AGENCY RID NUMBER: ESA-FF-26

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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DOCUMENT NUMBER: CCSDS 734.2-P-1.1 Pink Book, Issue 1.1

DOCUMENT NAME: CCSDS Bundle Protocol Specification

DATE ISSUED: April 2023

PAGE NUMBER: B2-B3 PARAGRAPH NUMBER: B2.1.4 – B2.1.6

RID SHORT TITLE: CLA Description Service Interface

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

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

For LTP, SPP and EPP the description of the Convergence Layer Adapters in Annex B shall make use of the respective service interfaces of those protocols.

Also, the current description seems to be not covering specific aspects of some of these protocols, eg the use of secondary headers in SPP.

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

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.)

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

SUPPORTING ANALYSIS:

CCSDS protocols define service interfaces which should make it easier to clearly describe how a certain protocol will be used.

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

DISPOSITION:

Annex B 2.1.4 (LTP), B 2.1.5 (SPP), B 2.1.6 (EPP) will be updated to define the CLA’s usage of the underlying CCSDS via its service interface (requests and indications). This will not change the proposed encapsulation of bundles as SDU in PDU of the underlying protocols but may clarify the use of some of the available options.

AGENCY RID NUMBER: ESA-FF-27

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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DOCUMENT NUMBER: CCSDS 734.2-P-1.1 Pink Book, Issue 1.1

DOCUMENT NAME: CCSDS Bundle Protocol Specification

DATE ISSUED: April 2023

PAGE NUMBER: B-3 PARAGRAPH NUMBER: B2.1.4.5

RID SHORT TITLE: Unreliable LTP and BP

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

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

FROM:

B2.1.4.5 UNRELIABLE TRANSMISSION VIA LTP

For unreliable bundle transmission, bundles shall be encapsulated into LTP blocks containing only green-part (unreliable) data.

TO:

DELETE + add:

NOTE – Encapsulation of bundles in LTP green-data is not supported by this specification as the services provided by LTP does not allow to guarantee the delivery of only complete bundles to the BPA if green LTP is used unless some additional capabilities to extract only complete bundles from a stream of data which may contain losses is implemented.

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

CATEGORY OF REQUESTED CHANGE:

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

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

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EDITORIAL: Typographical or other factual error needing correction.

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

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

SUPPORTING ANALYSIS:

See proposed note

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

DISPOSITION:

The title of B2.1.4 shall be changed to ‘Reliable LTP Convergence Layer Adapter’. Use of unreliable LTP will not be specified in the blue book. A note will be added to explain that use of unreliable LTP is possible in principle but requires additional processing and (attempted) parsing of BP bundles within the CLA.

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-FF-28

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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DOCUMENT NUMBER: CCSDS 734.2-P-1.1 Pink Book, Issue 1.1

DOCUMENT NAME: CCSDS Bundle Protocol Specification

DATE ISSUED: April 2023

PAGE NUMBER: 4-3 PARAGRAPH NUMBER: 4.3.9

RID SHORT TITLE: Application Data Unit Parameter

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

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

FROM:

4.3.9 APPLICATION DATA UNIT PARAMETER

The application data unit parameter shall indicate the location (in memory or non-volatile

storage, a local implementation matter) of the application data conveyed by the bundle.

TO: 4.3.9 APPLICATION DATA UNIT PARAMETER

The application data unit parameter shall indicate the application data unit to be conveyed by the bundle.

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

CATEGORY OF REQUESTED CHANGE:

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

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

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EDITORIAL: Typographical or other factual error needing correction.

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

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

SUPPORTING ANALYSIS:

Whether a location or the data itself is passed is an implementation matter.

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

DISPOSITION:

Agreed.

REVIEW ITEM DISPOSITION (RID):

RED BOOK RID INITIATION FORM

AGENCY RID NUMBER: ESA-FF-29

SUBMITTING ORGANIZATION (Agency, Center): ESA, ESOC

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DOCUMENT NUMBER: CCSDS 734.2-P-1.1 Pink Book, Issue 1.1

DOCUMENT NAME: CCSDS Bundle Protocol Specification

DATE ISSUED: April 2023

PAGE NUMBER: 4-3 PARAGRAPH NUMBER: 4.3.13

RID SHORT TITLE: Bundle Delivery Metadata

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

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

FROM:

4.3.13 BUNDLE DELIVERY METADATA

The Bundle Delivery Metadata parameter shall uniquely identify the delivered bundle and

shall at minimum indicate the delivered bundle’s remaining time to live and the time the

bundle was received.

TO:

4.3.13 BUNDLE DELIVERY METADATA

The Bundle Delivery Metadata parameter shall uniquely identify the delivered bundle by providing the source node ID and the bundle’s creation timestamp and shall at minimum indicate the bundle’s processing control flags, the destination endpoint ID and delivered bundle’s remaining time to live and the time the bundle was received.

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

CATEGORY OF REQUESTED CHANGE:

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

NOTES:

TECHNICAL FACT: Major technical change of sufficient magnitude as to

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

SUPPORTING ANALYSIS:

* Clarify that the bundles is identified by source node ID + creation time stamp
* Bundle processing control flags seem required because of the acknowledgement by application flag which may be set
* It seems useful to include destination eId as an application may be listening on different eID (I think)

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

DISPOSITION:

4.3.10 BUNDLE SEND REQUEST ID parameter shall be renamed to BUNDLE ID.

(The missing BundleSendRequest.indication will be added and provide this parameter.)

The semantics of the BundleDelivery.indication will be changed to

BundleDelivery.indication (bundle ID, bundle delivery metadata, application data unit)

4.3.13 BUNDLE DELIVERY METADATA shall be changed to:

4.3.13 BUNDLE DELIVERY METADATA

The Bundle Delivery Metadata parameter shall at minimum indicate the bundle’s processing control flags, the destination endpoint ID, delivered bundle’s remaining time to live and the time the bundle was received.