

Change Log:

1. Section 5.2
2. Section 5.3
3. Table 3-2 “Services provided by the space data link protocols”

CCSDS 130.2-G-2 CCSDS REPORT CONCERNING THE SPACE DATA LINK PROTOCOLS

## 5 FREQUENTLY ASKED QUESTIONS ON THE SPACE DATA LINK PROTOCOLS

The current text provides the following answer in Section 5.2 which is out-of-date and soon to be misleading once SDLS protocol is released by the Secretariat. Note: It is the only reference to Security in this GB.

**Change 1:** 5.2 ARE THE SPACE DATA LINK PROTOCOLS SECURE PROTOCOLS?

FROM:

No. Either the SDUs carried by these protocols or the entire Protocol Data Units generated by these protocols may be encrypted, but how it should be performed is not specified by these protocols. See reference [17] for how security may be implemented with these protocols.

I recommend we replace this answer with the following proposed changed text in RED which provides the general reference to the SDLS protocol and will reference all of the currently associated CCSDS green books on Security related issues.

TO:

The CCSDS TC [1], TM [2], and AOS [3] Space Data Link Layer Protocols have provision for inserting secured user data into a transfer frame using the CCSDS Space Data Link Security (SDLS) Protocol [reference X]. However, there have been no security requirements to date established for Proximity-1. The SDLS protocol can provide security services, such as authentication, encryption, and authenticated encryption for TM Transfer Frames, AOS Transfer Frames, and/or TC Transfer Frames. Note that the use of the SDLS function within these protocols is optional. See references [Y-Z] for how security may be implemented with these protocols.

Add the following additional reference documents to CCSDS 130.2-G-2:

- Space Data Link Security Protocol CCSDS 355.0
- *Security Threats against Space Missions. CCSDS 350.1-G-1*
- *Encryption Algorithm Trade Survey. CCSDS 350.2-G-1*

- *Authentication/Integrity Algorithm Issues Survey. CCSDS 350.3-G-1*
- *CCSDS Guide for Secure System Interconnection. CCSDS 350.4-G-1*
- *Space Missions Key Management Concept. CCSDS 350.6-G-1*
- *Security Guide for Mission Planners. CCSDS 350.7-G-1*
- *Information Security Glossary of Terms. CCSDS 350.8-G-1*

**NOTE:** *Security Threats against Space Missions. CCSDS 350.0-G-1 is already in the reference list [17].*

Change 2: 5.3 IS THERE A STANDARD METHOD FOR MANAGING PARAMETERS SUCH AS (TM AND AOS) TRANSFER FRAME LENGTHS?

FROM:

CCSDS is developing a standard method for managing such parameters as part of the Space Link Extension Service Management Recommended Standard. Please check the CCSDS web site for information on its development.

TO:

CCSDS Data Link Layer parameters and values are managed by the CCSDS Space Assigned Numbers Authority (SANA). SANA maintains a series of registries, one per managed parameter, which contains the parameter format, values, and applicable protocol where the parameter is used. See <http://sanaregistry.org>

Change 3: The Table 3-2 called “Services Provided by the Space Data Link Protocols” must be identical to table 3-1, called “Summary of Services Provided by Space Data Link Protocols” in the Overview of Space Communications Protocol (OSCP) GB. Since we updated OSCP very recently, simply take the table from there.