

Resolutions

1. ***RESOLUTION*** To remove the resource for prototype of CNES for the MOIMS/DAI WG - DEDSL-XML/XSD
2. ***RESOLUTION*** The CMC waived the requirement of 30 days to find a candidate for the MOIMS DAI Deputy Chair and approved John Garrett (Associate – NASA) as the DAI Deputy Chair. This resolution recognizes that the deputy chair will not be funded by CNES after this year.
3. ***RESOLUTION*** To cancel the MOIMS/NAV WG Spacecraft Maneuver Message (SMM) Project*
4. ***RESOLUTION*** A resolution thanking ASI*
5. ***RESOLUTION*** To include the second prototype for the MOIMS/NAV WG Pointing Request Messages Book. The Prototype two is not a single agency, it is four agencies, NASA, CNES, JAXA and AGI whom provide the second prototyping.
6. ***RESOLUTION*** To identify CNES as the second prototype of the MOIMS/SM&C Mission Data product distribution services.
7. ***RESOLUTION*** To demote the MOIMS/TEL Telerobotics BB to draft project*
8. ***RESOLUTION*** To identify DLR as the second prototyper for SIS/DTN Bundle Security Protocol (BSP).
9. ***RESOLUTION*** To reconfirm the SLS/RFM 415.1-B-1 - Data Transmission and PN Ranging for 2 GHz CDMA link via Data Relay Satellite book.
10. ***RESOLUTION*** To delete the two bullets from the SLS RFM charter (higher order modulations for deep space applications and On communications in Emergency communications)
11. ***RESOLUTION*** To reconfirm the SLS/SLP 133.1-B-2 - CCSDS Encapsulation Service
12. ***RESOLUTION*** To reconfirm the SLS/SLP 700.0-G-3 - of AOS GB
13. ***RESOLUTION*** To reconfirm the SLS/SLP 200.0-G-6 - of TC GB
14. ***RESOLUTION*** To approve the SLS/OPT project for the magenta book on atmospheric characterization and forecasting for the optical link operations.
15. ***RESOLUTION*** To demote the SOIS/WIR High Data Rate Project from Active to Draft project status. See associated action – NASA to check with ISS.
16. ***RESOLUTION*** - To silverize the following SOIS publications:
 - CCSDS 871.0-M-1, Spacecraft Onboard Interface Services—Device Access Service (Magenta Book, Issue 1, March 2013)
 - CCSDS 871.1-M-1, Spacecraft Onboard Interface Services—Device Data Pooling Service (Magenta Book, Issue 1, November 2012)
 - CCSDS 871.2-M-1, Spacecraft Onboard Interface Services—Device Virtualization Service (Magenta Book, Issue 1, March 2014)
 - CCSDS 871.3-M-1, Spacecraft Onboard Interface Services—Device Enumeration Service (Magenta Book, Issue 1, October 2014)
 - CCSDS 872.0-M-1, Spacecraft Onboard Interface Services—Time Access Service (Magenta Book, Issue 1, January 2011)
 - CCSDS 873.0-M-1, Spacecraft Onboard Interface Services—File and Packet Store Services (Magenta Book, Issue 1, September 2012)
 - CCSDS 875.0-M-1, Spacecraft Onboard Interface Services—Message Transfer Service (Magenta Book, Issue 1, November 2012)
17. ***RESOLUTION*** To delete the Magenta Book project on SOIS deterministic network services 856.0-M.

18. ***RESOLUTION*** To delete the SEA/SAWG Application and Support Architecture Magenta Book project and to approve the Application and Support Architecture Green Book project. [Check Book Number]
19. ***RESOLUTION*** - Request that the IOAG add an explicit, unique, OID to each of the RF Assets that they register. We can then unambiguously connect the IOAG info to the CCSDS sites & apertures database info. See associated action on CCSDS Liaison.
20. ***RESOLUTION*** - to close and archive the XML SIG and to introduce XML Guidelines as a draft project in the SEA/SAWG.
21. ***RESOLUTION*** - To name Jonathan Wilmot from NASA as the SOIS Area Director.
22. ***RESOLUTION*** - To name He Xiongwen from CNSA as the SOIS Deputy Area Director.
23. ***RESOLUTION*** - To approve revision of the MOIMS SM&C green book 520.0-G-3 as a new project.
24. ***RESOLUTION*** - The CMC acknowledges the progress made in the SLS optical communications working group towards the establishment of blue books for the high photon efficiency and the low complexity optical standards. CMC welcomes the intention expressed by the working group to document the high data rate options into orange books. The CMC is however concerned about the pace of progress in the production of such orange books. Due to the lack of agreement on the structure of the orange book, the CMC has debated the issue and has concluded on the structure of the orange books that is considered to be the preferred solution.
 - One Orange Book of the NASA Led Option and
 - One Orange Book of the ESA/DLR Led Option

The CMC expects however that the entire working group will work together to create these orange books.

Considering the above, the CMC instructs the CESG to implement the CMC recommendation identified above down to the working group level. It is understood that none of these orange books can become blue books without consensus of the CCSDS agencies at all levels of the CCSDS organization (as is defined by the CCSDS Procedures manual – CCSDS A02.1-Y-4).

25. **DAI WG Resolution:**

CMC acknowledges that in today's Data Economy, space systems generating and transporting large amounts of relevant data; be it science (GAIA is generating 50 GB/day) earth observation (Sentinel-2A generating 1 TB/ h), navigation or telecommunication satellites, constitute key assets for the Data industry.

In this context, standards supporting proper storage and preservation of data, open access to the space data, merging of data from different sources, analysis and processing big data and all related processes and mechanisms are of paramount importance.

Scientific communities are already for quite some time working nationally and internationally to define adequate standards for their data, be it astronomy, planetary exploration or earth observation.

The question is what should the CCSDS organisation do and how should it position itself in the wake of such space data revolution and how could the work done over the years to standardise data storage and archiving be leveraged at the service of the new paradigms.

In this context, and following the request of the DAI WG to the CMC for support, CMC would like to encourage the DAI WG to address the following questions within a short paper to be delivered to CMC *by 1 February 2017*:

1. What is the current DAI roadmap and how does it make a valuable contribution to the data issue, taking into account what has already been produced including the overall worldwide efforts in this area?
2. Taking into account that there are dedicated international organisations working on archiving and merging scientific data, astronomy data, as well as Earth data, what should be the role of CCSDS in general and that of the DAI WG in particular?
3. Is the long term data preservation of the housekeeping data properly addressed in these initiatives? Is there a need for developing this part of the data preservation?
4. In this context, what would be the next project for the DAI WG in the future, should resources be available, and how would this project fit with the current CCSDS reference architecture and work plan?

Action Items

1. **ACTION*** Action on Mario Merri - to clarify the CNES conditions placed upon the Re-entry data message for the approval of the project. Due Date – End of November 2016.
2. ***ACTION*** Action on the Secretariat to remove “CNES” from the title of the MAL binding to ZeroMQ transport and CNES binary encoding. Due Date – End of November 2016.
3. ***ACTION*** Action placed upon ESA to confirm that the resources are available to complete the CFDP v1 review to complete publication of the blue book. Due Date – End of November 2016.
4. ***ACTION*** On NASA and DLR to confirm with the ISS the possibility for providing resources for the SOIS/WIR high data rate book (HDR) by San Antonio. If resources cannot be provided the SOIS/WIR HDR project may be deleted. Due Date – 8 May 2017.
5. ***ACTION*** On NASA to confirm the 2017 resources [1 WM] for the DOT Green Book. Due Date – Mid-term teleconference.
6. ***ACTION*** ESA to confirm the 2017 resources [4 WM – for Book Editor and Prototype 1] for the XML Specification for Electronic Data Sheets (EDS) Blue Book. Due Date – Mid-term teleconference.
7. ***ACTION*** On the Secretariat to allow more than one prototype in the resource column. Due Date – Mid-term teleconference.
8. ***ACTION*** On Nestor to contact the IOAG with respect to the Object Identifier (OID) addition to each of their RF assets in the SANA RF Assets database. Due Date – End of November.
9. ***ACTION*** On P. Shames to put draft xml guideline as a draft project on the SEA System Architecture Working Group. Due Date – End of November.

10. ***ACTION*** on Secretariat to delete the XML SIG and to archive the information. Due Date – End of November.
11. **ACTION *** - Secretariat to add WebEx Only Registration button and to look at a possibility for a de-registration button (to remain available after the close of registration?). Due Date – Two months prior to the Spring Technical Meetings.
12. ***ACTION*** On CESG Chair to find ways within the CESG to improve the technical quality of documents. Due Date – Spring Technical Meetings.
13. ***ACTION *** On the Secretariat to propose to the CMC for approval a request to amend the Procedures Yellow Book - to provide criteria for joining the working group mailing lists. (regarding external requests for individuals with no sponsoring agency.) Due Date – Mid-Term Teleconference.
14. ***ACTION*** Mid Term Telecon - CMC Members to review the New Work Item priorities and determine the resource availability. Due Date – End of February 2017.
15. ***ACTION*** On the CESG Chair to send an email to the CMC indicating the definitions of each Priority (what does priority 1 mean, priority 2 and priority 3. Due Date – End of November.
16. ***ACTION*** on the Secretariat Add to mid-term Agenda an agenda item to review the revised Agency Resource priorities. Due Date – End of November.
17. ***ACTION*** Gippo to confirm with the optical working group about the agencies that will provide the prototypes for the two blue books approved in this meeting. End of November. Action Completed.
 - **Action response** – *there is a clear identification of who is going to provide prototypes for the high photon efficiency. There are candidates for the low complexity. And considering that the low complexity scenario is less mature than the HPE and the work will not be balanced, it is suggested that the current projects are limited the HPE and that two draft projects for Issue 2 of the blue books are entered into the CWE to add the low complexity. This is as agreed by the groups via consensus. The group has agreed to this. The charter and projects will be modified and submitted to CMC for approval. (Add this response to the Action Item Response).*
18. ***ACTION*** Action on the Area Directors to update their online strategic plans on the basis of the documents that have now been approved or deleted by the resolutions identified during the Fall 2016. Due Date – December 2016.
19. ***ACTION*** On Nestor to consolidate the possible meeting dates for the 2018 Spring (USA - NIST) and 2019 Fall technical meetings and CCSDS Management Council.
20. ***ACTION*** On Secretariat to change all references to FSA to Roscosmos.
21. ***ACTION*** Secretariat to Schedule a Telecon for December 13th Telecon - shortened telecon regarding optical working group and a review of the draft projects. 8 a.m. East Coast Time. Short mid-term with only two subjects.
22. ***ACTION*** Secretariat Schedule Second Mid-Term - February 13th CMC Mid-Term Meeting.
23. ***ACTION*** On Secretariat to change all references to FSA to Roscosmos.