Meeting: ST4SE Team, May 5, 2020, 3:00 – 4: 00 PM EST

Participating: Mark Blackburn, Hans-Peter deKoning, Bill Schindel

Summary:

1. We mostly discussed items related to representation of pattern configuration rules, whether used for model checking or model generation
2. Mark also discussed digital sign off work with sponsors
3. Hans-Peter summarized plans for Docker packaging of the OML tooling.

Details:

Pattern configuration rules discussion and refs:

4. Bill pointed out questions he has about representation of configuration rules / semantic rules about patterns:
   a. As used historically in the INCOSE MBSE Patterns Working Group, these rules are a part of the related patterns and are used in semi-automatic generation of a configured MBSE model from a pattern and set of project-specific stakeholder needs.
   b. As used historically in the JPL work with patterns, these rules are used to check submitted MBSE models for consistency with the pattern rules.
   c. While expressed in two different ways by those historical activities, and used for those two different purposes, in the current ST4SE project we are focused on showing the combination of both uses (generation and checking) with a (hopefully) single representation of rules.
5. Bill has some questions or wants for confirmation about capabilities for representing these rules in different forms, and comparisons of same to what we have done so far in the INCOSE WG patterns work:
   a. Summary of Gestalt Rules, which are not specific as to how they are represented (language, etc.) but express the gist of what we are checking or else using to generate: Pages 33-35 of http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:pbse_tutorial_glrc_2016_v1.7.4.pdf
   b. General setting of configured model generation process from pattern: Pages 74-83 of http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:pbse_tutorial_glrc_2016_v1.7.4.pdf
   c. More details on key uses of configuration rules within that process: Page 76 of http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:pbse_tutorial_glrc_2016_v1.7.4.pdf
   d. At least b and c above are relatively limited compared to additional configuration rules that (a) might allow. We have been building these rules directly into patterns, not as symbolic logical propositions as much as relationally-expressed constraints.

e. We have some interest in whether we can continue to do this without resorting to symbolic logic representation of rules. Possible? Limited?

f. Also seems related to past discussions by Steve Jenkins of limitations of first order nature of OWL; question of whether other language intentions; similar question related to current SysML V2.0 project.

6. We discussed Jim Ciarcia's (Navy) concerns with how governing schema are supposed to be formally connected to candidate models in projects. Specifically, Jim's concerns with use of SysML stereotypes versus specializations. Not clear to Bill yet that we all (including Jim C) have the same set of issues understood in the same way yet. Discussion by Mark of future group follow up with Jim C.

Digital sign off and related credibiity discussion and refs:

7. Mark discussed work he has been involved for digital sign off with sponsors.

8. Mark will send us links to the related slides he showed.

9. This seems also related to model trust and authority work as discussed in past:

   a. Basis of authority of model assertions, as described by Steve Jenkins concerning JPL ontology.

10. Model Credibility Assessment Frameworks (CAFs) and Model Characterization Pattern (model wrapper) as described from Patterns WG, ASME Model Credibility standards working group, and V4 Institute: See Appendix III of http://www.omgwiki.org/MBSE/lib/exe/fetch.php?media=mbse:patterns:model_characterization_pattern_mcp_v1.9.3.pdf

11. A key connection between [consistency of a model with a pattern] and [credibility of a model] is that we'd like for credibility of a pattern that the model is consistent with to allow possible propagation of credibility of model trust in a pattern to convey credibility of model trust in a configured model consistent with it, as well as the opposite (suspicion of less credibility when a model is inconsistent with a trusted pattern).

12. What is the connection of these to sign-off?

   a. At the least, it could help signers understand whether they have a basis for signing or reason not to sign.

   b. More complex is the difference or even conflict between authority-based trust (as in sign-off by a trusted authority) versus model consistency/inconsistency. Galileo or the Inquisition? Related to the current INCOSE project in support of INCOSE Vision 2035 theoretical foundations section, concerning how groups come to trust models (closing gaps science-wise versus closing gaps authority/social network-wise).

Docker packaging of OML tooling:

13. Hans-Peter reported that he thinks progress on the packaging of a Docker based installation for Windows will allow him to make it available soon—maybe by next meeting.