

From: Debra Kazden <dkazden@igpp.ucla.edu>

Sent: Monday, August 29, 2016 11:04 AM

To: pds4ddwg

Subject: Notes from PDS DDWG 2016-08-25

title: DDWG Notes 2016-08-25

layout: default

date: 2016-08-25

August 25, 2016

Notes by Debra Kazden

Known Attendees:

R. Chen, M. Gordon, E. Guinness, L. Huber, C. Isbell, S. Joy (lurking), R. Joyner, D. Kazden, S. McLaughlin,
L. Nagdimunov, L. Neakrase, J. Padams, A. Raugh, R. Simpson, and J. Stone

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

(Discussed - decided to withdraw)

-- CCB-97: Add Composite Structure and Composite Component. (T.King)

-- 20141222: Open; Under DDWG Review

****(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

****(Briefly Discussed - will be on agenda next week)****

-- 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-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-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

-- 20160818: Will address "exposure rules" at Tech Session; A.Raugh will put together PPT

-- e.g., LDD shall reference element and not type

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

-- 20160707: Open

-- 20160727: Under DDWG discussion

-- 20160818: Under DDWG discussion

-- A.Raugh to 'move' comments to body of the SCR -- ready for TA & vote ?

****(Discussed)****

-- CCB-165: Ambiguity of ASCII Numeric Base* (L. Nagdimunov)

-- 20160818: Open & Under DDWG review

-- 20160823: email from Lev:

-- if there was a need for floats encoded as hex in PDS3, is there still some need in PDS4 or is the need gone?

-- if only applicable to int; is only applicable to unsigned MSB integer ?

****(Discussed)****

Notice sent before the telecon in email from R. Joyner - August 24, 2016 See enclosures:

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

-- Nothing new

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

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

-- CCB-164: Display Settings not required for images (A.Raugh) -- please review comment by A.Raugh for applicable set of objects

-- 20160707: Open

-- 20160727: Under DDWG discussion

-- 20160805: A.Raugh added comment to address applicable set of objects

-- 20160818: Under DDWG discussion

-- A.Raugh to 'move' comments to body of the SCR -- ready for TA & vote ?

-- CCB-165: Ambiguity of ASCII Numeric Base* (L. Nagdimunov)

-- 20160818: Open & Under DDWG review

-- 20160823: email from Lev:

-- if there was a need for floats encoded as hex in PDS3, is there still some need in PDS4 or is the need gone?

-- if not applicable to float; is only applicable to unsigned MSB integer ?

DDWG Telecon

CCB/SCR Statuses

Nothing has happened.

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

Last time, we left off with consensus - there was an action item to move comments to the body of the SCR, which would make it ready for a vote.

It looks like it did last week. Updated requested changes during last telecon.

Question: For a data product with multiple array products - how would this work? Tried using it with Lev's tool - wasn't sure how to make associations.

Answer: Someone will check Oxygen in real time - if it's allowed to be multi-valued should be able to reference...

~ That should be allowed.

~ Someone has a dataset that might be a good example.

~ Unnecessary - need to look at actual schema for Display DD. At the moment local internal value is single valued - that should be changed.

~ We should be able to have multiple occurrences with one value.

~ It can only occur once.

~ Someone is okay with that - multiple value internal values sounds like us being lazy.

~ Someone disagrees with that. There is Deep Impact data that should be able to have one display class rather than six that say the same thing. Less possibility for an accident to occur.

~ People agree.

~ Someone has a dataset that is an example of how having the same thing over and over is difficult to look at - you get lost in it.

~ Someone is concerned with the possibility of errors.

Question: Someone is confused. See that the schema supports a single display class - local identifier could be referenced multiple times, right?

Answer: That sounds backwards.

~ It's the opposite of that. There can be multiple display settings and each can have one local internal reference.

Another Question: But if single setting is applicable across several objects they can all refer back?

Answer: Reference is to display settings - single, not multiple.

Another Question: When did we ...?

Answer: The way the Display DD is written - each array has a local identifier, not a local internal reference - points to array. Necessary change only affects Display DD display settings class.

There's another potential complication. We should probably prohibit two reference classes referencing the different products. Each array/image object must have exactly one display settings class.

(Note-taker missed something)

~ One display settings class per data structure.

~ Total counts versus logical relationships.

~ Confusing.

~ Saying if for any given object there is only one way to display it, so only one class pointing to it, but it could point to other objects if same display orientations.

Question: So, multiple objects in a single file - only one display settings class in the label?

Answer: Depends on if they all have the same display settings. One local internal reference for every image - multiple if multiple objects.

If we make this required then we need to change the Geometry DD.

~ Correct. Would take it out of there. Would assume image would be displayed according to display direction class.

~ Need to add all of this to the impact statement of SCR.

~ Okay.

~ But it's not part of the SCR. LDDs are not in the SCR system, but it does need to be in the comments.

Looking at the schematron rule - doesn't fire correctly.

Question: Any other questions on this?

Answer: (Silence)

****Action Item - Anne**** to move the updates into the SCR.

Question: Anything else?

Answer: (Silence)

CCB-165 - Ambiguity of ASCII Numeric Base* See <https://pds-jira.jpl.nasa.gov/browse/CCB-165> and email from L.Nagdimunov, August 23, 2016, ASCII Numeric Base* follow up

Question: Did everyone see Lev's email?

Answer: (Silence)

Lev emailed everyone the response from the team - that the SIS says Real, but they are actually integers.

Question: So there's no current PDS4 usage. So, unless there is one - in PDS3 was used for ISIS, but not in PDS4 - so any case for this that anyone knows?

Answer: (Silence)

Another Question: Fine. So the question is - do we want to design for this?

Answer: Someone votes to go back to the original interpretation of integer only.

~ So positive. Need to say that in the SCR.

Another Question: Positive includes zero - so unsigned?

Answer: Non-negative.

So, we're converging on a change from ASCII representation of number to non-negative integer in base 2. Base 8 and base 16 are other cases. Only other thing - part of the schema definition - numeric is not necessarily clear. Could be float. But non-backwards compatible.

~ If we change this - we have a bunch of others - not worth it.

~ Only see three.

~ Lots of attributes could have better terms.

Question: Does everyone agree we should stick with the current name?

Answer: Yes. Changing it is a lot of work for very little benefit.

~ The name annoys me, but not a large impact overall.

Another Question: So, no one seems in support of changing the name?

Answer: (Silence)

****Action Item - Lev**** will update the SCR to say non-negative integer.

Question: We're only addressing the definitions of three simple types, right?

Answer: Yes.

Another Question: So three new definitions?

Answer: Technically it's a documentation change.

~ Relevant definitions from the SR.

~ In the Data Dictionary.

~ Yes.

~ Also in SR.

~ Quick search - yes, a whole table in the SR. So would need to update that. Table 5A-3 and the Data Dictionary and probably the DPH too.

Question: Does this go to the CCB?

Answer: Interesting question. The document writing group finished the SR up to SCRs currently queued for implementation, so maybe for the next update - would be in change log and go to CCB.

Another Question: Thought the next build - changes to the end of September? Seems a little premature. Could probably go in 1.7.

~ One member of document review team doesn't mind doing it. Would need to check with the rest of the team. Would like to keep documents in step with the IM.

~ Maybe it's a candidate to squeak in if the document review team approves it.

~ Team members will have comments.

~ So, it would go in change log and CCB would get it.

The SCR will be updated.

Question: Any questions?

Answer: (Silence)

Product update and CCB-77 - Augment Product Update with <File Area Update> See <https://pds-jira.jpl.nasa.gov/browse/CCB-77> and email from M. Gordon, August 24, 2016, RE: PDS4 Data Design Working Group - Telecon Announcement - Aug 25, 2016 - 9:30AM PDT; attachment product-update-2016-08.docx

Recommendation that CCB-77 be withdrawn and a new one put in. Needs to be deprecated. The work group worked on this - got comments in January. Ready to make a new SCR, but the paragraph in yellow in email shouldn't be included.

(The paragraph that is highlighted in yellow in the email attachment says: "Parameters being updated must be fully specified – we haven't settled yet on the construction (xpath?) Must start high enough up the class hierarchy to make it unique – probably use subscripts when a class or attribute occurs multiple times at the same level in the hierarchy. May also be able to use slot names.")

Question: Say I have a label and need to change it - product update would have columns - LIDVID, field name classes with xpath. Xpath to value being changed? Any problem using xpath for field name? Is there a better way? Someone suggested something else...?

Answer: Xpath is the nominal way to repair things in XML. Might be an issue with namespaces. Not sure. Need to discuss that.

Another Question: Version 1.0 versus version 1.1?

Answer: No. It's to do with how you reference the namespaces. It's not completely trivial.

~ Would like this to be machine readable - but has to be at least human readable. Product update doesn't have to reference data dictionaries.

~ Probably have to establish corresponding namespaces for abbreviations for xpaths. Might need a small class for namespaces, abbreviations etc.

Question: This has to be in product update?

Answer: We have tossed ideas around in the past - nothing tangible yet. Not sure what the answer is yet - maybe we need an Update DD - unsure.

Good standards don't cheat.

Another possibility is if different namespaces because of version change, then maybe we want something in the product itself. There are a few ways to approach the problem.

****Action Item - Mitch**** will make some samples - labels, table, products - to get ideas of where the flaws are. Will be ready in two weeks.

Question: Didn't we put samples together already?

Answer: It's probably easier to start from scratch. Product update contents has changed.

Question: Not sure if I should bring this up - but saw email responses from people - were they convinced?

Answer: One person says some okay, some not - other person we don't know yet.

~ Should discuss this in two weeks.

~ Well, issues were raised. Not convinced. This is very complicated - but not programmatically. Read the first label, realize there's a product update - then have to figure out where they all fit back in the original. And you might not get the update. Plus, like in PDS3, you need extra files.

~ Someone works with Voyager and Cassini. There's a problem with outer planet missions - the labels are made when the data comes down. The geometry is always inaccurate. The science community

knows that. Improved metadata is provided by the Rings node - the fact that the information isn't in the PDS3 label doesn't bother anyone. Don't see product update as too complicated. Wants to write product update so it can be abstracted by machine. Don't expect labels to be re-written.

~ Someone gets that. Best argument, but unsure how to respond. Still a huge complication.

~ The argument is good, but product update will be used by many things.

~ Someone agrees.

~ Product update would always apply to a single collection. At most only two product updates - yes, complications, but could be very simple issues to fix - like start and stop time being reversed. Product update identifies products by LIDVIDs. Would like people to read the email on this. Will also make the simple samples.

~ People are willing to wait.

~ The work group did this - this is polishing it.

Question: Anything else on product update? Any problem with withdrawing CCB-65?

Answer: Fine with someone.

~ The author will be fine with it.

~ No objections to withdrawing CCB-77.

Question: Anything else for today? Next week will have basically the same agenda - minus product update. If you want anything else - let Ron know. Hopefully, we can vote on the changes to CCB-165 and on CCB-164 next time.

Answered with Another Question: What about the CCB on sample bits?

Answer: That's a masking issue. We should wait for the MC's decision on packed data.

~ Not packed data. The original detector has 12 bits, then it was zero filled to have 16 bits - not a masking issue. The proposal is to fix it. Remove the bit mask and add a keyword to describe the original provenance of the data.

~ Some one thought it wasn't zero filled, just sign extended. It needs a description. Already applied to

the data.

Question: If it's a 16 bit number why is that a problem?

Answer: It's not a problem. The problem is the use of a bit mask.

There are some programmatic issues - valid min and max - unclear, but they want programmatic access.

This is not a one off thing. Especially Mars cameras use this. Don't want to have to dig down to determine the bits - want just to be able to read it in - easier to describe in label.

Question: Should be able to read it without sample bits?

Answer: Yes, but other stuff besides display. Important information is all in the SCR. There's been lots of email on this -lots of arguments - both pro and con.

Objection to discussing this next week is withdrawn, but if we have valid 16 bit numbers, not sure why we need to discuss this.

~ It could be helpful for validation, but would have to know this is outside the actual range of the actual instrument. The information can be used. No problem with it being there. End users may have a use for it.

~ Someone is still not sure - part of the question is if it's confusing. Read the definition and wasn't confused, but others were. Need to make sure it is not confusing to readers.

Question: Is the proposal to include the element array class or the special constants class?

Answer: Element array class, but not opposed to putting in special constants class.

~ We can read the data without it.

~ It might make sense to put it in special constants - it needs to be somewhere.

Question: Any more discussion on this?

Answer: (Silence)

CCB-77 has been officially withdrawn.

We will discuss CCB-166 (new) next week and what we were just discussing. A new SCR for product update will be written after further DDWG discussion.

Next week...