

Subject: RE: Notes for SCR discussion tomorrow.
Date: Monday, July 1, 2013 1:35:50 PM PT
From: Joyner, Ronald (398J)
To: Lynn Neakrase
CC: Hughes, John S (3980), Law, Emily S (3980)

Howdy,

The reason for changing the data type to ASCII short string collapsed was to match the data type used by:

```
<xs:element name="information_model_version" type="pds:ASCII_Short_String_Collapsed" minOccurs="1" maxOccurs="1">  
</xs:element>
```

The difference is that there is a Schematron rule that ensures <information_model_version> is conformant to the published value (which just happens to be a four-part value: '1.2.3.4'). I didn't want to muddy CCB-8 with an additional constraint – with the thought that we might / could add the Schematron rule later. The point is that the data provider will simply embed the published value for <ldd_version_id>. At this juncture, I don't know that it makes sense to include validation rules --- peer review could pick up any discrepancies...

Are we having fun yet...

RJ

From: Lynn Neakrase [mailto:lneakras@nmsu.edu]
Sent: Monday, July 01, 2013 12:07 PM
To: Law, Emily S (3980); Stein, Tom (6900-Affiliate); Trent M Hare; Joy, Steven P (4600-Affiliate); Showalter, Mark R (7900-Affiliate); Carol Neese; Todd King
Cc: Crichton, Daniel J (4231); Joyner, Ronald (398J)
Subject: Notes for SCR discussion tomorrow.

Hi CCB,

We've received some comments from Dick Simpson about a few of the SCRs for tomorrow.

CCB-5

Recommended change to SCR adding "robotic arm" to list (definition of robotic arm):

Change "and" to "and/or". InSight will have an "arm" for deploying instruments to the surface. It may dig into the surface, though I don't think that is the intent. It will NOT be collecting soil samples. The current wording implies that the arm must do all three tasks.

CCB-8

The SCR for ldd_version_id says the solution will allow values with up to four parts -- for example, 1.2.3.4. But the change proposed actually does away with the pattern entirely - it must only be an ASCII short string collapsed. In which case we could have values of the form "Dick's LDD version of 1 July 2013" and even less useful forms "aa3s" or "today". I'm not opposed to changing the pattern; but the new pattern should maintain the hierarchy implicit in the 1.2.3.4 format.

CCB-9 (also refers to CCB-2)

The proposed definition of lander provides no guidance for distinguishing "lander" from "spacecraft" or "rover". In fact, Opportunity could be a rover, it could be a lander, or it could be a spacecraft. Instrument_Host.type has cardinality "1"; we need to provide USEFUL guidance to data providers so they will select the 'correct' value. Also, all four definitions are circular.

The following are better (but see note at bottom):

spacecraft: a vehicle designed for travel in outer space ("outer space" is the region more than 100 km above the Earth's surface, a convention accepted in many contexts -- see http://en.wikipedia.org/wiki/Outer_space).

lander: a spacecraft designed for descent to and operation at a single fixed point on the surface of a celestial body.

rover: a spacecraft designed for descent to and mobile operation on the surface of a celestial body.

Earth-based: the instrument host is on or near the surface of Earth (no more than 100 km altitude above the surface).

Notes: (1) My definition of "lander" is artificially constrained to distinguish it from "rover".

(2) "Lander" and "rover" are types of "spacecraft"; by placing them at the same level as "spacecraft" we have left the selection process ambiguous. I suggest a note in the definition of attribute "type" requiring that the data provider pick the choice with the finest granularity possible. That is, if the host is a rover, do not select "lander" or "spacecraft".

(3) There are other possibilities: DS2 was a "penetrator", TIME would have been a "boat", CHOPPER would have been a "hopper", the RANGER series were "impactors," VEGA was a "balloon", GALILEO PROBE was a "probe", MARINER 2 was a "flyby". Do you want to flesh out the list? If you're going to subdivide "spacecraft", then fleshing out the list now could save some SCRs later.

Thanks,
-Lynn

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