**CCSDS 2012 Fall MEETING**

**Final SLS-SLP Space Link Protocols Working Group**

**Minutes of the Meeting – October 16, 2012**

**1. Action item list**

* 1. SLP editor (Greg Kazz) to finalize SLP (AOS, TC, TM) pink sheets including chapter 6 (Transfer Frame Field ordering when Security applies) to integrate SDLS protocol into SLP for delivery to SLP WG. Due Date: Jan. 30, 2013
  2. Action on British Space Agency (Mathew Cosby) to provide updated PICS Proforma for Proximity-1 Space Data Link book based upon work already completed by NASA/ESA Mars 2016/Exomars teams. (Note: Matt also supplied copies of potential PICS proforma to the C&S WG and RF&MOD chairmen at this meeting.) Due Date: 15 March 2013
  3. Ed Greenberg to create a CCSDS White book describing his vision of a common CCSDS link layer protocol for TM, TC, AOS, and Proximity-1 Space Data Links. Due Date: 18 March 2013

**2. Topics Covered**

2.1 Greg Kazz (NASA/JPL) – RID resolution of Prox-1 Space Data Link Layer Protocol

* + Consensus reached on RIDs submitted by ESA and SLS AD
  + SLS also provided comment to C&S and RF&MOD on Prox-1 related RIDs
  + PICS Proforma accepted into the Prox-1 Data Link Layer book provided by UK Space Agency however requires SLP WG review and agreement. Alternative PICs Proforma circulated after the Fall Meeting by SLP Chairman, pending comments from WG.

2.2 Greg Kazz (NASA/JPL) – Determine impact of 5-year review on Proximity-1 Green book

1. UK Space Agency/NASA Lessons Learnt as described at this meeting to be factored into the GB
2. Review of updated Prox-1 GB to be held at Spring 2013 meeting in Bordeaux, FR.

2.3 Greg Kazz (NASA/JPL) – Pending AOS/TM approved pink sheets and their 5-year review

1. Note that there already exist approved CESG/CMC AOS & TM 2008 pink sheets concerning the OID frame term, VCP service consistency, etc
2. In addition, a few errors by John Pietras have been found and documented in AOS and TM.
3. Interface between Packet Processing and Virtual Channel Generation Function has been examined but still needs further checking by the WG.

2.4 Greg Kazz (NASA/JPL) - Changes to AOS/TM/TC due to SDLS rqmts to be sync with SDLS approved changes.

* ESA and SLP WG propose to isolate SDLS in a specific chapter of SLP books so as to minimize changes for those TM/TC/AOS users that do not need security on their space links. To be accomplished by adding a new chapter to these SLP books: chapter 6 – Protocol specification with SDLS option. This chapter 6 will specify (and be the controlling document) the ordering of the fields in the transfer frame specifying where the Security Header and Trailer should be inserted.

2.5 Ed Greenberg/Greg Kazz (NASA/JPL) – NASA proposal for a singular all encompassing CCSDS Link Layer protocol.

Ed Greenberg is currently writing a CCSDS White book that defines the new “CCSDS Common Space Data Link Layer protocol”. This book will be made available for review and discussion prior to the Spring 2013 meeting.

**3. SLP Projects in the CCSDS Framework**

The current projects defined for SLS-SLP WG are:

1. Update to the Prox-1 Green book Issue 2
2. 5-year Review of the CCSDS Prox-1 Space Data Link Protocol
3. Update of Overview of Space Communications Protocols Green Book (\*\* Added post meeting due to SDLS requirements \*\*)
4. 5-year Review of AOS Space Data Link Protocol + SDSL Rqmt – added after the Darmstadt meeting
5. 5-year Review of TM Space Data Link Protocol + SDSL Rqmt - Rqmt – added after the Darmstadt meeting

Note: Need to issue a Pink sheet to TC Space Data Link Protocol to add rqmt to use SDLS protocol (optional) and clarify frame length field when SDLS used. Last update to TC Space Data Link Protocol was 2010. Therefore a new project will be added to the frame work to address the TC Space Data Link protocol similar to AOS and TM.

**4. Resolutions**

There were no resolutions passed at this meeting by the SLP WG

**5. Planning**

The next SLP WG meeting is tentatively planned for Tuesday during the week of Apr. 15 – Apr. 18, 2013 in Bordeaux, France at the Aerocampus Aquitaine. Please see the following URL: http://www.aerocampus-aquitaine.com/en/

**Annex 1 - List of Participants-Space Link Protocols (SLP)**

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| |  |  | | --- | --- | | [Calzolari](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=451&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) |  | | Gian Paolo | [gian.paolo.calzolari@esa.int](mailto:gian.paolo.calzolari@esa.int) | Italian |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [Cosby](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=598&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) |  | | Matthew | [mcosby@qinetiq.com](mailto:mcosby@qinetiq.com) | British |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [Enrich](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=610&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) |  | | Xavier | [Xavier.Enrich@esa.int](mailto:Xavier.Enrich@esa.int) | Spanish |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [Gannett](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=585&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) | http://cwe.ccsds.org/_layouts/images/blank.gif | | Thomas | [tomg@aiaa.org](mailto:tomg@aiaa.org) | USA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [Greenberg](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=550&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) | http://cwe.ccsds.org/_layouts/images/blank.gif | | Edward | [egreenberg@jpl.nasa.gov](mailto:egreenberg@jpl.nasa.gov) | USA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| |  |  | | --- | --- | | [Huang](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=572&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) | http://cwe.ccsds.org/_layouts/images/blank.gif | | Wei | [huangwei@bittt.cn](mailto:huangwei@bittt.cn) | Chinese |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  | | --- | --- | | [Kazz](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=452&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) | http://cwe.ccsds.org/_layouts/images/blank.gif | | Greg | [greg.j.kazz@jpl.nasa.gov](mailto:greg.j.kazz@jpl.nasa.gov) | USA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  | | --- | --- | | [Osborne](http://cwe.ccsds.org/fm/_layouts/listform.aspx?PageType=4&ListId=%7BE9C33EC0-7878-4DFD-B4FB-ED525E4588CA%7D&ID=602&ContentTypeID=0x0100B5E0FB69501D684499E5CD4D3CFCC809" \t "_self) | http://cwe.ccsds.org/_layouts/images/blank.gif | | Kenneth | [kenneth.osborne@gdc4s.com](mailto:kenneth.osborne@gdc4s.com) | USA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Annex 2 – SLP WG Chairman’s report to SLS area director – given October 19, 2012 to CESG**





