD with CCSDS:
Mr. Calzolari provided a presentation that illustrated the current state of sharing information between CCSDS and IOAG on status and prioritization of standards, and a proposed plan forward for an Interface Control Document (ICD), as discussed during IOAG-14. He also provided DLR, CNES and NASA's comments to the proposed plan.

Mr. Tai questioned why a document of this nature was required and recommended the use of a table like the IOAG communication assets table.

Mr. Hooke stated that as the CCSDS liaison to the IOAG, it has been very difficult to assemble the current status of all standards development from each working group to provide a status report for the IOAG.

He pointed out that one of the two proposed charts could be automated using current CCSDS management framework; the CCSDS Secretariat is investigating the possibility of creating an IOAG-CCSDS Product Agreement online database accessible on the CCSDS website to IOAG members to read. IOAG adjustments to priorities would be approved by the IOAG membership and implemented online by the IOAG Secretariat. This approach would allow for easy access to current status by all members.

Mr. Liebrecht conceptually agreed that this approach makes sense for maintaining status and insight. Mr. Soula stated that all the standards listed in Service Catalogue #1 (SC1)and Service Catalogue #2 (SC2)would be those tracked in this database.

Mr. Allan asked about standards that are within either SC1 or SC2 but not yet in the CCSDS framework; Mr. Kearney, who is responsible for the CCSDS Secretariat, answered that he believed that these could be added as well and could be filtered out for specific reports, as required.

Mr. Liebrecht said that the IOAG should be at the strategic, service level. The online database should provide a snapshot view at the service level. The Chairman concurred that the current format is CCSDS-focused and would need to be modified. Mr. Kearney accepted the action to confirm that these modifications to the table are possible.

AI 14b-03: CCSDS Secretariat to provide the IOAG-CCSDS Product Agreement online database template for testing by IOAG and CCSDS members. (IOAG lead: Mr. Calzolari) Due date: 26 August, 2011.

AI 14b-04: All member and observer agencies to review the IOAG-CCSDS Product Agreement online database template and provide comments to CCSDS representative and IOAG Secretariat. Due date: 13 September, 2011.

The Chairman pointed out that the infusion tables need to be updated by the agencies before each IOAG annual meeting, as well as to finalize the SC2 common definitions of priorities in order to populate the IOAG portion of the database.

AI 14-23: SC1 and SC2 Priorities:
AI 14a-26 and -27: IOAG Top Priorities:
The Chairman reported that two agencies, ESA and NASA, had provided counter proposals to his initial proposal for the definition of the IOAG's priorities for standards. After a recent teleconference, he believes there is now a joint proposal. Mr. Liebrecht added that he and Mr. Schmidt had reached agreement that their approaches were largely consistent, and that Mr. Schmidt had agreed to adopt the NASA text. Mr. Tai stated that there are three different priority levels in the proposed definition structure. Mr. Schmidt agreed on the prioritization levels, but said there is not agreement yet as to the priority of the services. Mr. Soula noted that the prioritization process will allow the IOAG to identify common priorities and a common vision.

<u>AI 14b-05</u>: All member and observer agencies are encouraged to populate the IOAG infusion table for SC1 and SC2 so the IOAG can establish a clear message to the CCSDS. Due date: 13 September, 2011.

<u>AI 14b-06</u>: Secretariat will conduct an e-poll to approve NASA's proposed definition of priorities for standards development. Due date: 15 July, 2011.

CCSDS Status:
Mr. Hooke reported on the results of the CCSDS Management Council (CMC) meeting that was held in Berlin on 24-26 May, notably the significant downsizing of CCSDS, with more expected in the Fall meeting, due to the increasingly tight agency budgets. He also noted that the PICS approach was adopted to manage options at the CCSDS Fall Technical meeting in Boulder, Colorado. The Fall CMC will be held in Moscow, and the Spring 2012 Technical and CMC will be held in Darmstadt, Germany, which marks CCSDS's 30th anniversary. He noted that the Space Assigned Numbers Authority (SANA) is forming a Steering Committee to develop a glossary and registry review.

It was also noted that the NASA Disruption Tolerant Network (DTN) project is now funding the development of the Solar System Internetwork **A**rchitecture. Mr. Hooke added that work **will** expand the Operations Concept which was created by the Space Internetwork Study Group (SISG). This SSI Architecture work will be led by Scott Burleigh with support from Lena Bratz.. Creation of the SSI Architecture has been added to the charter of the CCSDS DTN Working Group, the final product of which will be a Green book. The architecture document will be completed by the end of September 2012 in time for IOP-3, and is expected to be mature by Spring 2012.

Mr. Liebrecht noted from the NASA perspective that it would have been good to have this for the upcoming World Radiocommunications Conference, but it's not ready.
The Chairman noted that two agenda topics for the IOP-3 are SSI and mission operations strategy.

<u>AI 14b-07:</u> The Chair will establish a schedule and plan for the IOP-3 before the next teleconference by revisiting IOP-2 resolutions. Due date: 13 September, 2011.

Mr. Soula asked Mr. Hooke about inconsistencies between SC1 priorities and the projects of the CSTS Working Group. He asked if there is an issue with the Working Group not to use resources on the development of standards that are needed by IOAG.

<u>AI 14b-08:</u> The CCSDS liaison will update the IOAG regarding SC1 priorities and the CSTS Working Group at the next teleconference. Due date: 20 September, 2011.

AIs 13-11 and -13:
The Chairman discussed the ongoing issue of lack of active participation by IOAG members RFSA and ISRO. He noted that he had sent letters to both agencies but did not receive a response. The IOAG tables are incomplete due to this lack of input from these members. He suggested that after meetings members can send emails to these agencies, insisting that they attend teleconferences and provide data to the IOAG charts. This point will need to be addressed at the end of the year due to the planning for the IOP-3, he said, and he recommended a discussion on this topic at the next teleconference.

Mr. Liebrecht said that the IOAG should consider moving some agencies to inactive status of some kind. Mr. Soula noted that the IOAG has observers who attend regularly and members who don't.

AI 14b-9: Secretariat will produce a matrix of attendance of agencies in all IOAG meetings since the IOP-2 and on which have provided input to the different tables. Due date: 13 September, 2011.

Any Other Business/Announcements:
Mr. Schmidt reported that the ESA Council meeting is now scheduled for November 2012. ESA's proposal for IOP-3, therefore, is January 2013. This proposal was tentatively accepted by the members.

AI 14b-10: The Chairman will establish a list of all inputs needed for the IOP-3 agenda. Due date: 13 September, 2011.

The Chairman noted that the next teleconference is planned for 20 September at the same time as this meeting. Mr. Allan will not be available for this teleconference.

AI 14b-11: The Chairman and Secretariat will propose an agenda for IOAG-14c. Due date: 29 July, 2011.

The Chairman adjourned the meeting.

IOAG-14b Teleconference
Friday, 17 June, 2011

FINAL AGENDA

Time (UTC)   **Presenter**   **Agenda Item**

Time (UTC)	Presenter	Agenda Item
13:00 – 13:15	Soula	Introduction/opening
13:15 – 13:45	Shulz, Rush	AIs 14a-02: OLSG report
13:45 – 14:15	Soula, Kearney	AIs 14a-03 and -04: MOSCG revised status
14:15 – 14:30	Calzolari, Hooke	AIs 14a-05 and -06: ICD with CCSDS
14:30 – 14:45	Soula	AI 14-23 : SC #1 and SC#2 priorities
14:45 – 15:15	Soula	AIs 14-26 and -27: IOAG Top Priorities
15:15 – 15:45	Hooke, Kearney	CCSDS status
15:45 – 16:10	Soula	AI 13-11 and 13 : Membership (participation, updated tables)
16:10 – 16:20	Any	Any other business/announcements
16:20 – 16:30	Soula	Summary/closing

IOAG-14b Action Items

AI 14b-01: All member and observer agencies to review mission operations standards priorities and provide its priorities in terms of mission objectives for the CCSDS standards provided in the chart at this meeting, and send feedback to CCSDS in the short term. Due: 13 September, 2011.

AI 14b-02: All member and observer agencies to provide input on how to develop the IOAG recommendations to IOP-3 concerning Mission Operations, and finalize by e-poll. Due: 4, November, 2011.

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AI 14b-04: All member and observer agencies to review the IOAG-CCSDS Product Agreement online database template and provide comments to CCSDS representative and IOAG Secretariat. Due date: 13 September, 2011.

AI 14b-05: All member and observer agencies are encouraged to populate the IOAG infusion table for SC1 and SC2 so the IOAG can establish a clear message to the CCSDS. Due date: 13 September, 2011.

AI 14b-06: Secretariat will conduct an e-poll to approve NASA's definition of priorities for standards development. Due date: 15 July, 2011.

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AI 14b-11: The Chairman and Secretariat will propose an agenda for IOAG-14c. Due date: 29 July, 2011.