

## Semantic Model Workgroup Virtual F2F Meeting Minutes November 15, 2016

The Semantic Model Workgroup Face-to-Face Conference Call was called to order at about 9:05 MST and ended about 12:20.

### (1) Administrivia and Introduction

- (a) Jeremy Reitz (chair) officiated.
- (b) Minutes Taker: Bill Wagner
- (c) Attendees
  - a. Eric de Bruijn (Ultimaker)
  - b. Smith Kennedy (HP)
  - c. Ira McDonald (High North)
  - d. Jeremy Reitz (Xerox, Chair)
  - e. Michael Sweet (Apple)
  - f. Paul Tykodi (TCS, SM Vice-Chair)
  - g. Bill Wagner (TIC, SM WG Secretary)
  - h. Rick Yardumian (Canon)
  - i. Pete Zehler (Xerox)

### (d) Agenda

See meeting slides at [Semantic-Model-November-2016-meeting\\_rev2.pptx](ftp://ftp.pwg.org/pub/pwg/sm3/slides/) (in ftp://ftp.pwg.org/pub/pwg/sm3/slides/)

### (2) Project Status Review

- (a) CIP4 JDF Mapping (JDFMAP):
  - (i) Paul has contacted PWG member involved in similar activity, and has provided JDFMAP Prototyping Requirements document
  - (ii) Response anticipated before end of 2016. Paul will follow up (ACTION ITEM)
  - (iii) Jeremy agreed to check at Xerox to see if some group there would volunteer to be alternate prototyper candidate (ACTION ITEM)
  - (iv) Prototyping requirements in general were discussed and there was working group agreement that specific requirements could be negotiated if they prevented the candidate company from agreeing to do the prototyping.
- (b) SM2 update using the IANA IPP element list
  - (i) Bill identified approach and indicated that there was little progress because of size of task, unavailability of usable, updated, web-accessible pictorial representation of model, and multitude of questions about correlation of IPP and SM elements.

- (ii) Specific issues were to be discussed in time available before scheduled break.
- (c) Print 3D Efforts
  - (i) The efforts of initial SM3 effort by generating Print3D Service were identified, including the intent to correlate information assembled by Daniel to the SM after the break.
  - (ii) Rational for the example 3DJob Ticket effort were presented, especially relation to 3MF being able to identify suitable job tickets. Status is that effort is postponed until after a preliminary Print3D Service is generated, both to ensure that sample was consistent with model and to allow automatic generation of the Print3D Job ticket information from the model information.
  - (iii) It was suggested that, in conjunction with the previous JDF mapping effort done with the help of Rainer Prosi (Heidelberg, CIP4 CTO), Rainer be informed of the current Print 3D activity including the intent to develop a Print 3D Job Ticket. Ira agreed to do this (ACTION ITEM)
- (d) Other previously identified tasks were not discussed. These included:
  - (i) Update of Charter
  - (ii) Update of PWG/SM Web pages by inclusion of sample Print Job Ticket (from <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-pjt10-20120801-5108.07.pdf>), with corresponding Print Job Receipt and Print Service Capabilities examples, with explanation.
  - (iii) Inclusion in PWG/SM Web pages of sample Print 3D Job Ticket, Job Receipt and Service Capabilities, with explanation
  - (iv) Reference in PWG/SM Web pages to HTML accessible versions of both latest approved and currently in development Models, with appropriate explanation.
  - (v) Breakdown of current projects into defined tasks, with schedules, for ability to create process charts for each chartered project.

### **(3) Discussion of SM2 Update using IANA list of IPP Attributes**

- (a) Bill presented the current version of the [elements-IANA-registry-20161114.xlsx](#) spreadsheet.
- (b) Pete provided the information that an SM Element corresponding to an IPP Deprecated attribute should both be listed in the deprecated elements file, and should be retained in the model but be decorated with information indicating that it is deprecated. Therefore:
  - (i) The elements corresponding to deprecated IPP attributes are to be located in the model
  - (ii) The validity of deprecation of each instance of the element in the model, and the effect on parents and children (if any) is to be considered

- (iii) Deprecation, if agreed to, is to be properly reflected in the SM2 version of the model.
- (iv) Elimination from the model is to be considered for the SM3 version.
- (c) IPP XXX-supported attributes, such as " jpeg-features-supported" generally correspond to SM Service Capabilities' elements. One should consider whether the XXX-supported has a parallel xxx-supplied element in Document Description Capabilities and Job Description Capabilities.
- (d) The new XXX-col impression attributes in IPP were patterned after existing detailed impression elements in the model. So they do exist in the model, but perhaps not as XXX-col elements. The model should be checked for uniform implementation in all places where appropriate impressions counters exist. Note that IPP does not provide -col detail for service (printer) counters.
- (e) With respect to IPP operation error messages, these are not specifically included in the WSDL model, but are listed under 'well known values'
- (f) Bill will continue to identify changes for SM2 versus the currently posted Schema [ACTION ITEM]

**(4) Start Generation of Print3D Service from of Daniel's Print 3D Service Description comparison chart ([Print3DServiceDescription-20161109.xlsx](#))**

- (a) Pete started the generation of the Print3D Service in a copy of the Schema by creating a duplicate of the Print Service and labeling it Print3D.
  - (i) Although it will be checked, it was assumed that all elements inherited from the Imaging Service class would be retained
  - (ii) Starting with Service Description, elements in the IPP 3D Extensions Printer Description table that were not already in the model Service Description were added.
  - (iii) The general approach was that
  - (iv) XXX-supported attributes would correspond with Service Description elements, and may have parallel xxx-supplied elements in the Service Print Job and Print Document Description Capabilities types
  - (v) XXX-ready attributes have corresponding elements in the Capabilities Ready area in terms of xxx-supplied elements in the Service Print Job and Print Document Description Capabilities types
  - (vi) There was some discussion dealing with material diameter supported attribute, with the suggestion that material diameter tolerance was perhaps a more important element since it related to the uncertainty in product accuracy. It was pointed out that there were separate print accuracy elements, but it was unclear that these satisfied the question. This was left as an issue to be handled in comments on the IPP 3D extensions document.(ACTION ITEM)

(vii) It is intended that this process of generating the Print3D Service continue during SM conference calls. Pete should post the in process schema, hopefully with web accessible pictorials (ACTION ITEM)

(b) Previous Decisions to be revisited - not addressed

(i) It was previously discussed whether the model need to include documents as objects for 3D Print since IPP allows for Documents but does not provide much attribute control. The follow were suggestions, although nothing was decided. By default, it might be best to fully include documents (as objects) in the model.

(ii) Model effort must define gamut of 3D Print Services considered.

(iii) Suggestion that Model could define more than one level of Print3D Service (but not approach used in past)

(iv) First cut at Print3D Service will not include Document and Document Ticket elements, but such elements will be tagged for future inclusion.

## **(5) Other Issues**

(a) Jeremy suggested that, to ensure that the semantic model keep track with IPP, the PWG specification generation process require that the semantic model be updated to consider and reflect the proposed addition/change. This has the advantages of both ensuring that the model remain current and providing another, more general view of the proposed IPP proposal.

(b) Problems of making this a required part of the process versus a recommended practice were discussed. The subject was put on the agenda of the SC conference call scheduled for 17 November.

## **(6) Next Steps and Action Items**

(a) Next Semantic Model Workgroup conference call will be at 1PM EST December 7, 2016.

(b) Action Items:

(i) Paul will follow up on request for JDFMAP prototyper - before next SM Conference call

(ii) Jeremy will check at Xerox to see if some group there would volunteer to be alternate prototyper candidate- before next SM Conference call

(iii) Ira will communicate the Print 3D Job Ticket to Rainer Prosi (Heidelberg, CIP4 CTO) - before next SM Conference call

(iv) Bill will continue to identify changes for SM2 versus the currently posted Schema - Continuing

(v) Issue of IPP 3D Extensions material diameter supported attribute, and the suggestion that material diameter tolerance was perhaps a more important element since it related to the uncertainty in product accuracy. -an issue to be handled in comments on the IPP 3D extensions document.

(vi) Pete post the in process schema, hopefully with web accessible pictorials - as practical

Submitted by Bill Wagner 17 November 2016