Summary of Spring 2018 CSSM Meetings, Gaithersburg, MD, USA

Terrestrial Generic File Transfer (TGFT): Security section approach identified in consultation with the Security Working Group Chair. Prototyping between CNES and CNSA is underway, with compeletion estimated by end of July. Anticipate candidate Red-1 book for agency review by Berlin meetings.

Planning Information Format (PIF): agreed to address the Mars relay and lunar use cases. First prototyping results from JPL look promising; prototyping between NASA and ESA subject of ESA resources – to be discussed at 1st post-Gaithersburg telecon. Candidate Red-1 book anticipated by Berlin meetings.

Service Management Utilization Format (SMURF): NASA SN use of “Time Windows” clarified and existing mechanism for inclusion of a similar capability identified. Semantics for deletion requests with regard to Service Package clarified. Minor update to support request of planning information for off-earth (Mars, Moon) uses cases identified. Prototyping underway between DLR and ESA. Anticipate candidate Red-1 book for agency review by Berlin meetings.

Service Package Data Formats (SPDF): NASA delivered first complete draft to WG. Internal WG review underway. Second draft anticipated by end of July. Subsequent determination for Red-1 candidacy will be determined at that time.

Joint Session NAV-WG: Presented work done on PIF. NAVWG agreed to continue to coordinate re NEM (Navigation Event Message) work they are doing. Reached joint agreement to register time systems in SANA rather than have an enumerated list in the abstract event definition.

Joint Session SIS-DTN: Presented CSS standards that may be of use in supporting DTN network management. In particular, this involved discussion of the Simple Schedule Format (SSF), the PIF, and MD CSTS -- in particular, the monitor data parameters registered in SANA as a result of work done on the Functional Resource Model.

Detailed Notes

1. TGFT -- Book Review + Prototype Coordination + Security Considerations
   1. Filename convention sorted out
      1. Application of CCSDS Time Code B to the file name is at time of transmission
   2. Prototype Progress
      1. CAST/CNES have established connection and basic exchange
      2. XFDU packaging and exchange is next; this is the main concern of the prototyping and is expected to be completed by the end of July
   3. Security Consideration
      1. in conversation with the security working group, identified the following scheme/ordering which will be included in the security considerations section:
         1. Sign
         2. Encrypt
2. Configuration Profile Technote
   1. Clarified the distinction between equipment and service level considerations
      1. The conversation arose as a result of agency internal considerations for the functional resource model
      2. it was agreed that this was not appropriate for CCSDS (service level) standardization
3. SMURF (Service Management Utilization Request format)
   1. Clarified the notion of "Time Windows" used by NASA’s SN
      1. Identied as request time constraint (not profile -- the ability to submit inclusion times separately is in fact an outgrowth of the current SN service management implementation and it is not required to operate this way for an international standard)
   2. Delete svc package request
      1. Clarified the semantics of the data format by addition of explicit indication as to whether or not pending service packages are to be considered for deletion
   3. Report Request
      1. Add filtering capability
         1. e.g., free time for named aperture only
4. PIF (Planning Information Format)
   1. Agreed to add Mars Relay and Lunar use cases
      1. Essentially the "inverse" of Eath use case
   2. Updates to SMURF also identified to support Mars Relay
   3. Prototyping underway -- initial conversion done at JPL and looking quite promising
5. Svc Pkg (Service Package)
   1. Agreed to remove schema as annex (actually for all books)
      1. To be placed in SANA
      2. However we will need an internal (to the working group) repository which will also be used for tracking UML models
   2. Svc Pkg respresentation in SMURF for replace service package request
      1. Agreed on re-use of schema extentions mechanism used in SSF but for CCSDS defined recommendations/schemas
6. Joint NAV WG session
   1. Presented PIF to Navigation WG
   2. Agreed to put time systems into SANA vs. enumeration in abstract event definition
7. Event Sequence
   1. Strawman proposal presented by NASA for structuring deemed okay
      1. Includes Mission (request) vs Provider (response) sequences
   2. Configuration Profile referencing for SMURF vs Event sequencing sorted out in principal
      1. Issue is to deal with carrier profiles inside a configuration profile with multiple carriers vs carrier profiles stated 1:1 re configuration profile(s)
         1. Exercise pending to validate approach
8. Joint Session re CSS Arechitecture
   1. Standards adoption profiles and ability for books to stand alone but also integrate noted
   2. Agreed that event sequence is at a different level than the Functional Resource Model (FRM)
      1. This is essentially Behavorial vs Structural model
      2. Exercise of mapping directive associated with the FRM to Event Sequence state tranistions was agreed to
   3. Noted that the SC-CSTS can be configured for restricted/limited set of directives (relative to the FRM)
      1. Restrictions may be applied at the Servcie Catalog, Service Agreement, or Configuration Profile levels
9. Service Catalog
   1. Pre-projec work is concluded
   2. Looking for potential book boss for project
   3. Re FRM, noted that here service specification (which is in addition to the FRM) enters the picture
      1. Also some elements of the FRM might be expressed at this (Service Catalolg) level
10. State Machines
    1. Not clear yet on scenarios and transitions
    2. Question of information entity expirations
    3. Agreed that deleted entities are still available for historical analysis
    4. Agreed to develop a state machine technote
       1. This may become and/or feed into a mangament services book (some day)
11. Configuration Profile
    1. Looked at two main alternatives for further development
       1. A) Specificiation of FRM manipulations allowed for subsequent implementations to use
       2. B) WG manipulates FRM and presents results for standardization
    2. Agreed to pursue approach whereby WG manipulates FRM + present result for standardization (rather than providing a standardard for users to manipulate the FRM directly)
       1. Results in a “loose-leaf binder” approach somewhat analgous to the SLS RFM recommendations (which is up to version 26 currently)
12. Joint DTN WG
    1. Identified and discussed Cross support service management standards likely to be applicable in support of DTN network management
13. Joint SANA/CSTS WG
    1. Identified various cleanup and modification for the sanaregistry that contains the cross support area functional resources. The goal is to make the registry more navigable/useful for people searching for information.
14. Telecon/Webex Scheduled for Spring 🡪 Fall ’18
    1. Dates are: 8-May, 22-May, 12-June, 10-July, 31-July, 28-August, 25-September