

**CCSDS CMC Draft Minutes**  
**UK Space Agency**  
**British Standards Institution (BSI)**  
**London, UK**  
**18-20 November 2014**

**1. Call to Order – Welcome/Opening Remarks**

Mike Kearney, CMC Chair, called the meeting to order at 0850h and welcomed everyone to London. Peter Allan also welcomed everyone and reminded them of the dinner on Wednesday night. In addition, M. Kearney congratulated ESA on the successful landing of Philae on the comet and suggested a possible press release if CCSDS standards were used for the mission. Juan Miro will contact the Secretariat for this potential press release.

**2. Introduction of Delegates**

Introductions followed. Attendees were:

James Afarin (NASA)  
Peter Allan (UK Space Agency)  
Dmitri Barannikov (FSA)  
Erik Barkley (NASA)  
Eduardo Bergamini (INPE)  
Marc Blanchet (SANA/Viagenie) via WebEx  
Gian Paolo Calzolari (ESA)  
Margherita di Giulio (ESA)  
Tom Gannett (Secretariat)  
Yonghui Huang (CNSA)  
Mike Kearney (NASA)  
Juan Miro (ESA)  
Gilles Moury (ESA)  
Brian Oliver (Secretariat) via WebEx  
Keiko Osakai (JAXA)  
Nestor Peccia (ESA)  
Osvaldo Peinado (DLR)  
Martin Pilgram (DLR)  
Keith Scott (NASA)  
Peter Shames (NASA)  
Tsutomu Shigeta (JAXA)  
Jean-Marc Soula (CNES)  
Siamak Tafazoli (CSA)  
Wallace Tai (NASA)  
Chris Taylor (ESA)  
Nick Tongson (Secretariat)  
Rusheng Zhang (CNSA)

**3. Agenda Review and Approval ([CMC Agenda London - Nov 2014 v6](#))**

The group reviewed the agenda and agreed to reverse agenda items 6 and 7. The agenda was approved, as revised.

**4. Discussion of CMC Minutes from Prior Meetings**

Nick Tongson informed the group that the draft minutes from the July 2014 midterm telecon has been approved via CMC poll. All comments have been incorporated.

**5. CESG Area Reports, Summary from London ([CESG-Report-to-CMC-Fall14-Issue1](#))**

**5.1 CESG Chair Introduction (slides 3-12)**

Nestor Peccia provided the statistics from the technical meetings and noted the good meetings of the Working Groups throughout the week. He also noted the increased participation from EUMETSAT and a participant from South Korea.

## 5.2 SOIS Area (slides 14-25)

Chris Taylor provided his report. M. Pilgram asked about the choice of frequency in the Wireless WG documents. Some European satellite companies are using different frequencies not developed by the WG (the group selected a frequency not used by the commercial wireless manufacturers). Osvaldo Peinado asked about the bandwidth for voice and video in the wireless work. C. Taylor will coordinate with the MIA and Voice WGs on this specific question.

C Taylor announced that he would retire from his ESA position during 2015 and his post as AD would become free. He suggested inviting the possible successor to the CCSDD workshop in Pasadena to allow for a proper hand-over

## 5.3 SE Area (slides 27-40)

Peter Shames provided his report. He also reported on India using D-DOR for their Mars mission (another potential Press Release for CCSDS). He introduced various WG resolutions that will need follow-up (slide 39). Mailing list admin interface in the CWE is not https and is in the clear. M. Kearney informed the CMC that the Secretariat IT Support Team has an Action Item to obtain the https certificate.

P. Shames also reported on the possibility of using a cloud for WG work, including prototyping. M. Pilgram asked what type of cloud and P. Shames responded that it would be an international commercial cloud. P. Shames reported on the RASDS work and its coordination with ISO/TC 20/SC14.

**AI: Peter Shames was requested to draft a formal memorandum from CCSDS to ISO/TC 20/SC14 (Space Systems and Operations) to describe the coordination needed on RASDS. Ensure that SC13 is referenced in the draft memorandum.**

CESG to discuss the use of the term Expert Group in project development and make a recommendation to the CMC.

## 5.4 MOIMS Area (slides 42-65)

N. Peccia provided his report. He was requested to deliver to the CMC members the table comparing the Packet Utilisation Standard PUS (part of the European Cooperation for Space Standardization ECSS standards) and CCSDS Mission Operations (MO) Services [NOTE: This was done by N. Peccia but only to European members of the CMC due to sensitive issues contained in the table.]

## 5.5 CSS Area (slides 67-84)

E. Barkley provided his report. N. Peccia asked why there seems to be a lack of RIDs for some important projects. There was a discussion on automating the RIDs system to be able to compile useful statistics.

**AI: CMC members were requested to describe the process they use to conduct their agency reviews of CCSDS documents when they present their next agency report at the Spring 2015 CMC meeting. Include description of Associates distribution.**

## 5.6 SLS Area (slides 86-109)

Gian Paolo Calzolari provided his report. The group discussed the difficulty for the agencies to support working groups meeting separately because of travel constraints. The CMC strongly encouraged the RFM and C&S WGs to meet at CalTech/Pasadena during the regular spring technical meetings even without the attendance of the chair and deputy chair but possibly assigning a temporary chair. If the decision is to meet in Pasadena separately, then NASA will try its best to host the meeting.

### CMC-R-2014-11-01

**Acknowledging that the chair and deputy chair of the SLS-RFM WG will not be able to attend the March 2015 Spring Technical Meetings, the CMC nevertheless, instructs the SLS-RFM and SLS-C&S WGs to meet in conjunction with the other CCSDS WGs during the March 2015 Spring Technical Meetings at CalTech in Pasadena, California, USA for better collaboration. The SLS Area Director should coordinate this resolution and the selection of temporary chairs, as required.**

For the Optical WG, it was reported that the lack of convergence in the WG regarding the high data rate Blue Book and in particular the wavelength that should be recommended as part of the standard had escalated. The AD had

however referred this issue back to the WG for investigation of a possible way forward. The CMC did therefore not discuss the matter further. .

### **5.7 SIS Area (slides 111-124)**

Keith Scott provided his report. M. Kearney pointed out that the DTN Network Management using the MO services protocol should be compatible with the terrestrial protocol. K. Scott reported that the IETF is interested in DTN and informed the CMC that Marc Blanchet of SANA/Viagenie is the co-chair of the IETF working group that is looking at DTN.

There was a discussion on whether to retire the SCPS-TP document that was published in 2011. K. Scott will need to review if retiring the document will be detrimental to the community.

### **5.8 Summary/Meeting Statistics**

See CESG Chair Introduction.

### **5.9 Items Brought to the Attention of the CMC ([CESG-Report-to-CMC-Fall14-Items attentionCMC](#))**

N. Peccia provided a report on the lack of resources for the short term. M. Kearney noted that this needs to be reviewed by each agency to re-prioritize if needed. J. Miro and J. Afarin would like the allocation of resources to reflect the agreed area priorities. The CMC needs to provide feedback and explore the possibility of other agencies to contribute, in addition to NASA and ESA.

**AI: The CMC members were requested to review Nestor Peccia's chart on resources needed for the short term and provide a response to the Secretariat. The Secretariat was also instructed to circulate the chart to observers for potential contributors. Agency response due: 19 December 2014.**

N. Peccia provided his report on the project schedule and noted that some have very optimistic schedules.

**AI: Nestor Peccia was requested to review the Framework new project guidelines, specifically the schedule template [elapsed time between start and end of project], and inform IT support if changes are needed.**

N. Peccia also noted the future composition of the CESG. M. Kearney noted that there needs to be diversity and commitment.

The need to replace the SOIS AD (see sect 5.2) the SEA DAD (following the withdrawal of Takahiro Yamada ) as well as Nestor Peccia as MOIMS AD due to his current role as CESG Chair (addressed already in the previous CMC meeting) was discussed. Also the possibility / opportunity to replace some DAD that were no longer fully available to carry out their role was also addressed.

**AI: UKSA delegate is requested to provide information on the potential to place certain DADs positions up for new nominations. 31 December 2014 deadline.**

**AI: Following the previous action, the CMC members were requested to bring any suggestions for potential nominations for those positions to the mid-term telecon. Mid-term telecon deadline.**

The CMC discussed the changes to the Procedures and Publications Manuals dealing with the consensus definition (Procedures) and the patent boilerplate (Publications) ([A02x1y4\\_final-mods 27Oct141!](#) & [Proposed change to CCSDS A20.0-Y-4, CCSDS Publications Manual \(Yellow Book, Issue 4, April 2014\)](#)). The group agreed to introduce these changes as corrigenda and poll the CESG (the CMC can review before being polled, if needed).

**AI: Secretariat was instructed to circulate to the CMC members the revised Procedures and Publications Manuals for them to review the patent boilerplate and consensus definitions. 30 November 2014 deadline.**

N. Peccia reported on the CESG overlaps and other issues. In particular N Peccia reported that a break-through agreement had been reached to avoid an overlap between the cross support services and the mission operations services, by deciding to what interfaces of the mission control system each of them apply. The CESG will consequently apportion the tasks of the WGs affected by such decision. One issue raised was to determine if there is interest on the side of the member Agencies in the Planetary Communication Green Book project.

**AI: CMC members were asked to review the Planetary Communication Green Book project to determine if there is any interest and, if there is interest, provide resources (if any). 28 February 2015 deadline.**

- 6. Resources Topics (see agenda items 5.9 and 7)**
- 6.1 CESG report on resources status (projects with issues)**
- 6.2 Roundtable discussion of Resources process**
- 6.3 Schedule of projects as impacting resources (future work, etc.)**

**7. CCSDS Future Strategy (AI CMC-A-2014-04-05)**

The CMC discussed the responses by the CESG regarding the CMC questions on the Strategic plan ([CESG-Response-to-CMC-onSP](#)). The group discussed project dates and the ability to modify them if needed.

J.M. Soula and J. Miro thanked the CESG for their input on the Strategic Plan questions from the CMC.

The CMC discussed future / prospective (draft) projects presented as part of the strategic plan/roadmap and how they can be included in the CWE, but clearly identified as such, without being mixed / confused with the approved projects. The group agreed to delete the Completion Date and Milestone ID in the Strategic Plan online.

**AI: Secretariat was instructed to work on the issue regarding draft projects that need modifiable, non-mandatory dates in the Framework. Once a project is submitted and approved, the start date should be frozen. Inform CESG Chair when complete. 31 December 2014 deadline.**

**AI: After the prior action (above), the CESG Chair was instructed to notify the WG chairs to update the charters and projects, including the draft projects. 15 January 2015 deadline.**

The CMC also discussed how to deal with projects that had been approved but without resources and clear support (grandfathered projects)

**AI: The CESG chair was asked to consider the advantage of eliminating grandfathered projects and reverting the status back to pending or draft. 31 January 2015 deadline.**

J. Miro discussed his presentation ([CCSDS Strategy Discussion 141118](#)).

- In response to Action Item CMC-A-2014-04-05, a summary of the comments received from CMC members on the CCSDS Strategic Roadmap presentation, and underlying CCSDS Strategic Plan document had been compiled and distributed to CMC members, and was reflected in the presentation
- The specific questions and comments on the Area goals and plans contained in the Strategic Plan had been submitted to the CESG with the request to the Area directors to provide answers to CMC during this meeting (see beginning of this section).

In particular the suggestions made by CMC members were discussed and dispositioned as follows:

- Suggestion 1: endorsed; actions on CESG and CMC agreed
- Suggestion 2: at the end this boils down to IOAG only and how can we control / influence the decisions and plans by the WG. After a long discussion no new process is endorsed; only adding info on IOAG priority in the Projects description (CWE) has been agreed)
- Suggestion 3: the bullets have progressed during the London meeting. SOIS strategy has now been extended to 2020; overlaps are being addressed and the main one (between MO Services and CSS Service Framework) has been resolved
- Suggestion 4: CCSDS secretariat has no resources at the moment for the automatic generation of the RMP feature. It is agreed that for the next CMC Fall meeting, the Roadmap will continued to be hand-made produced by ESA. For this a period of 2 weeks previous to the Fall CMC Meeting will be allocated. In parallel the CCSDS secretariat will look at the technical solution and associated resources for the automatic production.
- Suggestion 5: CESG ADs will check consistency of area goals with high level goals. Also the reference architecture effort will help identify cross links between projects across different WGs and Areas.

**AI: J.Miro to update Strategic Roadmap with the relevant comments received from CMC for the next CMC meeting in spring 2015**

P. Allan suggested incorporating the reference architecture in the strategic plan in the future. There was a discussion on what composed an operating plan. M. Kearney responded that the operating plan is made up of the charters for all the working groups. There was also a suggestion to conduct a periodic review of the online strategic plan (preferably in the fall CMC meeting), as recommended by CESG. There was also a discussion on the need for a goal for the whole organization. The CMC also identified the need to review the CCSDS technical goals and area goals.

**AI: The CESG was instructed to update the information in the Strategic Plan after the spring meeting and review this information between 14 September – 12 October 2015. Area Directors will submit to the CESG Chair any changes to the top level content and the CESG Chair will then submit them to the CMC for approval.**

**AI: The CMC was asked to review the CESG input from Action Item above from 12 – 26 October 2015 and provide comments to the Secretariat with a copy to Juan Miro, Jean-Marc Soula, and James Afarin.**

The CMC endorsed this plan and will review the process on a regular basis. While reviewing the online Strategic Plan, it was noted that it should be more prominent and linked to the CCSDS Charter.

**AI: Secretariat was instructed to add a link to the Strategic Plan page from the CCSDS Charter page. 31 December 2014 deadline.**

The CMC then reviewed the Framework in relation to the information needed for the Strategic Plan. The group also discussed the process on how to review requests for projects from external sources like the IOAG, etc. M. Kearney suggested that there should be more awareness on the priorities of these external organizations. There was also a suggestion on maybe indicating the agency priorities as well.

**AI: Secretariat was instructed to add IOAG priorities (as another column) to all open projects in the Framework to make the WG chairs more aware of these priorities. Mid-term telecon deadline.**

It was noted that there is progress in limiting overlaps (see section 5.9) but that there is more work to be done.

Regarding the roadmap presentation of J. Miro being automated, it was agreed to revisit the situation in another year but meanwhile ESA/J. Miro might be able to maintain it for now.

The validity of the technical goals was already addressed and taken into account by CESG ADs when they reviewed and responded to the CMC questions on the Strategic Plan. There were also additional discussions on end-to-end capabilities and interdependencies.

The Strategic Plan team will review the remaining questions by the CMC and determine which need to be communicated back to the CESG chair for a response.

**8. IOAG and ICPA Update (CCSDS-IOAG-ICPA)**

N. Peccia provided an update on the status of projects with IOAG priorities. There was a discussion on how best to meet the IOAG priorities.

**9. Secretariat Report**

**9.1 Action Items (Open Action Items - CMC - Nov2014v1)**

The CMC reviewed the open Action Items. The following decision were reached on these items:

- 2013-12-07, -12-13, -04-04, -04-05, and -04-09 were all closed.
- 2012-10-01: Re-send the draft letter to CMC members (M. Kearney to review). Changed due date to Spring 2015 CMC meeting.
- 2013-12-04: Changed due date to Spring 2015 CMC meeting and include cloud-based interoperability test-bed as part of the action item.

- 2013-04-11: Closed with the following agencies providing responses: CNES, CSA, NASA, and CNSA. Message about this action item will be re-sent to J. Miro.

## **9.2 Document Status Report ([CCSDS Document Status](#))**

The CMC reviewed the report and noted the hardcopy version of the Strategic Plan. There was a question on whether to keep a hardcopy of the Strategic Plan or only keep the online version. It was decided to deprecate the old, hardcopy version.

**AI: Secretariat was instructed to set-up a CMC poll to formalize the approval of the online Strategic Plan and deprecate the old version of the Strategic Plan. 31 December 2014 deadline.**

## **9.3 Resolution Report ([2014-11 Summary of CMC Polls since April 2014 Meeting at ESTEC](#))**

Secretariat provided the report on the results of the CMC polls since the Spring 2014 meeting.

## **9.4 WG and Project Overview ([Project Report 2014-11-17 - Sorted by Largest Change](#) & [Project Report 2014-11-17 - Sorted by WG](#))**

Secretariat provided the report, as submitted by Brian Oliver. This was revised based on a CMC action item. The group discussed some of the projects that had slipped in schedule.

## **9.5 Strategic Plan online implementation status**

Already discussed earlier.

## **10. SANA and Registries Report ([20141119 london sana update cmc](#))**

M. Blanchet provided his report. He reported on some SCID conflicts that they are trying to resolve. M. Pilgram cited another potential conflict (BIRD – with an ID of 3C5) and he will inform SANA/M.Blanchet about this. M. Blanchet also mentioned that he received another potential conflict from J. M. Soula.

M. Blanchet informed the CMC that the V2 registry is almost full and might need a CMC decision. SANA may have to notify agencies soon and inform these agencies that they could get denied for V2 requests. There was a discussion on the possibility of assigning duplicate IDs but this could be as a last option. M. Blanchet informed the CMC that SANA does keep a record of the frequency but only if it is provided by the agency.

**AI: SANA was requested to draft a letter to CCSDS member agencies to encourage relinquishing SCIDs and to ask for a forecast of near term requirements for SCIDs, especially V2. This letter will be reviewed by the SANA Steering Group. 31 January 2015 deadline.**

**AI: The SLP WG is requested to do an analysis and create procedures (if applicable) for assigning SCIDs to multiple spacecraft (this is needed for V1 and V2 but most critical for V2). Provide recommendations to the Secretariat for forwarding to the CMC and SANA Steering Group. 31 December 2014 deadline.**

The CMC was informed that there is a process for keeping a SCID private if an agency or organization requests it. There was a question on whether there is a way to tell users that we can accommodate this process. There was a discussion on the various ways to inform the users but no decision was reached. It was agreed that a clear policy is needed and maybe revise the SANA procedures.

## **11. Membership and Outreach ([Outreach](#))**

M. Kearney provided his report and volunteered to circulate to CMC members his presentation when he was in Italy to give others an idea of what they can use for their own outreach. There was an interest in getting India more involved as well and S. Tafazoli volunteered to re-initiate contact with India. N. Peccia also suggested that the Argentina space agency might be a good agency to recruit to attend a CMC meeting.

To help ESA with CCSDS outreach at GSAW in March 2015, the Secretariat will send to N. Peccia the foam cores derived from the brochures.

The CMC also discussed the possibility of holding CMC meetings at observer agency venues but there is a need to be careful to make sure all the advantages and disadvantages are considered. It was also noted that there is still more work to promote CCSDS in the core community before doing more outreach outside the core of CCSDS.



## **12. Meeting Planning ([Meeting Planning Nov 2014 v5](#))**

M. Kearney provided his report and noted that the ITU meeting needs to be avoided together with the other meeting conflicts.

### **12.1 Spring 2015 Tech Plenary (NASA/Pasadena/CalTech)**

M. Kearney provided the preliminary meeting arrangements.

### **12.2 Spring 2015 CMC (JAXA/Japan)**

T. Shigeta provided his report and the proposed arrangements for holding it in Nagano instead of Tsukuba to be able to visit the new JAXA ground stations. He also presented various schedule options for the group to consider. The CMC agreed to start with a full day technical tour on Monday to visit the ground stations and full day meetings from Tuesday – Thursday. It was noted that some individuals might want to leave Nagano on Thursday night to travel to Tokyo and catch a flight on Friday morning.

### **12.3 Fall 2015 Tech Plenary & CMC (ESA/Darmstadt)**

N. Peccia informed the CMC that the meeting venue has been confirmed and the contract signed. The CESG and CMC meetings will be held at ESOC.

### **12.4 Spring 2016 Tech Plenary (NASA/USA-TBD)**

M. Kearney informed the CMC that Cleveland might not be an option and NASA is looking for other options.

### **12.5 Spring 2016 CMC (INPE/Brazil)**

E. Bergamini informed the CMC that he will need to confirm this meeting and requested to wait until end of 2014 for a response if Brazil can host the Spring 2016 CMC meeting.

### **12.6 Fall 2016 Tech Plenary & CMC (ASI/Italy)**

M. Kearney informed the CMC that M. Calabrese is still confident about hosting these meetings. M. Pilgram noted that a firm commitment from ASI is needed so that alternate plans (like DLR hosting) can be made if needed. M. Kearney volunteered to contact ASI/M. Calabrese to get this firm commitment.

### **12.7 Any status about other later meetings**

D. Barannikov informed the CMC that FSA is proposing St. Petersburg, Russia for the Spring 2017 CMC meeting around late April/early May.

### **12.8 Schedule for next CMC mid-term telecon**

The CMC tentatively agreed to hold the midterm telecon on 11 March 2015 (1200 or 1300 UTC).

## **13. Secretariat IT Project Status ([CCSDS Secretariat IT development project priorities](#), [IT Action Since Spring 2013](#), & [IT Update CMC Meeting London](#))**

B. Oliver provided his reports. He first started on the status of the User Profiles, the online Strategic Plan, and the RIDs system. The CMC agreed that the access to change the top level information of the Strategic Plan will be switched from CESG Chair to the Secretariat because changes will be discussed in the CMC anyway and then forwarded to the Secretariat to make the changes.

The CMC also discussed the wiki forum and how to maintain this forum as a way to provide customer service to the users of CCSDS standards.

**AI: The CESG Chair was asked to confer with WG chairs and check their endorsement of the wiki forum approach.**

## **14. Agency Reports**

### **14.1 ASI**

No report was provided.

### **14.2 CNES**

J.-M. Soula provided his report ([CNES report to the CMC at BSI November 2014a](#)).

### **14.3 CNSA**

R. Zhang provided his report ([CNSA CMC Agency Report Fall 2014](#)). M. Kearney noted the use of AOS by CNSA and reminded the CMC that SCIDs need to be relinquished if no longer in use and possibly forecast/project in the near term their use of AOS SCIDs when they respond to the letter from SANA.

O. Peinado noted the CNSA expert identified for the Voice WG and requested for a more active participation.

#### **14.4 CSA**

S. Tafazoli provided his report ([CMC CSA Report Fall 2014](#)).

#### **14.5 DLR**

O. Peinado provided his report ([CMC DLR Report november 2014](#)). He thanked the other agencies for their cooperation with several DLR missions.

#### **14.6 ESA**

J. Miro provided his report ([ESA Agency Report CMC Fall 2014](#)). M. Kearney encouraged other agencies to look outside their agencies for prototyping help.

#### **14.7 FSA**

D. Barannikov, on behalf of V. Zaichko, provided his report ([FSA CMC Agency Report](#)). M. Kearney asked if it was possible to add Russian terms to the SANA registry of terms and definitions. D. Barannikov will send a spreadsheet of Russian terms and definitions to M. Kearney for forwarding and discussions with SANA.

#### **14.8 INPE**

E. Bergamini provided his report ([INPE-Report.to.CCSDS-CMC.Meeting.17-20.Nov.2014.V.19.11.2014](#)). The proposed SEA-SAWG guideline by INPE was agreed to in principle by the CMC and will be submitted directly to P. Shames for the WG's consideration. It was suggested that it might be good to make an announcement in future opening plenary meetings regarding this guideline.

#### **14.9 JAXA**

T. Shigeta provided his report ([JAXA input to London CMC in Nov 2014](#)). M. Kearney suggested the involvement of JAXA or other Japanese experts in the Telerobotics WG. T. Shigeta also mentioned that it was better for JAXA experts to attend the spring meetings if it was held after 1 April because their fiscal year ends 31 March. It was suggested to include the Japanese mini library in the Publications page of the CCSDS website where non-English versions are located (include a note that only document summaries are in Japanese).

#### **14.10 NASA**

M. Kearney provided his report ([NASA CMC Agency Report Nov 2014 v5](#)). He also noted the need to get the commercial spaceflight providers involved with CCSDS. N. Tongson mentioned that AIAA has contacts with the Commercial Space Federation (CSF) and can help in getting CSF aware of CCSDS activities.

#### **14.11 UK Space Agency**

P. Allan provided his report ([UK SA CMC Agency Report Fall 2014](#)). He also noted that the NGU WG is no longer in the Management Framework but it is still in the organizational chart.

M. Kearney, on behalf of the CMC, once again thanked the UK Space Agency for hosting the technical and management meetings at BSI.

#### **CMC-R-2014-11-02**

**The CMC thanks the UK Space Agency and British Standards Institution (BSI) for hosting the Fall 2014 technical and management meetings in London.**

**AI: The Secretariat was instructed to provide letters of thanks to the UK Space Agency and British Standards Institution (BSI), for hosting the technical and management meetings in London. 31 December 2014 deadline.**

#### **15. CMC Review of Resolutions and Action Items ([Action Items - LondonCMC - Nov2014](#))**

The CMC reviewed the resolutions and action items and approved them with revisions.



**16. Adjourn**

There being no other business, the meeting was adjourned at 1521h on 20 November 2014.