**CCSDS 2013 Fall MEETING**

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

**Draft Minutes of the Meeting – October 29, 2013**

**1. Action item list**

* 1. Gilles Moury - generate a RID against CCSDS 232.0-B-2 TC Space Data Link Protocol to explicitly make 6.4.7.1 a requirement in TC (only one VC shall share a SA when using TC).
  2. Greg Kazz - action on the working group chair to ensure that AOS, TM, TC pink sheets are ready to be published by the CCSDS secretariat in the Fall 2014 CCSDS meeting time frame. All coordination with SDLS WG will need to be finalized beforehand.

**2. Topics Covered**

2.1 Status of TM, TC, AOS Space Link Protocols Agency Review currently on-going

* We briefly reviewed the current TM, TC, and AOS pink sheets and polled the WG to inquire if there were any other changes required from the SLP WG point of view to these documents. Gilles Moury pointed out an issue with the existing section 6.4.7.1which was not written as a requirement that only one VC shall share a SA when TC is used. Gilles took the action to write a RID against CCSDS 232.0-B-2 TC Space Data Link Protocol to add this explicitly as a requirement.
* Regarding the coordination needed between SLP WG and SDLS WG to ensure that these three link layer documents and the emerging SDLS protocol are harmonized, the WG anticipates that by June 2014 prototyping of SDLS by the SDLS WG will have concluded. By the Fall 2014 meeting, the SDLS WG chair anticipates publication of the SDLS blue book at which time also these 3 link layer documents would also be published.

2.2 Technical Corrigendums to AOS and SPP blue books

* There was one Technical Corrigendum written against the Space Packet Protocol (SPP) concerning the wording of sequence count progression for Idle packets. The current statement about Idle packets and their associated sequence counter is not a paragraph number and therefore is not a requirement in the blue book. The WG decided to replace that statement with paragraph number 4.1.2.4.3.5 *The Packet Sequence Counter should not be incremented for Idle Packets.*
* There were three Technical Corrigendums requested against AOS Space Data Link Protocol. Two of the three were simple document references that were provided to Tom Gannett to fix. The last proposed change focused upon AOS Section 4.2.2.5 i.e., “The Packet Processing Function may generate ‘idle’ data in the absence of sufficient Packets supplied from the users at release time. The mechanism for generating idle data shall be to create an Idle Packet of appropriate length defined by reference …”. The proposed change focused upon softening this statement as a “may statement” which the SLP WG rejected because it is a requirement to use Idle data in this case. In addition, the current wording doesn’t conflict with the goal of keeping the terms Idle Packet and Idle data distinct.

2.3 Status of Overview of Space Communications Protocols Green Book

* In the Tom Gannett’s processing queue at the moment

2.4 Rob Andzik’s report on AMERGINT Technologies use of CCSDS TM and AOS Space Link Protocols

* Rob presented “A communications Data Processor for ISS Ground Systems Using Standards and Software-based Architectures”. Rob’s presentation is on the SLP CWE in the filename: GSAW 2013 Andzik under [**http://tinyurl.com/k2p9x7p**](http://tinyurl.com/k2p9x7p)

2.5 SLP WG Proposed Project: Update TM, AOS, TC, Prox-1 into a common next generation Space Link Layer protocol for future missions, the Next Generation Space Link Protocol (NGSLP)

Ed Greenberg presented the updated (from the last meeting in Bordeaux) NASA proposal for a unified data link layer protocol for future missions. The new protocol can be used for both emergency communications as well as very high data rate missions. It also accommodates the use of multiple Security Associations per a given Virtual Channel since it introduces the concept of a Virtual Channel Sub\_channel or VCS. The material presented was not cast in stone. Clearly it is not the end solution, but it provides a starting point from which further interaction with related WGs (CSTS, SM, C&S, SDLS) to ensure that a comprehensive design will be achieved. This work was well received by the SLP WG from both a timely issue as well as technically sound. The question of where it might apply was brought up. The consensus was that this protocol or at least parts of it would best apply to the emerging optical comm standardization and to future space security needs. In addition, the SLP WG generated a list of capabilities that this new NGSLP accomplishes which no existing link protocol can currently do. This list contains items such as extending the SCID field which would benefit CCSDS in general. This list along with the rational is captured in the CWE in the filename: Raison d’etre plus under the following URL: [**http://tinyurl.com/k2p9x7p**](http://tinyurl.com/k2p9x7p)

**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 (will be closed after this meeting)
2. 5-year Review of the CCSDS Prox-1 Space Data Link Protocol (will be closed after this meeting)
3. Update of Overview of Space Communications Protocols Green Book (still pending and awaiting secretariat processing)
4. 5-year Review of AOS Space Data Link Protocol + SDSL Rqmt – added after the Darmstadt meeting (still pending awaiting issue of SDLS book with AOS, TM, TC book changes)

Future project defined for SLS-SLP WG is:

1. The Next Generation Space Link Protocol (NGSLP)

The SLP WG proposed to the SLS AD, that a new project be started immediately towards the formulation of a Next Generation Space Link Protocol Blue Book. Agencies in favor of this development are NASA, DLR, UK Space Agency. During the SLP WG meeting, there were no remarks against the SLP WG going forward with this proposal from any other agency. In general, agencies would like to see this work move forward. The only real issue was one of timing from the CESG point of view. The issue of schedule is currently under discussion within SLP WG and the management council.

**4. Resolutions**

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

**5. Planning**

The next SLP WG meeting is planned for Tuesday during the week of March 31 – April 4, 2014 in Noordwijkerhoot, the Netherlands. Please check the meetings tab under [www.ccsds.org](http://www.ccsds.org) for updates.

**Annex 1 - List of Participants-Space Link Protocols (SLP) – 12 participants**

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**Annex 2 – SLP WG Chairman’s report to SLS area director – on Oct. 31, 2013**





