Subject: Notes for SCR discussion tomorrow.

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From: Lynn Neakrase

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CC: Crichton, Daniel J (4231), Joyner, Ronald (398J)

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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