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title: DDWG Notes 2016-07-28

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July 28, 2016

Notes by Debra Kazden

Known Attendees:

M. Gordon, E. Guinness, S.Hardman, L. Huber, C. Isbell, R. Joyner, D. Kazden, S. McLaughlin, L.

Nagdimunov, L.Neakrase, A. Raugh and R. Simpson

Meeting Agenda and Summary

1) SCRs Under Discussion:

-- CCB-77: Augment Product Update with File Area Update - S.Hughes

   -- Open: under DDWG discussion

   -- has been TA'd

   -- 20141002: There is now a tiger to work Update in general that will start in a few months

   -- 20150519: Waiting for M.Gordon ?

   -- 20150922: DDWG discussion topic; SCR needs to be updated by Mitch

   -- 20160324: Mitch prefers to supersede this SCR and add new SCR

   (Not Discussed)

-- CCB-125: The bit mask attribute seems to be misplaced and possibly missing where needed (A.Raugh)

    -- 20150915: Open; needs DDWG discussion

    -- 20151008: Jordan to provide example label that uses bit mask

    -- 20160323: WG: J.Padams, R.Simpson, A.Raugh, R.Joyner

    -- 20160617: updates discussed by DDWG

    -- 20160621: Jordan waiting for feedback / comments; then will go back to DDWG

  (Not Discussed)

-- CCB-131: Missing constraint on Special Constants attributes (A.Raugh)

    -- 20150922: Open

    -- 20160223: under DDWG discussion

    -- 20160322: EN governance; will take lead

  (Not Discussed)

-- CCB-133: Special Constants class precludes the ability to specify multiple invalid/missing constants (J. Padams)

    -- 20151012: Open

    -- 20151021: Under DDWG review

    -- 20151022: WG -- Jordan, Steve and RJ; sent email to WG with proposed changes

    -- 20151105: Jordan -- special constants needs to be specified per "band" not per "axes"

    -- 20160706: email to Jordan asking about status / progress

  (Not Discussed)

-- CCB-138: Mismatch between context object types and values of type in Observing System Component class (A.Raugh)

    -- 20151202: Open; under DDWG review

    -- 20151203: WG: Anne, Steve, Dick, Jordan, and RJ

    -- 20160310: until someone volunteers to lead the effort -- on hold

  (Not Discussed)

-- CCB-142: Create Data Quality Flags to hold metadata on Quality Flags (E.Shaya)

    -- 20151229: Open;

    -- 20160126: Under DDWG review

-- 20160322: Ed didn't like Simpson's CCB-142 implementation

    -- Ed wants a lot of specifics embedded into XML

    -- Simpson trying to figure out how to make it 'simpler'

-- 20160323: Simpson generated presentation for DDWG review / comment

    -- tabled until next session (20160410)

-- 20160428: updates discussed by DDWG

    -- requires IMG & others expertise to carry forward

-- 20160505: discussed by DDWG; E.Shaya led discussion; 2 competing implementations

    -- address 2 issues:

        -- bang for buck in terms of worth doing

        -- implementation recommendation

    -- WG: Steve, Anne, Jordan & Chris, Lev

(Not Discussed)

-- CCB-149: Should PDS4 allow packed data? (E.Shaya)

    -- 20160309: Open & Under DDWG review

    -- 20160310: Sent email to E.Shaya asking that he upload his version of the IM for packet data to JIRA

        -- DDWG will review and provide comments

        -- PPI has volunteered to attempt to convert a PDS3 product using the Packed Data class

    -- 20160322: dependency on CCB-153; and vice-versa

    -- 20160428: sent email to J.Mafi for status on providing examples

    -- 20160706: sent email to J.Mafi for status on providing examples

    (Discussed CCB-153)

-- CCB-151: Bundle Member Entry and Internal Reference do not require either LID or LIDVID. (A.Raugh)

    -- 20160309: Open & Under DDWG review

    -- 20160322: EN governance; will take lead

    (Not Discussed)

-- CCB-153: SR Needs Additional Description of Packed Data Fields. (E.Shaya)

    -- 20160321: Open

    -- 20160322: dependency on CCB-149; and vice-versa

-- 20160728: Under DDWG discussion

(Discussed - On hold until PPI can participate in the discussion)

-- CCB-154: Promote a Mission Information class to Discipline Governance Level. (S.Hughes)

   -- 20160321: Open & Under DDWG review

   -- 20160428: updates discussed by DDWG

         -- formed WG: Steve, Anne, Jordan, Joe

   -- 20160512: emailed Steve asking if the WG had met and is SCR ready to go back to DDWG for

discussion?

   -- 20160615: emailed Steve asking if the WG had met to resolve issue

   (Not Discussed)

-- CCB-155: Need "Example Set" to include program test data. (A.Raugh)

   -- 20160323: came from discussion of CCB-144

   --20160323: Open; request to provide additional examples; to include 'test data'

   (Not Discussed)

-- CCB-156: Inconsistent Discipline Dictionary Technique for Local Internal Reference, et al. (A.Raugh)

   -- 20160418: Open

   -- 20160623: Under DDWG review

   (Discussed)

-- CCB-159: Bug fixes for Version 1.7.0.0. (J.Hughes)

   -- 20160426: Open & Under DDWG review

   (Not Discussed)

-- CCB-162: Move <md5 checksum> from Object Statistics to Array (R.Simpson)

   -- 20160622: Open & Under DDWG review

         -- emailed Steve to TA

   -- 20160629: TA'd; back to DDWG for discussion

   -- 20160630: C.Isbell & Jordan & Dick to resolve issue(s); then back to DDWG

   (Not Discussed)

-- CCB-163: Correct the Instrument.Type enumerated list (L.Huber)

   -- 20160622: Open & Under DDWG review

-- emailed Steve to TA

-- 20160629: TA'd; back to DDWG for discussion

-- 20160630: DDWG vote to push SCR to CCB; even though dissension / contention over results

(Brief Discussion)

-- CCB-164: Display Settings not required for images (A.Raugh)

-- 20160707: Open

-- 20160727: Under DDWG discussion

(Discussed)

Notice sent before the telecon in email from R. Joyner - July 27, 2016 See enclosures:

-- a list of the full topics under discussion by the DDWG CCB/SCR Statuses:

-- Exposing elements in the PDS4 Common XSD (S.Hughes)

-- Discussion on elements to be exposed

-- DDWG agreed to exposing elements in the PDS4 Common XSD in development version of IM

-- 20160607: Implemented and Released in development version of IM v1700

-- CCB-152: field format definition mismatch between IM and SR. (L.Nagdimunov)

-- 20160616: Ready; sent to CCB (as requires IM change)

-- 20160628: Queued_for_Implementation

-- Consent item PASSED: 5 YES (ATM, GEO, IPDA, PPI, RMS); 2 No comment (IMG, SBN)

-- CCB-163: Correct the Instrument.Type enumerated list (L.Huber)

-- Item PASSED: 4 YES (GEO, IMG, PPI, RMS); 3 NO (ATM, IPDA, SBN)

Note, the following updates to CCB-163 are to be implemented:

- The proposed enumerated values should be changed from upper case to the correct case as allowed by the IM.

- The slash character in the enumerated value "Radio/Radar" is invalid. The value should be changed to "Radio-Radar".

- The Document Writing Team should add a statement to the standards reference that the subtype for

each Instrument Type is defined and managed by the appropriate discipline node. They should note that subtype is a general concept that could be applied to other Types. The SR should be written clearly so that it only applies to subtypes of type "instrument".

This week's agenda will focus on the following topics.

(1) Please review and be prepared to discuss and possibly vote:

-- CCB-153: SR Needs Additional Description of Packed Data Fields. (E.Shaya)

   -- 20160321: Open

   -- 20160322: dependency on CCB-149; and vice-versa

   -- 20160728: Under DDWG discussion; please review SCR for possible vote

-- CCB-156: Inconsistent Discipline Dictionary Technique for Local Internal Reference, et al. (A.Raugh)

   -- 20160418: Open

   -- 20160623: Under DDWG review

   -- 20160706: form WG

-- CCB-164: Display Settings not required for images (A.Raugh)

   -- 20160727: Open & Under DDWG discussion

   -- 20160728: form WG

(2) Local Dictionaries (S.Hughes):

   -- Configuration management

   -- Consistency with the common dictionary

   -- Schema validation provenance

   -- Version identifiers

DDWG Telecon

People are having trouble getting on to the call again. Someone tried to check Web-ex to confirm the meeting. Some people just log-in without any problems, others dial in and some of them have lots of

problems. Maybe we need to create a whole new telecon. EN will try to get the number worked out.

There will be some repeats today because there was a small attendance last time - a few weeks ago.

CCB/SCR Statuses

Exposing elements in the PDS4 Common XSD The last time the DDWG agreed to let Steve put a prototype out. It was implemented and released in a development version. Want people to play with it and test it.

Question: Any Questions?
Answer: (Silence)

CCB-152 - field format definition mismatch between IM and SR See https://pds-jira.jpl.nasa.gov/browse/CCB-152

This was queued for implementation. Waiting for Steve to do something now. The Document Team is looking at incorporating it into the documents.

CCB-163 - Correct the Instrument.Type enumerated list See https://pds-jira.jpl.nasa.gov/browse/CCB-163

Barely passed, but it did pass. Being queued for implementation. Could show up in 1.7. It could happen. The important part is that the CCB said here are the changes - if you want to see them, read the agenda. (See above.)

Question: Could you explain the third one? Surprised this is going in the SR.
Answer: Agreement. Will push back on this. Makes more sense for the DPH. They always try to put everything in the SR.

Question: Any more questions?

Answered with Another Question: Thought it meant we need another SCR - that they wanted another for that?

Answer: Not disagreeing, but that's not what's in Tom Stein's notes. Could mention that to him.

Question: Are there any other issues? Steve's not here today.

Answer: (Silence)

CCB-153 - SR Needs Additional Description of Packed Data Fields See https://pds-jira.jpl.nasa.gov/browse/CCB-153

There's been quite a bit of email with Ed Shaya and RS on this. Wanted to bring it back - see where we are - if people are on the same page. The SCR has very explicit wording for the SR.

Question: Is there still an interest in seeing this documented further?

Answer: Someone would rather see it in the DPH, but by default all of them are MSB - so would like to throw this out.

~ That would make sense.

~ Nothing precludes packed bits from being LSB.

~ Yeah, actually there is. Integers have a byte order. (More about strings etc.)

Someone has been writing code for six months to make things work for MSB or LSB - reading it in as bytes is the way to go. Input and output one byte at a time.

Question: Can anyone speak for Ed Shaya?

Answer: Not comfortable doing that.

~ Let's vote anyway. Want to know if there's some endorsement for working on this.

~ Would rather ask if we want packed data in PDS.

~ We will get it from the DSNs.

~ Yes, but not sure we want them. Not sure we are doing future users any favours.

Question: Do we really want to incur the maintenance and expense in archiving packed data?

Answer: Someone believes the current user community uses it in this format, so maybe more appropriate to preserve it as product native, even though the data volume becomes very large.

~ Someone has been trying to convert - the files are very large - want to preserve the original file. Thinks product native would work.

~ Would also have to provide a reasonable description of how how the data is stored.

~ SISs do that.

Question: So, packed data would be archived as product native and point to SIS and also archive it unpacked?

Answer: Could be years before there's a tool to do the conversions. DPs won't want to do it.

Another Question: Who's submitting it that isn't grandfathered in?

Answer: Juno, InSight, OSIRIS REx.

~ Juno is PDS3 - being migrated. InSight has it.

Question: So data capacity and effort of converting is being put on DPs. Increased storage required. In the big picture - is this the big deal or is the bigger issue having to convert?

Answer: Having to convert. Would need 64 bit machine to do it.

~ Seems like the DP is the right person to do it. 64 bit hardware is common. Seems wrong to put it on anyone else.

~ Not everyone has 64 bits.

Question: Let's vote to endorse or not packed data in PDS4. Does that make sense?

Answer: It's been part of the standard so we would be removing a capability - even if it's not used.

~ It wasn't well enough defined to be used and was only included because it was in PDS3. That's not good enough.

PPI uses this. We need someone who can speak for PPI. Juno uses it. Shaya also needs to be involved. We can't assume this won't be used in the future.

~ That's not what I was saying.

~ It's there. It might be used in the future - whether it's a good idea or not.

It's difficult to work with. Would think that PDS would want them converted to something non-specialized that users could use. Difficult to convert. Thought we wanted stable formats that could easily be converted. Worried.

We need to wait for PPI and Ed Shaya. Saying packed data needs to be more accessible- we can do it as product native, but long term usability is a concern. It conflicts with the underlying philosophy of PDS4.

Someone thinks the argument that people use modern day formats (interrupted) ~ Formats that can be converted.

~ Right. Why we hoped for software to read the DSN formats.

~ Someone is working on it.

Too bad no PPI or Ed Shaya. Wanted to know if there are advocates for this - sounds like there are, so lets vote to endorse or not endorse a description of packed data within product observational. Wants to be able to send something to Ed Shaya that says we're not in favor - maybe a new SCR for something that makes sense.

Question: So, you want to vote if allowed in product observational or not and add the description to the SR?

Answer: Reading the SCR, someone doesn't think that that level of detail belongs in the SR.

Another Question: Where restricting? Are we using it one way in one product and another way in another?

Answer: We're trying to see if it's acceptable as an archive format.

~ Yes.

Another Question: So, should we allow packed data to be archival data in PDS4?

Answer: Someone sent email on this - trying to find it... So, from five or six years ago, on the PDS Road-map, it says we'll include a simplified set of formats. Packed data is some of the most complicated data we have. It's not modern. Understands the issues. Proposes we migrate it. Yes, a complicated task. We could have a challenge to build the tool. That could solve the issue. It doesn't belong in PDS4. Said we would simplify and only use modern things. Packed data is not a contemporary format.

Let's vote to allow packed data as an archival format.

~ No, lets vote to remove it.

It's not appropriate to vote today.

~ Agreement.

~ We owe PPI a chance to contribute to the dialogue.

We can hold off. It's not super critical. Wanted to make sure it's worth talking about. Both sides are represented - and very far apart. Everyone please think about this. Maybe we need a work group.

Hopefully, by next week...

~ No. We need the full compliment of people - including Ed Shaya.

~ We need PPI to know that we're thinking of not allowing packed data.

~ Debra will let the PPI folks know.

CCB-156 - Inconsistent Discipline Dictionary Technique for Local Internal Reference, et al See https://pds-jira.jpl.nasa.gov/browse/CCB-156

The thing being tried in 1700 - this is what led to exposing elements. There's a difference in where the local internal reference shows up - different namespaces could have different meanings for the same thing. Can be confusing, especially if things are different in different LDDs. Provides linkages between

things - essential associations. Would be better if done the same for different discipline DDs under PDS control. Should be consistency. Would need a policy. Won't be backwards compatible. Could warn people of this for older data. Uniformity for DPs and users.

An example is the Spectral DD versus the Display DD - local internal reference is done different in each now.

Test run. Would then require all DDs be updated to accommodate this change to be consistent.
~ Yes.
~ Okay.

Question: Are our concerns addressed?
Answer: Not yet. Still needs to be implemented and we need a policy written and documents and tools need to be updated so tools know what namespace to look in to find these things. May even affect standards - if they are used for enforcement. Not sure if we have a policy manual for PDS. If yes, it should be in there.

The document team will be more strict. Want SCRs to explicitly say what changes are needed for documents. Don't want too much free reign. DDWG should have agreement over what goes in the documents. There's one SCR now with no guidance at all for the document team - lends itself to a lot of criticism.

CCB-156 should be put on hold. It says there's a problem - we need a mechanism to allow for consistency. Test run with 1.7 - then we can update the SCR to say how LDDS need to change and all that's affected. Don't know the answer yet. Exposing elements may or may not work.
~ Sounds reasonable.

Question: Thought we agreed to exposing elements?
Answer: Agreed to test in development version and then decide if that's what we want.

~ Fair, but shouldn't wait too long since it's not backwards compatible.

~ People need to test it. Not sure how much work involved.

That hits the nail on the head. This telecon opened with that. It's out. We need people to test the impact. All people responsible for an LDD. Say thirty days maybe to see if this solves the problem. Will email that with more push. Thirty days to see if it solves the problem.

(**Action Item - Everyone responsible for an LDD** needs to test with the 1.7 development version in the next 30 days)

Question: So we kinda finished. Anyone else have anything to add? Anything on CCB-156?
Answer: (Silence)

CCB-164 - Display Settings not required for images See https://pds-jira.jpl.nasa.gov/browse/CCB-164

Display settings - another one that was contentious.

Question: Can we form a work group? Will Anne lead?
Answer: Not sure what more there is to say on this.
~ Remind us of who the steward is.
~ Chris.

The issue is that there's no way in validation to force DPs to include the class. It's optional at best. Not sure we need a work group. Maybe we just need to make display namespace and class required in certain cases. It could be a schematron rule.
~ The issue is if there are objections.

Question: Does it matter if encoded or jpeg?
Answer: Not sure.

Another Question: Is chasing the word image the problem?

Answer: Maybe we need to expand this to include arrays, movies, seems it ought to be required.

~ Not sure what IMG would say, but one node hasn't had a problem without it.

Could put in a rule - you would get validation.

When it's not included, for 3d images - there's the issue of what's sample, lines, bands.

~ Names of axes.

~ It's not required to name them. Maybe need to check again. But it's important for 3d images, so you know how to show the image to users.

Question: What more needs to be done? If we know it should be required? For array spectral, spectral cubes, etc.

Another Question: Is there any problem with requiring display?

Answer: Someone hasn't had any issues with not including it. Haven't had any problems in thirty years of having image data.

~ There were default assumptions in SR for PDS3. Maybe we need a default in PDS4.

~ The default wasn't helpful for all the nodes in PDS3. No problem with doing what needs to be done.

Question: Any objections to requiring display settings for objects that need them?

Another Question: What objects would require it?

~ Anne will make a list and add it to the SCR. (**Action Item**) We can review it next time.

~ Cool.

_____

Question: Any other issues? Local DDs is Steve's baby. Unsure if he will be with us next time.

We'll pick up again next week.