



The Printer Working Group

Printer Working Group Plenary Session

August 6, 2013

PWG F2F Meeting

Camas, WA

Michael Sweet (Apple)



Plenary Agenda

- Administrivia
- Open Issues
- PWG Working Group Status [WG Chairs]
 - Semantic Model (MFD)
 - IPP
 - IDS (Imaging Device Security)
 - Cloud Imaging Model
- Liaison Status
 - AFP Consortium
 - BBF - CWMP
 - TCG
- Next Meeting Details

Administrivia



- Welcome and Introductions
- Confirm Minutes Taker
- Approve/Modify Agenda
- Approve Previous Plenary Minutes
- Review PWG Patent Policy
- Agenda for the Week
- Future PWG Meeting Schedule
- 2013 Membership
- PWG Officers



PWG Patent Statement

- PWG standards may include the known use of essential patents and patent applications provided the PWG Chair receives assurance from the patent holder or applicant with respect to patents whose infringement is, or in the case of patent applications, potential future infringement the applicant asserts will be, unavoidable in a compliant implementation of either mandatory or optional portions of the standard. This assurance shall be provided without coercion.



PWG Patent Statement

- This assurance shall be either:
 - a) A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement either mandatory or optional portions of the proposed PWG standard against any person or entity complying with the standard; or
 - b) A statement that a license for such implementation will be made available without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination.



PWG Patent Statement

- The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG members shall, from the outset, draw PWG's attention to any relevant patents either their own or of other organizations including their Affiliates that are known to the PWG members or any of their Affiliates, although PWG is unable to verify the validity of any such information.

Inappropriate Topics for PWG Meetings



- Don't discuss the validity/essentiality of patents/patent claims
- Don't discuss the cost of specific patent use
- Don't discuss licensing terms or conditions
- Don't discuss product pricing, territorial restrictions, or market share
- Don't discuss ongoing litigation or threatened litigation
 - Don't be silent if inappropriate topics are discussed
 - ...do formally object.



Agenda for the Week

- **Tuesday, August 6**
 - 9:00 - 12:00 IDS/MFP TC
 - 12:00 - 1:30 Lunch
 - 1:30 - 2:30 PWG Plenary
 - 2:30 - 5:00 IPP - Self-Certification, Implementors Guide
- **Wednesday, August 7**
 - 9:00 - 12:00 IDS/MFP TC
 - 12:00 - 1:30 Lunch
 - 1:30 - 5:00 Cloud Imaging Model
- **Thursday, August 8**
 - 9:00 - 12:00 Semantic Model
 - 12:00 - 1:30 Lunch
 - 1:30 - 3:30 IPP - FaxOut Service, Shared Infrastructure

2013 PWG Meetings



- October 22-24 Cupertino, CA (hosted by Ricoh)



2014 PWG Meetings (Proposed)

- February 4-6 in Irvine, CA (Samsung)
- May 13-16 in Cupertino, CA (Apple)
 - Joint PWG - OpenPrinting meeting
- August 12-14
- October 21-23

Planning for 2014 meetings is now in progress. Please let the PWG Chair know if you would like to host a meeting in August or October 2014.

2013 Membership



33 Members

Apple	High North	Northlake
Brother Industries	Hewlett Packard	Oki Data
Canon	Intel	QualityLogic, Inc.
CSR	Konica Minolta	Ricoh
Danny Brennan	Kyocera Mita	Samsung
Daniel Dressler (N-V)	Lexmark	Sharp Labs
Dell	Meteor Network	Technical Interface Consulting (N-V)
Digital Imaging Technologies	Microsoft	Thinstream Technologies
Epson	MPI Tech	Toshiba America Business Solutions
Fenestrae B.V.	MWA Intelligence	Tykodi Consulting Services LLC
Fuji Xerox	Nancy Chen	Xerox



PWG Officers (2011-2013 Term)

- PWG Chair: Michael Sweet, Apple
- PWG Vice-Chair: Nancy Chen
- PWG Secretary: Ira McDonald, High North
- PWG Webmaster: Currently Unfilled
 - Michael Sweet temporarily serving in this capacity
- Accepting candidates for 2013-2015 term *today*
- Will announce results of vote at the October 2013 F2F



Open Issues

- Semantic Model (SM) WG needs a secretary
- PWG server transition and web site update
- Time for a 3D Printing BOF?



PWG Server Transition

- Back in February 2013, Lexmark notified us that they would no longer be able to host pwg.org
- We subsequently purchased a Linux-based Virtual Private System (VPS) through Linode.com
- The transfer of pwg.org to the new VPS was completed on July 25, 2013



PWG Web Site/Server Updates

- We will be rolling out some web site/server updates over the next several months:
 - Appearance changes for the new PWG logo
 - Content management system with blog, comments, web site accounts, etc.
 - New email aliases for PWG and WG officers + spam reporting
- Work to be done by Michael Sweet and Daniel Dressler
- Future updates to include:
 - Registration of IPP Everywhere Self-Certification results
 - Issue tracker for reporting of errata/issues in specifications
 - Surveys and polls
- The old PWG Wikispaces and Survey Monkey accounts will be closed out by the end of the year



Time to do a 3D Printing BOF?

- 3D printing has mainstream exposure now
- Microsoft is including basic 3D printing support in Windows 8.1 based on MSPS and a 3D version of OpenXPS called 3D Manufacturing Format (3MF)
- Is there interest in doing a 3D Printing BOF?
- If so, when and where?
 - MAYBE AUGUST AT ISTO OFFICES? NEED TO CONFIRM
- What are the topics?
- Who else do we invite?



The Printer Working Group

PWG Working Group Status



The Printer Working Group

Semantic Model Working Group Status

August 6, 2013

PWG F2F Meeting

Camas, WA

Daniel Manchala (Xerox)



Purpose of the effort

- The Semantic Model working group is concerned with the modeling of imaging services and subunits that comprise a network connected Multifunction Device. The Objectives are:
 - The definition of a framework for the complete MFD model.
 - Drive to a standard semantic definition for an MFD's Subunits, Services, Jobs and Documents.
 - Agreement on the semantics of their attributes, operations and parameters.



Approved Documents:

- **Print Service: Approved January 2004**
 - PWG 5105.1: PWG Semantic Model Specification Version 1.00
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm10-20040120-5105.1.pdf>
- **Scan Service: Approved April 2009**
 - PWG 5108.02-2009: Network Scan Service Semantic Model and Service Interface Version 1.0
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-scan10-20090410-5108.02.pdf>
- **Resource Service: Approved July 2009**
 - PWG 5108.03-2009: Network Resource Service Semantic Model and Service Interface Version 1.0
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-resource10-20090703-5108.03.pdf>



Approved Documents:

- **MFD Common Semantics: Approved April 2011**
 - PWG 5108.1: MFD Model and Common Semantics Version 1.00
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-mfdmodel10-20110415-5108.1.pdf>
- **Copy Service: Approved June 2011**
 - PWG 5108.04: Copy Service Semantic Model and Service Interface Version 1.00
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-copy10-20110610-5108.04.pdf>
- **MFD Requirements: Approved September 2010**
 - Multifunction Device Service Model Requirements
 - <ftp://ftp.pwg.org/pub/pwg/informational/req-mfdreq10-20100901.pdf>



Approved Documents:

- **FaxOut Service: Approved August 2011**
 - PWG 5108.05-2011: FaxOut Semantic Model and Service Interface
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-faxout10-20110809-5108.05.pdf>
- **System Control Service: Approved February 2012**
 - PWG 5108.06-2011: System Object and System Control Service Semantics Version 1.0
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-20120217-5108.06.pdf>
- **Print Job Ticket: Approved July 2012**
 - PWG 5108.07-2012: PWG Print Job Ticket and Associated Capabilities Version 1.0
 - <ftp://ftp.pwg.org/pub/pwg/candidates/cs-sm20-pjt10-20120801-5108.07.pdf>



In Progress Documents:

- FaxIn Service: (Work in Progress)
 - FaxIn Service: Semantic Model and Service Interface – December 1, 2012 Interim Draft
 - <ftp://ftp.pwg.org/pub/pwg/mfd/wd/wd-mfdfaxinmodel10-20121201-rev.pdf>
- Transform Service (Work in Progress)
 - Transform Service: Semantic Model and Service Interface - August 7, 2012 Interim Draft
 - <ftp://ftp.pwg.org/pub/pwg/mfd/wd/wd-mfdtransformmodel01-20120807.pdf>
- Mapping Related Standards
 - Mapping related standards to/from PWG PJT v1.0
- Semantic Model / MFD Charter
 - Revise the Semantic Model/MFD charter



In Progress Documents

- Schema Status:
 - Named version (v1.180) published for PWG Print Job Ticket
 - Latest (v1.185) Up to date with In Progress specifications
 - Transform Service (mostly complete)
 - FaxIn Service (up to date)
 - FaxOut Service (up to date)
 - Cloud Print extensions (WIP – WSDL operations needs update)



Remaining Projects

- Planned to be addressed after the current documents are complete. (Subject to volunteers to be Editors)
 - Transform Service
 - Semantic Model v3.0 (Print, Scan, Copy, FaxIn, FaxOut, EmailIn, EmailOut, Transform will be merged from previous models)
 - Resource Service
 - Job Ticket Model
 - Service Integration with Workflow Environments v1.0
 - Mapping Standard v2.0 (DTMF-CIM, AFP, and MODCA)
 - CWMP



Next Steps

- Appoint Secretary of Semantic Model Working Group
- Complete Last Call and Formal Vote on
 - Transform Service: Semantic Model and Service Interface
- Continue Mapping activity
 - Mapping related standards to PWG PJT V1.0 (PJTMAP) - last call and formal vote
 - Create V2.0 of the mapping document with additional standards
- Web Services binding of Cloud Imaging Model
 - Maybe as part of SM v3.0
- Update the MFD Model and Common Semantics Version 1.0 to be the PWG Semantic Model Specification Version 3.0
 - 1.0: Print Service
 - 2.0: Extended it for other MFD Services
 - 3.0: Add complete imaging systems and workflow



More Info/How to participate

- We welcome more participation from member companies
- The group maintains a Web Page for Semantic Model that includes links to the latest documents, schema and a browsable version of the schema
 - <http://www.pwg.org/mfd>



More Info/How to participate

- Information on subscribing to the Semantic Model mailing list is available at <https://www.pwg.org/mailman/listinfo/mfd>
- MFD holds periodic phone conferences, with dates, call numbers and agenda announced on the MFD mail list.



The Printer Working Group

IPP Working Group Status

August 6, 2013

PWG F2F Meeting

Camas, WA

Paul Tykodi (TCS), Ira McDonald (High North)



IPP WG Officers

- IPP WG Co-Chairs:
 - Paul Tykodi (TCS)
 - Ira McDonald (High North)
- IPP WG Secretary:
 - Michael Sweet (Apple)
- IPP WG Document Editors:
 - Ira McDonald (High North) – IPP Scan Service, IPP Shared Infrastructure Extensions (IPPSIX), IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services
 - Michael Sweet (Apple) – IPP Shared Infrastructure Extensions (IPPSIX), IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services, IPP FaxOut Service, IPP Transaction-Based Printing Extensions, IPP Finishings 2.0
 - Smith Kennedy (HP) - IPP Best Practices



IPP WG Status

- IETF RFCs in development:
 - IETF IPP over HTTPS Transport Binding and “ipps” URI Scheme
 - IETF Area Directory Review
 - IETF LDAP Schema for Printer Services (updates RFC 3712)
 - IETF Area Directory Review
- PWG Specifications in development:
 - IPP Everywhere Self-Certification Manual
 - Interim Draft
 - IPP FaxOut Service
 - Completed PWG Last Call
 - IPP Finishings 2.0
 - Interim Draft
 - IPP Implementors Guide 2.0
 - Interim Draft
 - IPP Scan Service
 - Initial Draft
 - IPP Shared Infrastructure Extensions (IPPSIX)
 - Interim Draft
 - IPP Transaction-Based Printing Extensions
 - PWG Last Call



IPP WG Status

- Candidate Standards:
 - PWG 5100.14-2013 - IPP Everywhere
 - PWG 5100.13-2012 - IPP: Job and Printer Extensions - Set 3 (JPS3)
 - PWG 5101.1-2013 - PWG Media Standardized Names 2.0 (MSN2)
 - PWG 5102.4-2012 - PWG Raster Format
- Up-to-date pending IANA registrations online:
 - <http://www.pwg.org/ipp/ipp-registrations.xml>
 - Continue to maintain this in parallel for new specifications
 - PWG version includes draft specifications that have reached prototype status



IPP WG Info / Participation

- We welcome participation from all interested parties
- IPP Working Group web page
 - <http://www.pwg.org/ipp/index.html>
- Subscribe to the IPP mailing list
 - <http://www.pwg.org/mailhelp.html>
- IPP WG holds bi-weekly phone conferences announced on the IPP mailing list
 - Next conference call is August 19, 2013 at 3pm ET



The Printer Working Group

IDS Working Group Status

August 6, 2013

PWG F2F Meeting

Camas, WA

Joe Murdock (Sharp), Alan Sukert (Xerox)



Purpose of the effort

- Hardcopy device have security and access considerations that are not addressed within current hardcopy standards. These considerations should be addressed in a manner common to all hardcopy devices:
 - Hardcopy Devices are currently allowed unfettered access to and storage of secure and controlled documents. There is no standard for controlling document access and defining usage behavior for protecting secure documents.
 - Hardcopy Devices are providing services to mobile devices running different operating system with different methods to consume Hardcopy service. Hardcopy Devices are extending their services as “cloud” resources, and consuming resources from the “cloud”. There is no standard or recommended methodology for authenticating and securing the mobile and hardcopy device, their services or the users consuming those services.
 - Hardcopy Devices are providing and consuming services outside of the traditional concept of a local user on a physical device. There are currently no standards or recommendation for controlling or validating access to these services.
 - The industry is moving beyond basic authentication for access to corporate networks to a more detailed assessment of the “health” of devices before allowing them to access the network. Hardcopy Devices attach to networks, but there’s no standard set of metrics that is used to assess an HCD. As a result, HCDs are treated as an exception and are allowed to attach to the network based solely on a MAC address.
- Our goal is to provide the metrics and mechanisms that allow HCDs to fully participate in assessment-protected networks and provide secure, controlled access to documents and hardcopy services regardless of location or consumer.



Administration

- **IDS WG Chair**
 - Joe Murdock (Sharp)
- **IDS WG Vice-Chair**
 - Alan Sukert (Xerox)
- **IDS WG Secretary:**
 - Alan Sukert (Xerox)
- **IDS WG Document Editors:**
 - HCD-TNC: Ira McDonald (High North)
 - HCD-Remediation: Joe Murdock (Sharp)
 - IDS-Model: Joe Murdock (Sharp), Ira McDonald (High North), Ron Nevo (Samsung)
 - IDS-IAA: Joe Murdock (Sharp)



Approved Proposed Standards

- PWG 5110.1-2013
 - HCD-Attributes
- PWG 5110.2-2013
 - HCD-NAP
- PWG 5110.3-2013
 - PWG-LOG Common Log



Current Status

- HCD-TNC Binding Document
 - Prototype draft completion date Q3, 2013
- HCD Health Remediation
 - Prototype draft completion date Q1, 2014
- IDS-Model Common Requirements
 - Prototype draft completion date Q4, 2013
- IDS-IAA specification
 - Prototype draft completion date Q4, 2013



Next Steps

- IDS Identification, Authentication and Authorization specification
 - Definition of core set of Policy Attributes
 - Harmonize with TCG TNC specifications
 - Define access control values
- IDS model specification
- Monitor progress of MFP Technical community on Protection Profile work



More Info/How to participate

- We welcome participation from PWG member companies and input from the user community
- The group maintains a Web Page and separate WIKI pages for IDS update
 - <http://www.pwg.org/ids/index.html>
 - <http://pwg-wiki.wikispaces.com/Imaging+Device+Security+WG>
- To subscribe to the IDS mailing list, go to :
 - <https://www.pwg.org/mailman/listinfo/ids>
- The group hold bi-weekly conference calls on Mondays at 11:00AM PT/2:00PM ET
 - Next teleconference August 26, 2013



The Printer Working Group

Cloud Imaging Model Working Group Status

August 6, 2013

PWG F2F Meeting

Camas, WA

Ron Nevo (Samsung), Bill Wagner (TIC)



Introduction

- Cloud-based applications and solutions are increasingly common, and Cloud-based printing, scanning, and facsimile (collectively called "Cloud Imaging") are emerging in several different forms. Adopting standard protocols and schemas now will help interoperability, speed adoption, and address privacy and security issues involved in Cloud Imaging.
- A basic functional model including a Client, Cloud Print Provider, Cloud Print Manager, and Printer was developed at previous Cloud Printing BOF sessions. This model revealed several new requirements beyond the existing PWG Semantic Model including registration, enumeration/selection, use of late transforms to preserve fidelity, additional notification events, strict privacy and security policies, and reliable logging.
- The goal of the Cloud Imaging project is to develop a model for providing Imaging Services via a Cloud Imaging System in a way consistent with the PWG Semantic Model and adding to that model as necessary..



- Initially-defined projects included:
 - Mapping of Imaging Service Capabilities and Job Ticket structures used in current Cloud Imaging Systems to and from the Service Description & Status elements and the Job Ticket elements in PWG Semantic Model. When the mapping effort was extended beyond Microsoft Print Schema Specification and the Adobe Postscript Printer Description, it became apparent that this was no longer a Cloud specific activity and the project was transferred to the Semantic Model Working Group.
 - Cloud Printing Requirements and Model, defining the reference model, terminology, and requirements for Cloud Printing. The intent was to quickly provide a viable model for Cloud Printing, and to then extend this model to Cloud Imaging. However, the effort did not proceed quickly and, on consideration, there was not a simple extension to Imaging Services. This project was therefore abandoned in favor of concentrating on the Imaging Services Model.
 - Cloud Imaging Requirements and Model, defining the reference model, terminology, and requirements for Cloud Imaging, including all of the job-oriented services defined in the PWH Semantic Model 2. This is the current project of the Work Group.



Officers and Contributors

- Chair: Ron Nevo (Samsung)
- Vice Chair: Bill Wagner (TIC)
- Secretary: Michael Sweet (Apple)
- Document Contributors:
 - Peter Zehler (Xerox): PWG Job Ticket (basis for Cross Mapping documents)
 - Michael Sweet (Apple): PPD Cross Mapping; Requirements and Model
 - Ira McDonald (High North): JDF Cross Mapping
 - Justin Hutchings (Microsoft): MSPS Cross Mapping
 - Larry Upthegrove: Cloud Printing Requirements and Model
 - Bill Wagner (TIC): Editor
 - Ron Nevo (Samsung): Editor

Status - Cloud Imaging Requirements and Model Specification



- Initial Draft was posted in February, based upon the Printing Model draft
- Introduction, Terminology and Rationale sections
 - Have undergone multiple review and rewrite cycles
 - May still not represent working group consensus
 - Question as to whether Device/Service/Component registration is in-scope, and if it is, how it is to be modeled
 - Question, to be addressed in SM Group, whether Copy is best considered as a distinct Service or a function of the Print Service
- Model section
 - Agreement on overall model not yet reached
 - No Sequence Diagrams
 - Proposed Operations are defined, but set may not be complete
 - If Device/Service/Component registration is in-scope, lack of consensus on what is to be registered and how is it to be modeled.
- Schedule
 - Getting a specification into PWG Last Call in 2013 is unlikely

Next Steps

Cloud Imaging Model and Requirements



- Determine whether project is to continue
 - Project is not making progress, has lost its original contributors, and there are significant differences in concept among participants
 - IPP SIX, nominally addressing an IPP binding of Cloud Imaging, is proceeding ahead of the Model.
 - Since it is unlikely that there will be a binding other than IPP, is there justification to invest effort in an abstract model?
 - If there is, is it reasonable to structure the abstract model of multiple imaging services to reflect a printer centric implementation?
- Get consensus on use cases and requirements
- Get consensus on registration issues
- Generate sequence description and diagrams
- Complete description of operations
 - Need for more Client Side operations, elements and/or descriptions?



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 26, 2013 at 3 pm (ET)
 - Conferences on opposite weeks of IPP WG calls



The Printer Working Group

Liaison Status



- Paul Tykodi has committed to creating a small portion of the proposed MO:DCA-P and IPDS mappings to the PWG PJT
- These mappings were reviewed at the AFP Consortium's meeting in April 2013
 - Provided list of mappings to Paul that needed to be done
 - Paul has provided mappings to AFP via the PWG FTP server
 - Will coordinate further development going forward
- The mappings will be included in the 2.0 version of the PWG PJT Mapping document



BBF - CWMP

- PWG developed, prototyped, and demonstrated a standard CWMP data model for MFD that is a machine translation from the PWG Semantic Model
- BBF members agreed to a formal liaison between the BBF and PWG, with the standard being developed in the PWG SM workgroup and reviewed by the BBF via Thinxtream (member of both BBF and PWG)
- Kick off BBF presentation on September 16, 2013

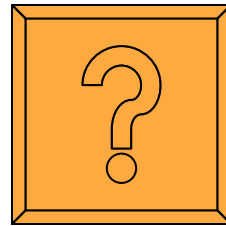


- **Embedded Systems (EmSys)**
 - Scope - SmartGrid, Financial, Medical, Auto, Industrial Control
 - Define embedded TPM/TNC/SED and facilitate demos in 2013
 - Vehicle Services SG - embedded controllers and Internet
- **Trusted Mobility Solutions (TMS)**
 - Scope - BYOD (enterprise) and Mobile Banking/Payment (trusted apps)
 - Define trusted mobile solutions and facilitate demos in 2013
- **Trusted Platform Module (TPM) 2.0**
 - Published February 2013
- **Next TCG Members Meeting**
 - October 21-25, 2013 in Osaka, Japan
- **TCG Website**
 - <http://www.trustedcomputinggroup.org/>



- Add summary of CSS/HTML print discussions
- Call for volunteers if we are accepted

Other Questions / Comments



Next PWG Meeting



- October 22-24 in Cupertino, CA (hosted by Ricoh)

Thank You!



- Thank you Sharp for hosting this meeting!