The Printer Working Group

Semantic Model Workgroup Status

February 14, 2017

Sunnyvale, CA (hosted by Apple)

Jeremy Reitz (Xerox)

Semantic Model Workgroup

- Semantic Model Workgroup Officers
  - Chair: Jeremy Reitz (Xerox)
  - Vice-Chair: Paul Tykodi (TCS)
  - Secretary: Bill Wagner (TIC)
- Document Editors:
  - Jeremy Reitz (Xerox) – SM2, SM3 Schema
  - Pete Zehler (Xerox) – Print3D Model
  - Ira McDonald (High North) – JDFMAP (awaiting prototype)
  - Rick Yardumian (Canon) – JDFMAP (awaiting prototype)

Introduction

- The PWG Semantic Model defines the semantic elements that constitute the imaging services and subunits of a network-connected Imaging System, and the actions that operate on the objects and elements of the model, independent of a specific protocol or network environment.

- By the current workgroup charter, the primary function of the Semantic Model workgroup is to keep the model updated with additions and changes developed by other PWG workgroups, to make the model documentation accessible without the need for special software, and to provided for the review and approval of model updates by the PWG membership.

- The intent of maintaining an abstract model in parallel with the IPP protocol is to document the Imaging Technology-specific aspects of defining a Imaging Job, describing an Imaging Service, and communicating the status of these two types of objects in readily comprehensible way.

- Mapping CIP4 JDF to PWG Print Job Ticket v1.0 (JDFMAP)
  - Current draft (ftp://ftp.pwg.org/pub/pwg/sm3/wd/wd-smjdfmap10-20150604.pdf) is at Prototype level, awaiting prototype reports.
  - Effort to solicit candidates to do prototyping appears to have been unsuccessful.
  - It was decided in the previous SM Meeting session to: _____

- Print3D Service
  - In accord with the SM Workgroup charter, the information in the IPP 3D Printing Extensions draft was abstracted to add a Print3D Service to the current Semantic Model. This included the definition of a Print3D Job Ticket.
  - The Semantic Model including the Print3D Service is in Schema 2.909 (ftp://ftp.pwg.org/pub/pwg/sm3/schemas/pwg-semantic-model-master2.909.zip). The model needs to be reviewed and the additions made to the IPP extension during Last Call and Vote need to be added.
  - It is to be determined whether specific Print 3D Operations and operations elements need to be modeled.

- Update and Finalization of Semantic Model 2
  - The defined project was to produce an updated version of SM2, reflecting corrections and reasonable additions from IPP, but no Cloud or 3D aspects, to finalize and document this version and subject it to an approval process.
  - The effort of comparing the IANA-Registered IPP attributes with the Gap analysis is still in progress. The continuance of this project depends upon Schema maintenance approach.

Projects and Status – Identified Projects

- SM 3
  - The intent was to produce an updated version of SM2, reflecting corrections and reasonable additions from IPP, but no Cloud or 3D aspects. This was to complete the MFD Model. A follow on SM3 project was to refine the MFD model and add the Cloud printing semantics, and more recent IPP additions including Infra, extended finishing and 3D Printing.
  - Because of the interest in 3D Printing and the lack of resources to complete SM2 in a timely manner, 3D Printing was added to the basic SM2 model before update. Although the current Schema could be developed into a updated SM2 and an SM3 version, it is unclear that there the interest or the resources to do this.
  - Therefore the SM3 project, as differentiated from SM2 update, has been suspended pending a decision on how to proceed.
- Update of the Semantic Model Web Pages
  - It had been discussed that the SM parts of the PWG Web page should be expanded to:
    - Give clear examples of the 2D Print Service Capabilities (PSC), Print Job Ticket (PJT), and Print Job Receipt (PJR)structures, including a narrative description.
    - Provide parallel information for 3D imaging
    - Reference the Web-browsable pictorial representations of schema for both completed/approved models and in-process model developments, so that viewers unfamiliar with the PWG Imaging System models may clearly understand, comment on and contribute to what we have done and the new things we are working on.
    - How and whether we will work on this activity has yet to be decided.

Generating Schema from IPP Registry

- The primary chartered responsibility of the SM Workgroup is to maintain a model consistent with the evolving IPP protocol. Indeed, the SM2 update project has become a time-consuming manual correlation of IANA Attributes with the Model elements.

- Michael Sweet has developed "Proof-of-concept" code to generate SM schema from the IPP registry. This approach is promising, as will be evident by comparing the registry-derived schema with the current generated schema.

- The use of this capability in fulfilling the Semantic Model Workgroup Charter has been discussed in the previous session.

Issues & Next Steps

- The ability of the WG to act on chartered projects and provide a realistic plan and schedule for those projects depends upon having reliable, competent resources for execution and review.
- There have been insufficient resources to proceed with the projects in a timely manner and insufficient participation in SM conference calls to review the work that has been done.
- How to Proceed
  - As discussed in the previous session, the derivation of a Semantic Model from the IPP Registry by Michael's code provides a way to satisfy charter requirements without requiring extensive resources.
  - There are questions relating to:
    - the degree this derivation capability should be enhanced to approach the full capability of the current model.
    - The handling of the other identified SM WG projects
    - What workgroup should take on maintenance of the Model Schema, and who is responsible
    - Should the SM Workgroup be suspended
    - And others
  - Tentative answers from the previous session are: _____

More Info/How to participate

➢ **We welcome more participation from member companies**

➢ **Much of the discussion of issues will be on the SM3 mail list. You must subscribe to the list to be able to post to the list. See http://www.pwg.org/mailman/listinfo/sm3 to subscribe.**

➢ **The group maintains a Web Page for Semantic Model that includes links to the latest documents, schema and a browse-able version of the schema at http://www.pwg.org/sm3**

➢ **Next conference call: To be announced on the SM3 mail list.**

Call-in toll-free number (US/Canada): 1-866-469-3239

Call-in toll number (US/Canada): 1-650-429-3300

Call-in toll number (US/Canada): 1-408-856-9570

https://ieee-isto.webex.com/ieee-isto/e.php?MTID=m8f8fab044b3f41be0f376cb7745eca40