

CSS Area Virtual Plenary Summary

1. Attendees

E. Barkley, C. Ciocirlan, A. Crowson, W. Eddy, H. Dreihahn, F. Fentge, M. Gnat, C. Haddow, W. Hell, A. Kalkhof, H. Kelliher, C. Leclerc, J. Liao, R. Neutze, T. Pham, J. Pietra, M. Unal

2. Agenda

CSS Area Spring Virtual Plenary WebEx

Meeting Agenda

Wednesday, May 6,
2020

Start - PDT	Start - CET	Item
7:30 AM	4:30 PM	Intro, comments, WebEx gremlins, etc.
7:35 AM	4:35 PM	FRM MB -- Status, Project Initiation
7:55 AM	4:55 PM	FRM + SM SACP Book
8:25 AM	5:25 PM	SC-CSTS Concept, Project Initiation
8:50 AM	5:50 PM	Distributed CFDP
9:10 AM	6:10 PM	CSTS over BP
9:25 AM	6:25 PM	Wrap-up
9:30 AM	6:30 PM	Adjourn

3. Functional Resource Model (FRM) MB

- 1) J. Pietras gave a presentation addressing
 - a. updates since the last technote release (the technote serves as the basis/background leading into the functional resource model Magenta book)
 - b. an overview of functional resource set conductivity
 - c. the proposed approach for managing the content of the FRM MB, including registry reviews

- 2) Details are in presentation --
https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/FRM_MagentaBookUpdate-200502.pptx?Web=1
- 3) H. Dreihahn noted that a technote is available that addresses the functional resource model concepts and also the software for manipulating the functional resource model. See
https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/FRM_MODELLING_CONCEPTS.pdf

4. FRM and SACP (Service Agreement, Configuration Profile) Book

- 1) J. Pietras gave a presentation on the various options for leveraging the FRM re specifying configuration profiles. These include
 - a. Auto schema generation – specific schemas for exact combinations of FRs to achieve specific configuration profile instances
 - b. Data-flow class-based approach – classing and sub-classing based on FR service access points are used to guide schema construction – follow the “wiring” diagram
 - c. “Strata” class-based approach (in reference to the various layers or strata of the functional resource model) -- a more “relaxed” version of b above – schema generally indicates what are the possibilities at each level/stratum
 - d. “Cookie” cutter – the schema just states the parameters needed, extract from the FR configuration parameters)
 - e. See presentation for details:
<https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/ReconcilingFRMandConfigProfiles-200506.pptx?Web=1>
- 2) C. Haddow noted that a splinter session for further discussion has been arranged for Thursday, May 14

5. SC-CSTS Concept

- 1) E. Barkley walked through concept write-up
- 2) Generally seemed to be okay
- 3) E. Barkley agreed to clean up the concept paper and send to H. Dreihahn for review
- 4) Agreed that we can move to project initiation phase
- 5) For concept paper see
<https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/d0-SC-CSTS-OverallConcept-05May20.pdf>

6. Distributed CFDP

- 1) H. Dreihahn provided some background on the need and potential standard – a CSTS for Return CFDP PDUs
 - a. Essentially it has to do with CFDP (class 2 – directly on the link, not BP/DTN) running over high-speed space links that are an order or orders of magnitude faster than terrestrial links and in particular for missions having relatively short passes over multiple ground stations in fairly quick order -- this negates the ability to close the CFDP protocol at an ESLT (Earth Space Link Terminal in SCCS terminology – i.e. groundstation)

- 2) ESA has prototyped an approach to accomplish transfer the PDUs to close the loop given the reduced terrestrial bandwidth relative to the Spacelink and drafted a potential standard to address this
- 3) E. Barkley noted that the DSN has faced a similar situation and has a current local similar implementation based on SLE RAF/RCF books
- 4) noted that if DTN is implemented then this issue essentially goes away, assuming that CFDP is revised to run over BP/DTN
- 5) F. Fentge noted that this should be further discussed with the CFDP working group
 - a. E. Barkley noted that the CFDP revisions working group is coming to a close but agreed in principle
- 6) H. Dreihahn also presented some animation showing the operational scenario
- 7) draft/proposed standard is available at
https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/922x4r1-white_draft.docx?Web=1
- 8) animation is available at
<https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/DCFPD-DEMO.pptx?Web=1>

7. CSTS Over BP

- 1) E. Barkley provided a presentation on preliminary thoughts for MD- and TD-CSTS moving data over BP/DTN
 - a. Essentially some considerations for adopting/adapting MD- and TD-CSTS to fit with DTN network management/monitor and control
- 2) F. Fentge noted that there is a fair amount of work on going re DTN network management and suggested coordination with other bodies
 - a. E. Barkley concurred and noted further coordination with SIS Area will be good
- 3) J. Pietras noted that even if we end up not doing any adoption/adaptation for MD- and TD- CSTS the functional resource model could be very useful for DTN network management
 - a. this is in reference especially with regard to standardized monitor data
- 4) presentation is available at
[https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/Some%20\(extremely\)%20preliminary%20thoughts%20on%20MD-CSTS.pptx?Web=1](https://cwe.ccsds.org/css/docs/CSS%20Area/Meeting%20Materials/2020-05%20Spring/Some%20(extremely)%20preliminary%20thoughts%20on%20MD-CSTS.pptx?Web=1)

<end notes>