My vote for CESG-P-2014-09-001 Approval to release CCSDS 727.0-P-4.1, CCSDS File Delivery Protocol (CFDP) (Pink Book, Issue 4.1) for CCSDS Agency review

Gian Paolo Calzolari   to: Keith Scott   01/10/2014 17:34

Cc: "Tom Gannett"

From:	Gian Paolo Calzolari/esoc/ESA
To:	"Keith Scott " <kscott@mitre.org>,
Cc:	"Tom Gannett" <tomg@aiaa.org>

Dear Keith,

Please note that I am going to vote APPROVE WITH CONDITIONS as per attached remarks.

regards

Gian Paolo

I am somehow concerned by the huge amount of changes that could introduce serious issues for backward compatibility or easy updating of existing implementations.
This is applicable specially to modified fields in PDUs.
However this is likely to be addressed by individual agencies at review time.

Conversely the following conditions (with the exceptions of those marked "Editorial correction") shall be addressed before proceeding with next step.

1) DOCUMENT CONTROL
Please include (possibly under document control) a high level description of the type of changes performed.
In particular clarify clearly whether section STORE AND FORWARD OVERLAY OPERATIONS has been just moved to Annex B or whether there are also changes with respect to issue 4 of the Blue Book.

2) Page 1-8 of the ToC
Annex B is indicated starting on page 8-1. Editorial correction needed.

3) ANNEX B Page Numbering
Annex B page numbers start from 8-1. Editorial correction needed.

4) 7.1 DEFINED CLASSES
Class 1A is not really a new class but a subset of Class 1.
Actually the new approach simply makes a distinction between two cases of class 1.
i) Please reject the additions in section 7.1 and retain the first two bullets of the list (i.e. a and b).

ii) Check if [C4] contains also diagrams and table for Unreliable Transfer over duplex paths. If NOT, amend the note accordingly.

iii) Identify Unreliable Transfer over simplex paths AND Unreliable Transfer over duplex paths as two cases (sub classes) of class 1.

iv) Include in this section the explanation that "Unacknowledged mode procedures may be exercised over simplex transmission paths unless the transaction closure option is invoked, in which case duplex transmission paths are required."

Note that next comments still refers to Classes 1 and 1A but I assume this will change to e.g. Class 1 Simplex and Class 1 Duplex.

5) 7.3.1 PROCEDURES FOR CLASS 1A—SOURCE

I could not see any difference wrt to Simplex. Therefore the table shall be removed and text changed to: For Class 1A functionality, the source CFDP entity shall use the procedures specified in table 7-1.
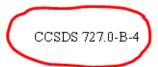
Caption for Table 7-1 should be changed to: **Table 7-1: Class 1 and 1A Source Procedures**
In general a duplicated table is useless and confusing.

6) 7.3.1 PROCEDURES FOR CLASS 1A—SOURCE / Marked changes

Marked changes are incorrect. Please fix.

Table 7-1: Class 1 Source Procedures

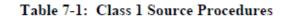| Procedure	Subsection	Notes
CRC Procedures at the PDU Transmitting Entity	4.1.1.1	
CRC Validation Procedure	4.1.1.3	
Checksum Procedures	4.1.2	
Put Procedures	4.1.3	
Transaction Start Notification Procedure	4.1.4	
PDU Forwarding Procedures	4.1.5	Applicable to Metadata, File Data and EOF PDUs only.
Copy File Procedures at the Sending Entity	4.1.6.1.1	
Unacknowledged Mode Procedures at the Sending Entity	4.1.6.3.1	
Resume Procedures	4.1.6.7	Procedures applicable to the sending entity in unacknowledged mode.
Report Procedures	4.1.6.8	
Fault Handling Procedures	4.1.8	Issuance of Notice of Cancellation is basic interoperable action.
Filestore Procedures	4.1.9	Only procedures applicable to the sending entity.
Internal Procedures	4.1.11	Procedures applicable to the sending entity in unacknowledged mode.
Transmission Opportunity Procedures	4.1.12.2	

Table 7-1: Class 1 Source Procedures

Procedure	Subsection	Notes
CRC Procedures at the PDU Transmitting Entity	4.1.1.1	
CRC Validation Procedure	4.1.1.3	
Checksum Procedures	4.1.2	
Put Procedures	4.1.3	
Transaction Start Notification Procedure	4.1.4	
PDU Forwarding Procedures	4.1.5	Applicable to Metadata, File Data and EOF PDUs only.
Copy File Procedures at the Sending Entity	4.1.6.1.1	Transaction closure shall not be requested.
Transmisson Paths Unacknowledged mode procedures may be exercised over simplex transmission paths unless the transaction closure option is invoked, in which case duplex transmission paths are required. Unacknowledged Mode Procedures at the Sending Entity	4.1.6.3.1	

7) 7.3.2 PROCEDURES FOR CLASS 1A—DESTINATION

Include a NOTE to remark that the only difference wrt simplex are the Resume Procedures.

8) 7.3.3 EVENT DIAGRAM FOR CLASS 1A

As far as I could check, this is identical to 7.2.3 EVENT DIAGRAM FOR CLASS 1.

If this is correct, remove the figure and include a statement that the diagram for 7.2.3 EVENT DIAGRAM FOR CLASS 1 applies.

If this is correct (as I would guess since it applies to duplex paths and I would expected PDUs generated also from the Destination CFDP; e.g. Transaction Closure) include correct diagram.

In the table a difference wrt to Simplex are the Resume Procedures at Destination. As resume procedures are not shown in 7.4.3 EVENT DIAGRAM FOR CLASS 2, I guess they are not subject for these diagrams. Is this correct?

In general a duplicated diagram is useless and confusing.

9) ANNEX B

If section STORE AND FORWARD OVERLAY OPERATIONS has been just moved to Annex B, limit the indication of changes to title lines of the Annex and to section headings.

If that section has been modified in a few points, limit the indication of changes to title lines of the Annex and to section headings and to the real changes.

10) ANNEX E

Change from: the notes from page 4-2 are repeated here:

To: the notes from section 4.1.2 CHECKSUM PROCEDURES are repeated here:

OR to: the notes from section 4.1.2 are repeated here:

Editorial correction needed.

11) ANNEX E and section 4.1.2

I have the impression Note 2 actually applies only to the very last octets of the file, so it may be good to highlight it accordingly.