REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-NP-1

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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REVIEWER'S NAME: Nestor Peccia

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DOCUMENT NUMBER: CCSDS 901.1-R-1 Red Book, Issue 1

DOCUMENT NAME: SCCS Architecture Requirements Document

DATE ISSUED: October 2014

PAGE NUMBER: PARAGRAPH NUMBER: Table 6-1

RID SHORT TITLE: Referenced Communications Protocols

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DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To "..." format)

Table 6-1: Referenced Communications Protocols

The column heading “Physical Link Type” is very unfortunate and misleading (e.g. wrt Physical layer).

It is suggested to rename it.

------------------------------------------------------------------

CATEGORY OF REQUESTED CHANGE:

Technical Fact \_\_\_ Recommended X Editorial \_\_\_

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

render the Recommendation inaccurate and unacceptable if not

corrected. (Supporting analysis/rationale is essential.)

RECOMMENDED: Change of a nature that would, if incorporated, produce

a marked improvement in document quality and acceptance.

EDITORIAL: Typographical or other factual error needing correction.

(This type of change will be made without feedback to submitter.)

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SUPPORTING ANALYSIS:

The term physical is mostly associated to physical layer

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DISPOSITION: ***Accepted. Change from “Physical Link type” to “Comm Link Type”.***

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-NP-2

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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REVIEWER'S NAME: Nestor Peccia

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DOCUMENT NUMBER: CCSDS 901.1-R-1 Red Book, Issue 1

DOCUMENT NAME: SCCS Architecture Requirements Document

DATE ISSUED: October 2014

PAGE NUMBER: PARAGRAPH NUMBER: Table 6-6 & 6-7

RID SHORT TITLE: Required and Optional ABA Earth User Node Protocols

& Required and Optional ABA Space User Node Protocols

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DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To "..." format)

Table 6-6: Required and Optional ABA Earth User Node Protocols

The line “SPP, CFDP, or AMS” shall be removed.

The 3 protocols are not at the same level. EP is missing. Other protocols can be carried by the Encapsulation Service (with either Space or Encapsulation Packets)

- T**he same applies to** Table 6-7: Required and Optional ABA Space User Node Protocols.

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CATEGORY OF REQUESTED CHANGE:

Technical Fact X Recommended \_\_\_ Editorial \_\_\_

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

render the Recommendation inaccurate and unacceptable if not

corrected. (Supporting analysis/rationale is essential.)

RECOMMENDED: Change of a nature that would, if incorporated, produce

a marked improvement in document quality and acceptance.

EDITORIAL: Typographical or other factual error needing correction.

(This type of change will be made without feedback to submitter.)

------------------------------------------------------------------

SUPPORTING ANALYSIS:

The 3 protocols are not at the same level. EP is missing. Other protocols can be carried by the Encapsulation Service (with either Space or Encapsulation Packets)

------------------------------------------------------------------

DISPOSITION: ***Accept with modifications. Add EP to the list. All of these are existing, fully interoperable, application layer data transfer specs, and they are all marked “opt”.***

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-NP-3

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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REVIEWER'S NAME: Nestor Peccia

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DOCUMENT NUMBER: CCSDS 901.1-R-1 Red Book, Issue 1

DOCUMENT NAME: SCCS Architecture Requirements Document

DATE ISSUED: October 2014

PAGE NUMBER: 6-21 PARAGRAPH NUMBER: 6.2.2.4.12

& 6.2.2.6.6 & 6.2.2.6.10

RID SHORT TITLE: Mentioning (only) AMS is misleading.

------------------------------------------------------------------

DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To "..." format)

**Current formulation:**

6.2.2.4.12 ABA Earth User Nodes may send other application data forms by implementing a forward and return communication protocol stack with application protocols such as AMS (reference [61]) (or other), and either SPP or EP encapsulation, over the space link (similar to figure 6-11b).

Mentioning (only) AMS is misleading.

Moreover, as described in current books, AMS cannot go over Encapsulation Service directly but rather over TCP/IP, BP/LTP, SOIS/SpaceWire, (see e.g. http://public.ccsds.org/publications/archive/735x1b1.pdf and figures 2-10, 2-14, 2-15 and also Figure 6-27b of this red book).

Moreover figure 6-11b does not mention AMS so the clause should be generic for application protocols.

**Suggest rewording to**

6.2.2.4.12 ABA Earth User Nodes may send other application data forms by implementing a forward and return communication protocol stack with application protocols, and either SPP or EP encapsulation, over the space link (similar to figure 6-11b).

NOTE - T**he same applies to** clauses 6.2.2.6.6 and 6.2.2.6.10 etc (i.e. where the text “application protocols such as AMS (reference [61]) (or other)” is used)

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CATEGORY OF REQUESTED CHANGE:

Technical Fact X Recommended \_\_\_ Editorial \_\_\_

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

render the Recommendation inaccurate and unacceptable if not

corrected. (Supporting analysis/rationale is essential.)

RECOMMENDED: Change of a nature that would, if incorporated, produce

a marked improvement in document quality and acceptance.

EDITORIAL: Typographical or other factual error needing correction.

(This type of change will be made without feedback to submitter.)

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SUPPORTING ANALYSIS:

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DISPOSITION: ***Accept with modifications. Add reference to “such as CFDP or AMS”. These are examples “such as … (or other)” and both of these are existing, fully interoperable, application layer data transfer specs, and the operating word is “should”, not “shall” or “must”. Either AMS or CFDP can run directly over ENCAP. There are no figures 2-10, 2-11, or 2-14.***

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-NP-4

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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REVIEWER'S NAME: Nestor Peccia

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DOCUMENT NUMBER: CCSDS 901.1-R-1 Red Book, Issue 1

DOCUMENT NAME: SCCS Architecture Requirements Document

DATE ISSUED: October 2014

PAGE NUMBER: 1-14 PARAGRAPH NUMBER: 1.7 REFERENCES

RID SHORT TITLE: Orange Books are not standards

------------------------------------------------------------------

DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To "..." format)

1) Delete document [30] from section 1.7

[30] Space Link Extension—Enhanced Forward CLTU Service Specification. Issue 1. Research and Development for Space Data System Standards (Orange Book), CCSDS 912.11-O-1. Washington, D.C.: CCSDS, July 2012.

2) Remove reference [30] from all clauses mentioning it and adapt text accordingly as required.

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CATEGORY OF REQUESTED CHANGE:

Technical Fact X Recommended \_\_\_ Editorial \_\_\_

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

render the Recommendation inaccurate and unacceptable if not

corrected. (Supporting analysis/rationale is essential.)

RECOMMENDED: Change of a nature that would, if incorporated, produce

a marked improvement in document quality and acceptance.

EDITORIAL: Typographical or other factual error needing correction.

(This type of change will be made without feedback to submitter.)

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SUPPORTING ANALYSIS:

As per CCSDS rules, CCSDS Experimental Specification (Orange Books) indicates that it is part of a research or development effort based on prospective requirements, and as such it is not considered a Standards Track document.

Therefore a Blue/Magenta book cannot include an Orange Book as NORMATIVE REFERENCE and cannot include clauses based on Orange Books.

------------------------------------------------------------------

DISPOSITION: ***Accept with modifications. In the present set of SLE service interfaces CCSDS has not yet developed a standard means for accommodating users who wish to use AOS link layer protocols. This is supported by the AOS standard itself [13], but not by SLE. At the same time there are users who require AOS forward and return services to meet their high data rate requirements and EF-CLTU has been provided to meet that need.***

***In most places where this standard appears it has been marked at [Opt]. Agree to change every reference to [30] to indicate [Opt] and to add a note to the references stating that this is temporary and is to be replaced by F-Frame [33] when it is finalized.***

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-MM-1

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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DOCUMENT NUMBER: CCSDS 901.1-R-1 Red Book, Issue 1

DOCUMENT NAME: SCCS Architecture Requirements Document

DATE ISSUED: October 2014

PAGE NUMBER: General PARAGRAPH NUMBER: General

RID SHORT TITLE: Relationship to Other CCSDS Standards

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DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To "..." format)

Despite the document clearly states that the document “define[s] a set of requirements for CCSDS-recommended configurations for secure Space Communications Cross Support (SCCS) architectures”, it would be beneficial to give the reader the “full picture” by clarifying how this architecture is compatible to other standards that are being developed by CCSDS, namely MO Services and SOIS. This could be achieved, for example, by adding a new dedicated section in chapter 2.

------------------------------------------------------------------

CATEGORY OF REQUESTED CHANGE:

Technical Fact \_\_ Recommended \_X\_ Editorial \_\_\_

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

render the Recommendation inaccurate and unacceptable if not

corrected. (Supporting analysis/rationale is essential.)

RECOMMENDED: Change of a nature that would, if incorporated, produce

a marked improvement in document quality and acceptance.

EDITORIAL: Typographical or other factual error needing correction.

(This type of change will be made without feedback to submitter.)

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SUPPORTING ANALYSIS:

See above.

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DISPOSITION: ***Accept. Add a paragraph to Sec 2.4 describing the relationship to other CCSDS application layer documents such as SM&C and SOIS. Indicate that these applications functions, and any other mission or agency specific applications, are all treated uniformly as “applications functions”. Add note that a separate reference architecture is proposed to be developed for these application functions that primarily run in the Earth and Space User nodes.***