

From: Debra Kazden <dkazden@igpp.ucla.edu>
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September 8, 2016

Notes by Debra Kazden

Known Attendees:

M. Gordon, E. Guinness, L. Huber, S. Hughes, R. Joyner, D. Kazden, J. Mafi, S. McLaughlin, L. Nagdimunov, L. Neakrase, J. Padams, A. Raugh, R. Simpson, S. Slavney and J. Stone

Meeting Agenda and Summary

1) SCRs Under Discussion:

-- CCB-81: Add local internal reference to Axis Array (T.King)

-- None: waiting for Steve to make a decision as how to proceed

-- 20160818: sent email to Steve asking for status and should WG be formed

-- Steve wants to form WG

-- 20160908: added to DDWG agenda to form WG

(Briefly Discussed - mistake that it's here)

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

-- 20141222: Open; Under DDWG Review

(Very Brief Discussion - will be withdrawn)

-- 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-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
 - 20160808: Packed Data issue presented / discussed at MC
 - pending MC decision
 - A.Raugh & R.Simpson to resolve and propose solution
- ** (Not Discussed) **

- CCB-149: Should PDS4 allow packed data? (E.Shaya)
 - 20160309: Open & Under DDWG review
 - 20160310: Sent email to E.Syaha 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
 - 20160808: Packed_Data issue presented / discussed at MC
 - pending MC decision
 - A.Raugh & R.Simpson to resolve and propose solution
- ** (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-153: SR Needs Additional Description of Packed Data Fields. (E.Shaya)
 - 20160321: Open
 - 20160322: dependency on CCB-149; and vice-versa
 - 20160804: DDWG voted to send this to MC for discussion and possibly vote to either allow or disallow packed-data in archive
 - Votes from 20160804 DDWG:
 - vote to raise the question to MC should packed-data be supported in archive data (e.g., Product_Observational)
 - ATMOS - yes
 - EN - no
 - IMG - no
 - GEO - yes
 - PPI - yes

- NAIF - not present
- SBN - yes
- RS - yes
- RINGS - endorse (via email) - not present
- IPDA - not present
- 20160808: Packed Data issue presented / discussed at MC
 - pending MC decision
 - A.Raugh & R.Simpson to resolve and propose solution
 - ** (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
 - 20160829: email from R.Simpson with suggested implementation
 - back to DDWG for discussion

****(Briefly 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 ?

-- 20160829: email from R.Simpson to Jordan with suggested implementation

of promoting classes (e.g., Display_Settings) in DISP LDD to common IM

****(Brief Discussion - Tabled for now)****

-- 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 ?

-- 20160825: Lev to update SCR with alternate definitions for the three ASCII Numeric Base*

attributes

****(Brief Discussion- voted to send to CCB as written)****

-- CCB-166: Deprecate bit mask from IM for new sample bits attribute (J.Padams)

-- 20160901: Open & Under DDWG review

-- See comments from R.Simpson & Lev

-- 20160829: email from R.Simpson to Jordan on suggested changes

-- Jordan replied that the suggested changes are outside the scope of 166

****(Discussed)****

Notice sent before the telecon in email from R. Joyner - September 7, 2016 See enclosures:

-- a list of the full topics under discussion by the DDWG

CCB/SCR Statuses:

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

-- 20160901: Withdrawn by Author

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

-- 20160901: Withdrawn by Author

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

-- 20160901: Withdrawn by Author

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

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

-- CCB-165: Ambiguity of ASCII Numeric_Base* (L. Nagdimunov) - please review updated SCR and be prepared to vote

-- 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 ?

-- 20160825: Lev to update SCR with alternate definitions for the three ASCII Numeric Base * attributes

-- 20160901: Lev to update SCR with alternate (e.g., unsigned, non-negative, etc)

-- 20160908: DDWG to vote to send SCR to CCB

-- CCB-164: Display Settings not required for images (A.Raugh) -- please review comment by R.Simpson for alternate implementation

-- 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 ?
- 20160829: R.Simpson added comment with suggested implementation of promoting classes (e.g., Display Settings) in DISP LDD to common IM
- 20160901: A.Raugh to propose new strategy to address: repeat local internal reference makes ugly labels
- CCB-166: Deprecate bit mask from IM for new sample bits attribute (J.Padams) - please review email from R.Simpson for suggested changes
 - 20160901: Open & Under DDWG review
 - See comments from R.Simpson & Lev
 - 20160829: email from R.Simpson to Jordan on suggested changes
 - 20160901: tabled as Jordan not present
- CCB-162: Move <md5 checksum> from Object Statistics to Array (R.Simpson) -- please review email from R.Simpson on suggested implementation
 - 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
 - 20160706: email to C.Isbell & Jordan & Dick asking if issues within WG are settled
 - 20160804: email to Jordan asking about status / progress
 - 20160829: email from R.Simpson with suggested implementation
 - back to DDWG for discussion
- CCB-81: Add local internal reference to Axis Array (T.King)
 - None: waiting for Steve to make a decision as how to proceed
 - 20160818: sent email to Steve asking for status and should WG be formed
 - 20160908: Open & Under DDWG review: added to DDWG agenda to form WG

DDWG Telecon

Not Everybody could get the WebEx to work today.

We kinda, sorta have a quorum.

Not everyone will be at the tech session.

CCB/SCR Statuses

CCB-125, 133 and 154 have all been withdrawn by the authors.

CCB-97 will probably be withdrawn shortly - if not already. The author wants it withdrawn.

CCB-165 - Ambiguity of ASCII Numeric Base* See <https://pds-jira.jpl.nasa.gov/browse/CCB-165>

Not sure what else there is to say about this. There's been a lot of email. Changed as indicated in email.

That's kind of it.

Someone isn't entirely happy, but will vote for it.

The Vote - to send it to the CCB as written RS - Yes Rings - Yes SBN - Yes PPI - Yes GEO - Yes IMG - Yes EN - Yes ATMOS - Yes

Wow. That's a record. This will go to the CCB.

One quick comment - someone joined the CCB about two months ago, and since then this is their second issue to go to the CCB - funny that the only issues coming through are their own.

~ That signifies that most issues are solved.

~ Or not.

~ Or languishing.

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

This issue was supposed to be worked and a strategy brought back.

~ Haven't had time to do it yet. Wants to discuss it with Steve.

Question: The telecon announcement says that repeating local internal reference makes ugly labels. Is this true?

Answer: Yes, because you have to repeat the entire class several times.

Another Question: The local internal reference class?

Answer: Yes.

Two possible implementations were discussed. The one EN preferred was shot down. We decided it should be worked on. Will be brought back to the table later.

CCB-166 - Deprecate bit mask from IM for new sample bits attribute See <https://pds-jira.jpl.nasa.gov/browse/CCB-166>

There has been some discussion on this.

Basically, there's been a lot of discussion. The whole point was to accomplish a similar thing to what bit mask was doing before. Say here are the bits we care about - the actual data - the rest can be ignored. Yes, there are other ways to do this, but this is a very explicit way of saying what bits actually matter. You don't have to calculate anything or do anything. Maybe we need to make that more clear or put in examples. Maybe we can just put it in the IMG DD and call it a day, but thought it would be better in special constants.

~ Just cause someone disagreed doesn't mean the whole DDWG does.

It's not clear to someone that everyone has a 12 bit computer. Was trying to match the common

hardware. Don't understand why the 12 bits so important.

~ Someone agrees. Use a common amount of bits to store.

~ Yeah, but saying you can read it all in - but only these bits matter.

~ Now that's bit masking. Thought that was not what we were doing.

~ Yes - so when you say these 12 bits matter - others don't matter.

~ You can't do that. Need expensive options to read them/map them out - not how hardware works.

Bit mask began in early PDS. Viking had 6 bit values multiplied by four to fill out a byte. Bit mask showed what bits were zeroed out. Orbital camera had 7 bits - the top bit was zero.

Not sure how this is applied to more modern systems - probably not so useful. The MER cameras are 12 bit values - turned into 8 bit values through a look up table, then compressed and sent down. They are then decompressed and there's an inverse look up table. Not sure how good this is.

~ Yeah. It seems if we got Voyager now - or if I was migrating it - would describe it with a scaling factor of four. Can understand how you might - if there were only 12 bits per pixel, only 12 bits of precision. If important, then record only 12 bit accuracy for recording numbers. If useful, fine, but more history.

Implication that bits in there randomly set need masking - it's hard.

~ If sign extension works...

~ Thought that was where we started, but not what was just said.

~ Someone agrees.

It could go in the instrument context product. Most software won't care.

Will put it in the IMG DD.

Question: How does MIPL use it?

Answer: Ignore bits - not sure entirely sure - only care about the first 12 bits.

~ Someone is concerned about this.

~ Not sure of the details of the MSL or MER data.

Part of this SCR was to retire bit mask. Not clear that's happened. If data has non-sign extended bytes we need to touch the bytes when we migrate. Not sure where this leaves it.

~ Leave it on the table until Bob Deen can comment.

Maybe this can be worked out in email. We need to see if actual use for bit mask that isn't sign extended - and if people plan to migrate.

~ IMG won't touch bits when migrating anything.

(Mitch hung up)

Author of SCR will send email on how they want to proceed. ****(Action Item - Jordan)****

CCB-162 - Move <md5 checksum> from Object Statistics to Tagged Digital Object See <https://pds-jira.jpl.nasa.gov/browse/CCB-162>

Not ready to discuss this one. Work is going on in the background.

(Steph joined the call)

The title of CCB-162 is changed from what agenda says - it's move to tagged digital object - not array.

CCB-81 - Add Local Internal Reference to Axis Array See <https://pds-jira.jpl.nasa.gov/browse/CCB-81>

This was actually closed in April - somehow it got back on agenda.

Question: Anything else? Are we ready to go back to every two weeks?

Answer: We should wait until the backlog is down to two or three items.

~ It will never happen.

~ We could set a new precedent.

Question: Anyone else?

Answer: Yes regarding the frequency of our meetings - there are still outstanding issues from SETI.

~ Thinks those are resolved because kept asking for issues to tackle and no one had any, so think we're fine. Someone put in a new SCR, CCB-167, which was about something I believe we briefly touched on at SETI. Would like Dick and Debra to check their SETI notes - to remember anything that was said on the pds namespace. ****(Action Item - Dick and Debra)****

Someone has forgotten what the SETI issues were.

Dictionary stacks was one. It came up and then disappeared. It's on the agenda for the tech session. We need to resolve this if possible. It got lost.

~ That will be on the agenda for the tech session. Was trying to point out that that's been done since day one. Needed to document it and then make it more visible - maybe a registry.

Need people to have an idea what LDDs are consistent.

~ If they are tied that tight they would need to have the same version number.

~ That's still an issue. No SCR for it. We need to document what we know and work out the side issues.

~ Someone doesn't think it can be solved piecemeal. We need to make decisions on this - figure out how things are affected, how it will all be documented. Lots to figure out. Can't solve it in isolation - the solution may not solve the whole problem. Lots affected by this.

~ Agree. Trying to make the point that there is a relationship between every LDD and the master.

Loosely coupled.

~ The only people who can understand it are people who already know how it was designed. Not all DPs or users.

~ Consistency because of LDD tool and listing all the stacks - registry. The stacks will tell what is consistent against a particular common model.

~ Making that information available is not sufficient.

The telecons will stay weekly for now. We will discuss the stack issue at the tech session.

~ Not everyone will be there.

If you are confused about stacks, email Steve to explain your confusion. He wants to understand the issues people have with this.

~ Questions will help design the presentation.

So, we will talk about this at the F2F.

~ Yes.

~ Someone didn't pay too much attention cause they didn't understand. Still confusing.

If people have SETI issues or anything else they want to address - email Ron. Can discuss on DDWG telecon or at F2F.

Question: Someone has stuff they want to add to the Spectral DD...?

Answer: The 26th was the deadline.

Another Question: Why does that matter for an LDD?

Answer: Because of the dictionary stack thing.

~ Yes. Need to validate everything and then add to the dictionary stack registry...

(Note-taker missed some - about old LDD versions and new IM version and dictionary stack) Another

Question: So there's really no deadline? What goes in a stack if I don't give you a new 1.7 Spectral DD?

Answer: 1.6 Spectral DD will be in the stack until there's an update to the Spectral DD.

Question: What if no update until 1.8? What happens with LDDs that don't change?

Answer: Two weeks before the release the LDD stewards are required to validate against the current IM

- if it will be included in the documentation spreadsheet. The DD stack registry will say your 1.6 LDD validates with the 1.7 IM.

Question: Will validate tool validate against the entire DD stack?

Answer: Need Sean to answer that.

~ Someone else says validate tool can be told to use whatever version. Works fine.

~ It doesn't work for me. I have bundles with different IM versions in different collections and inventories. When I try to validate I have to give it several schema versions. Validate tool doesn't behave gracefully.

~ It works for someone else. Told it to use what's in the labels. Was fine.

~ Part of the problem was the non-backwards compatible changes.

This is a good issue for the tech session. A tool issue.

~ Not a tool issue, a process issue.

~ This will happen regularly. We will have collections with different IM versions.

~ It's a valid issue to raise at the tech session.

Question: Anything else?

Answer: Yes. Sorry. Regarding special constants (Very quick description of new issue - too fast for note-taker.)

You are correct to bring this up.

Question: Should I put in an SCR?

Answer: Think special constants apply to values in stored data.

~ It makes sense, but not always.

~ There could be problems.

~ Issues - hardware issues and concerns over how you apply scaling factors or skip missing constants.

Tried to do it in Python - difficult.

An SCR will be opened so we can discuss this. It needs to be documented in the SR because it's not.

Question: Anything else?

Answer: (Silence)

Next week.