

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

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To: pds4ddwg

Subject: Notes From PDS DDWG 2016 05 19

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May 19, 2016

Notes by Debra Kazden

Known Attendees:

M. Gordon, E. Guinness, S. Hardman, L. Huber, S. Hughes, C. Isbell, R. Joyner, D. Kazden, T. King, J. Mafi,
S. McLaughlin, T. Morgan, L. Nagdimunov, L. Neakrase, C. Phillips and A. Raugh

Meeting Agenda and Summary

1) CCB/SCR Statuses

-- Sent to CCB:

-- CCB-65: Need additional Target Identification/type values (A. Raugh)

(Brief update)

2) Task Statuses - 5 Minutes each

(Not Discussed)

3) SCRs and Issues to Discuss:

-- 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
- ** (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"
- ** (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-144: Some examples in Examples collection are incorrect or out-of-date (Lev Nagdimunov)
 - 20160210: Open
 - 20160322: EN governance; will take lead
 - 20160323: may be augmented by CCB-155
- ** (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
- ** (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-152: field format definition mismatch between IM and SR. (L.Nagdimunov)

-- 20160309: Open & Under DDWG review

-- 20160322: EN governance; will take lead

-- 20160428: dependency on CCB-143

-- 20160511: 2nd email to Steve to ask for TA; to make ready for vote

-- 20160512: Lev & Dick to revise SCR to include adding POSIX to IM

-- then back to DDWG for review

****(Not Discussed)****

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

-- 20160321: Open

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

****(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 ?

****(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

****(Not Discussed)****

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

-- 20160426: Open & Under DDWG review

****(Not Discussed)****

-- CCB-160: URN prefix for the Japan Aerospace eXploration Agency (JAXA). (E.Law)

-- 20160517: Open & Under DDWG review

****(Discussed - endorsed by those in attendance)****

-- CCB-161: Allow DOY format in start date time and stop date time (L.Huber)

-- 20160517: Open & Under DDWG review

****(Discussed)****

4) Topics for Discussion

-- Proposal: CCB-1xx: Remove Enumerated List from Instrument.type (L.Huber)

-- Status & develop implementation plan

****(Discussed)****

-- SETI Issues (R.Simpson et al)

-- Status

-- Issues in XLS have been vetted by SETI notes

-- Issues to be "consolidated" & prioritized

****(Not Discussed)****

-- IPDA PDS4 Project: 2014-2015 Final Report (S.Martinez, S.Hughes)

-- Status & develop implementation plan

****(Not Discussed)****

Notice sent before the telecon in email from R. Joyner - May 18, 2016 See enclosures:

-- a list of the full topics under discussion by the DDWG Sent to CCB:

-- CCB-65: Need additional Target Identification/type values (A.Raugh) The results of the CCB

20160517 e-vote are as follows:

- None

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

(1) Discuss and possibly vote:

-- CCB-160: URN prefix for the Japan Aerospace eXploration Agency (JAXA). (E.Law)

-- 20160517: Open & Under DDWG review

-- CCB-161: Allow DOY format in start date time and stop date time (L.Huber)

-- 20160517: Open & Under DDWG review

(2) Proposal: CCB-1xx: Remove Enumerated List from Instrument.type (S.Hughes / L.Huber)

-- Status & develop implementation plan

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

-- Discussion & implementation plan

(4) TBD issue that I can't recall at the moment that Steve thinks is important to discuss...

DDWG Telecon

CCB/SCR Statuses

CCB-65 went to the CCB. There will be a vote this coming week.

SCRs and Issues to Discuss

CCB-160 - URN prefix for the Japan Aerospace eXploration Agency (JAXA) See <https://pds-jira.jpl.nasa.gov/browse/CCB-160>

This adds a new URN for JAXA.

Very similar to the SCR where we added a URN for Russians. Was expected for about three years. This SCR looks like the Russian one. We covered the bases - don't see any reason it won't pass.

Question: Any issues?

Answer: (Silence)

Another Question: Has everyone reviewed this and the TA?

Answer: (Silence)

Another Question. Crickets. Can we vote?

Answer: No. Reading it...never mind.

Question: Remind me what DARTS is?

Answer: Data archives and transmission system. Same as PSA - effectively the same.

Question: Do we have a quorum?

Answer: Yes. Only two people not here. NAIF is never here. We have a quorum.

Question: Any issue with sending this to the CCB? Anyone not want to vote to endorse this? Except NAIF, SBN and RS - who are not here? Anyone not endorsing?

Answer: (Silence)

~ Three not present, everyone else endorsed.

CCB-161 - Remove DOY format for start date time and stop date time in Standards Reference See <https://pds-jira.jpl.nasa.gov/browse/CCB-161>

There's more clean up. Need to clean up the SR and make it clear that Start/Stop date time can only be in calendar format.

~ Someone isn't seeing that in the SCR.

~ There has been a long email discussion about it.

In January, 2015, CCB-101 (Remove ASCII Date, ASCII Date Time and ASCII Date Time UTC from the Field classes, see

<https://pds-jira.jpl.nasa.gov/browse/CCB-101>) went to the CCB. They kicked it back with comments. The SCR was rewritten. It passed in February. In March, when it was implemented it was found to have a problem. There was some email back and forth with EN and the document writers. It was clear that part of the intent was to prevent two date formats in columns - label was an issue.

Decided to use YMD in labels, but SR wasn't changed. That was an oversight. From the way CCB-101 was

written, had to look at all attributes that had had formats removed. Thought we intended only YMD for start/stop date time. This SCR is about what we want for those fields.

Question: The SCR says to remove, but the agenda says to allow?

Answer: Had to change course after discussions.

Question: Would DOY still be allowed in tables? Only YMD in labels?

Answer: Yes.

Question: Are we allowing or not allowing?

Answer: No DOY in the data...

~ But in all other cases...

~ The important thing is that you can't mix them.

~ Someone thought that was the original intent.

Question: Can you say that again?

Answer: It's easier if you look at the data types. Several allowed YMD or DOY - were removed.

~ That sounds different.

~ Removed DOY as option in data type - it's clear in CCB-101.

Question: Is CCB-161 clarifying you have to pick one or eliminating?

Answer: Eliminating DOY for start/stop date time cause that's what the IM says. Since version one.

So, vote no on CCB-161 if ...{???)

~ No, that would add it back in. Currently not allowed.

~ Repeat that.

~ All this is proposing to change is SR. Thought this is what had been decided.

Question: IM doesn't allow DOY?

Answer: IM allows DOY.

~ Every attribute has to specify YMD or DOY. Used to be able to choose - can't have one or the other.

~ No.

~ This is why the original SCR was implemented incorrectly. Says month day only allowed.

~ We're talking about ASCII data time - got rid of any choice between YMD or DOY. So, no choice for both. Have to have one or the other.

Someone doesn't understand. The IM says ASCII date time YMD UTC in 1600. Start date time.

~ Yes, that's in 10.35 - time coordinates.

~ Yes.

~ Type is ASCII date time YMD UTC. Only thing allowed.

~ Don't think that was what was intended - just didn't want columns with mixed time data types.

~ We deprecated every data type that allowed either. Replaced with ones that allowed one or the other.

CCB-101 didn't specify what happened to start/stop date time.

~ Right, but in third paragraph the problem statement says "When both are allowed, dates can be expressed as YYYY-MM-DD and as YYYY-DDD in the same table field or in both formats from one label to another within the same product type of a single data set. This complicates both validation and use for no obvious benefit." The proposed solution says "Remove classes ASCII Date, ASCII Date Time, and ASCII Date Time UTC from the Information Model. Add classes ASCII Date Time YMD UTC and ASCII Date Time DOY UTC. Classes listed as "YMD" and "DOY" in the Problem Statement would be unchanged." When that got approved, means start/stop data time had to be one or the other - can't allow either at the discretion of the DP. We chose YMD. We can agree now of have two attributes - start/stop date time YMD or DOY.

~ When we got the requested changes the choices were eliminated. We chose YMD - couldn't allow either because of specificity in the change request.

Question: So, CCB-161 says you can do either?

Answer: No.

This is actually changing the standard from what CCB-101 did. Looking at jira.

~ Hit refresh.

~ Cardinal and ordinal - YMD and DOY.

~ The next sentence is changed.

~ All date times with the exception of start/stop date time should be given in UTC and in calendar (YMD) format. All attributes, other than start/stop date time can be YMD or DOY. Not compliant with the change that CCB-101 made.

~ Yes.

~ So when CCB-101 changed, that sentence should have been changed. So re-writing the SR - CCB-101 changed it to one format.

~ Read the sentence again. Saying not one.

~ The scope of CCB-101 was broader.

Question: How can you say no change except for some - where you get a choice? Except start/stop date time?

Answer: For an attribute, you can pick one - except for start/stop date time.

~ In the SCR, it listed which ones you had to pick one for. Decision was to use YMD for all of them in a label - not counting field type. SCR should specify choices - change to specify YMD or DOY.

~ Not sure why you would want one or the other over both.

~ Wanted to have either one as an option, both available for attribute, but that door was closed with CCB-101. End users would probably prefer YMD. If PDS is only going to have one date time in labels would like all to have the same type. YMD. DPs would have to convert DOY to YMD.

Question: Is DOY even used in the model now?

Answer: In field data type.

~ DP has no choice at the design level since CCB-101.

~ Someone doesn't understand that at all. In Common, DOY is not allowed.

~ It is allowed - using it is a design choice - assigned them to YMD.

In IM - go to 9.21 - filed character.

~ I know what you're saying there. Concerned about the label, but not understanding comment that when I design a label that I get to make a choice.

~ Designer being the person who creates the label.

~ If designing new attributes and you want to give time, you have a choice.

~ Designer designing LDD.

Given all of this - can't vote for this SCR. What's clear in the IM is you have to use YMD. Only place for DOY is LDD. Need to revise to make that clear.

~ Someone agrees.

~ Can change the SCR to say any common attribute has to use YMD.

Question: Why are we making that decision?

Answer: In common, they are all set to YMD.

~ If we made a new attribute - could make it DOY.

~ But we're trying to line it up with the SR.

~ Just don't want to preclude future attribute being DOY.

Question: Do I understand correctly that with the passage of CCB-161 there's no way in label we would have DOY for time?

Answer: Became true at CCB-101.

~ Unfortunate, but long gone.

~ You can use DOY at mission level label.

If CCB-101 gets re-written, yes, this will close the discussion, but if always want YMD, now is the time to say so. Or we could allow a choice. If we bring it to the CCB as written then the DOY choice falls off.

Could have slightly different start/stop date time attributes.

Question: What the effect of a NO vote on CCB-161?

Answer: Disconnect between IM and SR. Want to bring them together. Can make consistent or re-write the SCR.

Question: So, from now on, missions that want DOY have to use an LDD?

Answer: Can choose. Can't use both for the same attribute.

Someone is reading the SCR - channelling an absent DDWG member - keeping in mind that the SCR is out of date, but doesn't see that CCB-161 as written is in conflict with what we want. Yes, the current IM has all set to YMD, but the SR says all can choose of the two formats. Agrees we might want to leave the door open for DOY. Not seeing that the SCR needs to be re-written.

~ On this topic of exact wording - need to be careful we don't encompass LDDs too. Wording has to be careful not to prohibit what is allowed. This raises the point of why allowed somewhere, not everywhere - the allowance of choosing either/or. SR reads like DOY or YMD are fine in start/stop date time. When change to say not allowed in core need to be careful not to affect LDDs.

Question: 5.A.2 in the SR?

Answer: Yes. SCR is wanting two changes - the important one is at the end - all values for start/stop date time need to be UTC - SCR wants YMD. That's the important part. Not just for core - all have to be YMD or DOY.

Comment and Another Question: Agrees. Got the idea want to extend YMD - currently not in SR - am I wrong?

Answer: In IM now. Decided to go with YMD, but not in SR. Came up because no explicit decision from the CCB. Think if have to have one or the other should have say in preferred method for common. If there is a preferred method. CCB-161 should reiterate changing table 5.A.2.

~ Removed as CCB-101.

~ SR is only supposed to fill gaps of what's not clear in IM. In this case, IM is clear. If people don't like it then we need an SCR.

~ The SCR doesn't fix table 5.A.2

~ Already in the pipeline.

Question: A modeling question - so, had to pick one. Is that a modeling thing? Implementation of XML?

Answer: Principal we've had a long time. One data type per attribute.

Question: Looking at CCB-101, intentional or oversight - IM 1600 - start/stop date time in dataset PDS3 allows both?

Answer: Start time in dataset PDS3 - for PDS3 labels - that allowed both. Only case where we do have a choice.

Another Question: But is ASCII date time removed from model?

Answer: Deprecated. All sorts of little skeletons in the closet.

In table 5.A.2, the text above it gives the impression that DOY is allowed, so if just made simple change, still missing some. Agree the SR can't repeat the entire IM.

What was a fundamental change in CCB-101 is no longer allowing a choice in any single attribute -except in PDS3 labels.

~ SR says that. Very clear. You have to pick one of two formats is implied.

~ Clear you have to pick, except for start/stop date time have to use YMD. Concerned about exceptions.

Question: Are we confusing the issue? Can read this any way depending on the target audience.

Answer: We could remove unclear sentence because the IM is clear.

~ But the IM and SR don't agree.

~ Believes the IM has precedence.

Question: Are we all on the same page?

Answer: (Silence)

Another Question: Can we get back to common ground?

Author is willing to entertain changes to to make the SCR more clear, but on whether the IM or SR is primary - wording in table 5.A.2 is not consistent with what is in the IM. That's what SCR hoped to correct.

Question: So, is it appropriate for people to send comments this week - and bring this back next week?

Answer: Yes.

Another Question: Should comments be email or put in jira?

Answer: Prefers email. Let's not clutter jira.

~ Fine.

Proposal: CCB-1xx: Remove Enumerated List from Instrument.type

The ever popular enumerated list discussion.

Been working on clean up - two phases. Cleaning information from the nodes - hadn't done any - next phase is cleaning up packages and complex instruments. Accepted the challenge to see if it works for new instruments, but haven't gotten any yet.

Action Item for everyone please send Steve test cases.

That's the current status.

Question: Any comments?

Answered with Another Question: So - more next week?

Answer and Another Question: Will have finished clean up. Will have new list to discuss. If gets other instruments, new ones, will show how that will work. Is that good enough?

Answer: It will have to do.

Exposing elements in the PDS4 Common XSD

See email and attachment from Steve Hughes, May 19, 2016, FW: Exposing Selected Classes

We got a little started last time.

This is about how people use attribute from common in LDD. In Protegee this is trivial - issues arise in XML schema.

Lot of issues making it work. What we've done is go fill cycle. Up to 1300 made it so attribute and classes were defined in IM, but in schema was type and element. When element becomes exposed can refer to it externally. If element in common can bring into LDD. In 1300 or 1400 was a question about all the elements in pull down in oxygen. Idea was to not expose them all. Elizabeth started complaining that everything broke. Local internal reference became type. Examples of how all this works in email. If you look at examples in XML reader - TEST PDS 1600.xsd - search for local internal reference.

Question: Scenarios or abstracts?

Answer: Scenarios.

~ Test 3.

~ TEST PDS 1600 and others include a test label. Has done the the classic at line 18 - local internal reference as an element.

Only a few classes need to be exposed.

So, to TEST DISP 1500 - look at local internal reference - line 67. Literally a reference. See how it looks in XML label. See at line 46, local internal reference with no namespace prefix, but discipline has it's own unique namespace. That's the classic approach to using this.

Changes to the IM are trivial. Did it once before.

There's also a second approach - first was classic and imports external schema, second is abstract. Abstract doesn't create element. Doesn't reference directly. Allows you to extend or inherit to create new type in LDD. In TEST 1600, see line 54 - created another complex type that can be used locally. Remains a complex type. In TEST DISP 1500, reference - abstract - extended - display settings. Also an example with restricting. Can extend or restrict. In label example looks similar to classic approach but in display settings.

Question: Two approaches laid out for people to look at. Any Questions?

Answer: (Silence)

Question: Are there any disadvantages to method 2?

Answer: Yes - potential, but seems a congenial approach. Creates a type you use as a template for new classes. If you want to have local internal reference - has to be at the beginning of your class and have wrapper to contain. If want to use it that way, fine, but if you want other stuff before this - won't work. Some restriction.

Maybe we want to consider both - want to reference things in other classes. Two options. Can reference something direct in common IM by referencing it, but can also restrict or extend - Has limitations cause of schema.

~ One other difference - if element is visible in PDS4 core, then DP can include it without any wrapper in the mission or discipline area of a label, but if abstract have to define a context in which it will appear. Not sure if a plus or a minus - but specifically links, ensures explicit context for these classes.

So, clearly yesterday's conversation was forgotten. Someone would like to discuss this - thinks there's an issue - wants to discuss before it goes to the whole group. Wants to make sure all on same page.

~ Yup.

~ This was just an overview of the possibilities.

TBD issue

SBN has been working with DPs. Saw value data type in DD value domain - in LDD, in OPTS. How we define DDs - in list for permissible values - seeing things in list - questioning why these things are here.

See IM 1600 - vector Cartesian 3. Believes this class was ATMOS's.

Question: What?

Answer: Want to know why we are allowing these as data types for new class or data type.

~ These came from Elizabeth as place holders.

~ She jumped on these because lots of PDS3 attributes would be like in PDS4. Needed vectors.

Question: Is this still being used?

Answer: In the Geometry DD.

~ Yes, LADEE used it.

Another Question: Used it as a class or made up own?

Answer: That's the question - not sure we need this list.

Would need to look back.

Question: Actual class is vector Cartesian 3. If this needs to remain, fine, but why in ingest LDD are they data types?

Another Question: Cartesian 3 with a number?

Answer: Yes.

~ Not in Geometry DD anywhere. Doesn't contain that string.

Question: So, we have a huge list of possible values. Vector Cartesian values at the end. Why are they in this enumerated list?

Answer: Thinks as a stub - think couldn't be used because additional things would have to do to make useful. Others are all scalar data types. Think someone tried to use them and ran into reasons they

couldn't use them as defined. Had to make own. But that's only a memory of the history.

~ Sounds familiar.

~ Makes sense.

Question to Mitch: Can you look back to see if it is correct - that you started to use them and they weren't helpful and you made your own for Geometry DD? We should check the Imaging DD too.

~ Maybe Cartography DD too. Not sure these are useful for the DDs. Think they are just scalar strings.

May want to get this out - if no one is using it - before someone does.

Someone thinks he sees this in the core - remembering discussions - LADEE doesn't use the Geometry DD - need to check the LADEE DD.

~ The LADEE DD only had a handful of keywords in there. Need to check.

So, to sum up - if the issue is simply remove from enumerated list - since it's OPTS, it could be a bug fix.

Removing from the IM would require an SCR.

That sort of leads into governance issue of LDDs - could have done a global search to see who had used it.

Question: Anything else? Issues or SCRs you want to discuss - send email to Ron.

Answer: (Silence)

Next week.