Cloud Imaging Working Group

August 2, 2011

Camas, Washington

Cloud Imaging WG Meeting Agenda

When	What
9:00 – 9:15	**Introduction and Administrative Issues** Intellectual Property Policy Statement Identify Minute Taker Introduce Participants Consider Agenda Acceptance of Previous Minutes (ftp://ftp.pwg.org/pub/pwg/cloud/minutes/cloud-concall-minutes-20110718.pdf) Action Items
9:15 – 9:30	Cloud Imaging WG Overview
9:30 – 10:30	Use Case Consideration for Cloud Imaging
10:30 – 10:45	Break
10:45 – 11:45	**PWG Semantics in Cloud Printing Components** Job Tickets for Cloud Services Printer Characterization Job Ticket Persistence
11:45 – 12:00	Next Steps, Wrap Up

Officers

❖ Chair: Ron Nevo (Samsung)

❖ Vice Chair: Bill Wagner (TIC)

❖ Secretary: Michael Sweet (Apple)

❖ Document Editors:

  ➢ Ira McDonald (High North): Cloud Print Internet Printing Protocol Binding, Cloud Imaging Model and Requirements, Print Ticket Mapping

  ➢ Joe Murdock (Sharp): Cloud Print SOAP Binding, Cloud Imaging Model and Requirements

  ➢ Peter Zehler (Xerox): Cloud Print SOAP Binding, Cloud Imaging Model and Requirements, Print Ticket Mapping

  ➢ Ron Nevo (Samsung): Cloud Imaging Model and Requirements, Print Ticket Mapping

  ➢ Michael Sweet (Apple): Cloud Imaging Model and Requirements, Print Ticket Mapping

  ➢ Justin Hutchins (Microsoft): Print Ticket Mapping (XPS)

Action Items

❖ Justin to look into XPS schema licensing/issues

❖ Justin to post URL for XPS schema to cloud list (DONE)

❖ Justin to post URL for OPC spec to cloud list (DONE)

❖ Mike to post PPD to PWG mapping table to cloud list

❖ Larry Upthegrove to provide set of Scenarios representing characteristic user situations (DONE)

❖ Mike to maintain a word document containing all use cases - post as PWG best practices (ONGOING)

Overview

❖ To allow support of convenient and full featured imaging services in conjunction with Cloud Computing and other Cloud-based facilities, the PWG held a series of BOF meetings focused on modeling and understanding the use cases, requirements, and existing implementations.

❖ This culminated with the creation of the Cloud Imaging Working Group in February 2011.

❖ The approved charter of the working group is at
ftp://ftp.pwg.org/pub/pwg/cloud/charter/ch-cloud-charter-20110620.pdf

❖ Under this charter, the WG is to address Cloud Printing in Phase 1, extending to Cloud Imaging in Phase 2.

❖ The Phase 1 effort is to produce three documents:
  ➢ Cloud Imaging Model and Requirements
  ➢ Cloud Print Internet Printing Protocol Binding
  ➢ Cloud Print SOAP Binding

Overview (cont)

❖ This effort is taking longer than envisioned, with activity still on Use Cases, after the first draft milestone dates.

❖ Meanwhile, actual Cloud Printing implementations have proceeded. It is suggested that the WG should take the opportunity to encourage the use of PWG compatible semantics in the printer and printing specific aspects of what may become cloud printing implementations.

❖ Therefore, the Cloud Imaging WG is also considering:

  ➢ Job Tickets and Printer Characterizations for Cloud Printing Services such as Google Cloud Print

  ➢ Job Ticket Persistence and serializing/embedding Job Ticket information in document file

  ➢ Methods of tracking document processing aspects requested in Job Ticket performed as print job proceeds from originator to final device.

❖ These considerations do require a WG Charter update.

Cloud Imaging Model and Requirements

Outline
1. Introduction
2. *Terminology*
3. Requirements
   Rationale
   Use Cases
   Out of Scope
   Design Requirements
4. Cloud Imaging Model Concepts
5. Cloud Imaging Operations
6. Cloud Imaging Attributes
7. Conformance
8. Internationalization Considerations
9. Security Considerations
10. References
11. Authors' Addresses

Cloud Imaging Model and Requirements- Where are we?

- ❖ Rationale – should exist in Cloud BOF Material
- ❖ Use Cases –
  - ➢ Which use cases from yesterday's Use Case BOF apply to Cloud Imaging?
  - ➢ Are there other compelling use cases we have not discussed?
  - ➢ How do we apply this to Cloud document?
- ❖ Out of Scope
  - ➢ Any use cases we want to make out-of-scope?
  - ➢ Any aspects of Cloud Imaging Out of Scope?(See charter)
- ❖ Design Requirements
- ❖ Any other sections?
- ❖ Review who is doing what? When?

PWG Semantics in Cloud Printing-
Job Tickets for Cloud Services

❖ **PWG to XPS and PPD Mapping**

  ➢ Presumably a PWG schema could be used with OpenXPS

  ➢ See whether XPS or PPD formats can be used/gateway to the PWG SM/job ticket. What about printer characterization?

  ➢ Justin to look into XPS schema licensing/issues.

  ➢ CUPS has supported PWG->PPD mapping for years, some options are hard to map; PPD mapping will be small - little standardization beyond what is defined in PPD 4.3 spec (1989)

❖ **Best-practices document**

  ➢ Mapping Job Tickets in XPS and PPD format to/from PWG Semantic Model elements

  ➢ Contributors
    • Ron Nevo: Editor
    • Michael Sweet: PPD Mapping
    • Justin Hutchins: XPS elements
    • Peter Zehler, Ira McDonald: PWG Semantics

  ➢ Schedule?

  ➢ How to publicize?

PWG Semantics in Cloud Printing-PWG Job Ticket

❖ PWG Job Ticket

  ➢ Presumably a PWG schema could be used with OpenXPS

  ➢ Semantics Model WG to consider documenting PWG Print Ticket in a specification; perhaps also Printer Characterization document.

❖ Cloud Imaging Input

  ➢ Although the documentation of the existing PWG Semantic Model Job ticket is reasonably done by the SM Workgroup, the Cloud Imaging WG can consider the application of the Job Ticket in a Cloud Printing application and make some recommendations and requests.

  ➢ Many of the PWG job ticket elements are not applicable to current cloud printing?

    • Provide guidance on required/suitable subset.

    • Correlate with Bluetooth BPP?

PWG Job Ticket & Considerations

- Deal with late binding of things like copies, N-up?Maybe have a "job ticket applied" section in the job ticket so that subsequent job processors know what properties have been applied?

  - "Status monitoring of transforms"

  - Create a new job ticket, modify the existing job ticket, or just annotate the job ticket to indicate which properties have been applied?

  - Job receipt is a place that can contain the annotations for what is applied

  - Order of transforms may be an issue - Group transforms if there are dependencies - thus you may not be able to pre-apply transforms

Job Ticket/Job Data Bundling

❖ Serializing job ticket with/along side document may be of general applicability

  ➢ How to bind job ticket to document data? Also address embedding of job ticket info in low-level formats (e.g. PWG Raster)

  ➢ How to support "dumb" ports/interfaces consistently?

  ➢ How to bind job ticket, job receipt, and document data together

❖ Possible Approach

  ➢ CIP4/JMF solution: ZIP file with a MIME media type used to bind job ticket and document data. (ISO standard for XML + ZIP - http://en.wikipedia.org/wiki/Open_Packaging_Convention) discussion in best practices document or as separate specification.

❖ Plan?

  ➢ Who can do what? When?

  ➢ How to publicize?

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Next Steps

- ❖ Charter Update (to be submitted to PWG SC)
- ❖ Support of Current Cloud Printing Approaches
  - ➢ Mapping of PWG Semantic Model elements into PPD format and XPS format (Pending resolution of Microsoft Print Schema restrictions)
  - ➢ Input to Semantic Model WG on PWG Job Ticket document
- ❖ PWG Cloud Imaging Documents
  - ➢ Develop an initial working draft of Cloud Imaging Model and Requirements.
  - ➢ Develop an initial working draft of Cloud Printing IPP Binding.
  - ➢ Develop an initial working draft of Cloud Printing SOAP Binding.
- ❖ Consideration of OPC "Wrapper" for consolidating structures necessary for Cloud Imaging
- ❖ Specific Action Items!

Cloud Imaging WG Participation

- ❖ We welcome participation from all interested parties
- ❖ Cloud Imaging Working Group Web page
  - ➢ http://www.pwg.org/cloud/index.html
- ❖ Cloud Imaging Working Group Wiki
  - ➢ http://pwg-wiki.wikispaces.com/Cloud+Imaging
- ❖ Subscribe to the Cloud mailing list
  - ➢ https://www.pwg.org/mailman/listinfo/cloud
  - ➢ cloud@pwg.org
- ❖ Cloud Imaging WG holds bi-weekly phone conferences announced on the Cloud mailing list
  - ➢ Next conference call is August 15th, 2011 at 1 pm (ET)
  - ➢ Conferences on opposite weeks of IPP WG calls