



# The Printer Working Group

## Printer Working Group Plenary Session

August 12, 2014

PWG F2F Meeting

Toronto, ON

Michael Sweet (Apple)



# Plenary Agenda

- Administrivia
- Open Issues
- PWG Workgroup Status [WG Chairs]
  - Semantic Model (SM)
  - Internet Printing Protocol (IPP)
  - Imaging Device Security (IDS)
  - Cloud Imaging Model (Cloud)
- Liaison Status
  - AFP Consortium - AFPMAP
  - CIP4 - JDFMAP
  - TCG News
  - Wi-Fi Alliance - Wi-Fi Direct Services
  - W3C - CSS Print Job Ticket
- 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
- 2014 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 12
  - 9:00 - 10:30 PWG Plenary
  - 10:30 - 10:45 Break
  - 10:45 - 12:00 OpenPrinting Plenary
  - 12:00 - 1:00 Lunch
  - 1:00 - 2:00 CUPS Plenary
  - 2:00 - 3:00 OpenPrinting - IPP USB
  - 3:00 - 3:15 Break
  - 3:15 - 5:00 IPP - IPPSIX





# Agenda for the Week

- **Wednesday, August 13**
  - 9:00 - 12:00      Semantic Model - SM 3.0
  - 12:00 - 1:00      Lunch
  - 1:00 - 2:00      3D Printing BOF
  - 2:00 - 3:00      OpenPrinting - GNOME/GTK+ Update
  - 3:00 - 3:15      Break
  - 3:15 - 5:00      IPP - Self-Certification



# Agenda for the Week

- **Thursday, August 14**
  - 9:00 - 11:00 Cloud Imaging Model
  - 11:00 - 11:15 Break
  - 11:15 - 12:00 OpenPrinting - Ghostscript + MuPDF Update
  - 12:00 - 1:00 Lunch
  - 1:00 - 3:00 IPP - Implementor's Guide 2.0
  - 3:00 - 3:15 Break
  - 3:15 - 5:00 IPP - Scan Service
- **Friday, August 15**
  - 9:00 - 12:00 IDS - Common Criteria
  - 12:00 - 1:00 Lunch
  - 1:00 - 4:00 IDS - Model and AAA

# 2014 PWG Meetings



- November 4-6 in Waltham, MA (hosted by Conexant Systems, Inc.)



# Proposed 2015 PWG Meetings

- February 3-5 (Location TBD)
- April 28-May 1 (Cupertino, CA, Joint PWG/ OpenPrinting, hosted by Apple)
- August 11-13 (Camas, WA, hosted by Sharp)
- November 3-5 (Location TBD)

# 2014 Membership



## 36 Members

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

Invoices for 2014 Dues Have Been Sent



# PWG Officers (2013-2015 Term)

- PWG Chair: Michael Sweet, Apple
- PWG Vice-Chair: Nancy Chen
- PWG Secretary: Ira McDonald, High North

# Open Issues



- Semantic Model (SM) WG needs a secretary
- PWG needs a webmaster
- PWG web site update



# PWG Web Site Update

- Changes in available development resources have forced us to revisit the scope of changes for the web site update
- Current plan of record is as follows:
  - Update PWG web site to use new logo (completed)
  - Add basic template framework to support dynamic content with existing static HTML site (completed)
  - Add user accounts for issue tracker and IPP Everywhere self-certification (in progress)
  - Add issue tracker page similar to the [tools.ietf.org](http://tools.ietf.org) form for RFC errata reporting (in progress)
  - Add IPP Everywhere self-certification forms, per the current draft certification process (in progress)
- Work being done by Michael Sweet





# The Printer Working Group

## PWG Workgroup Status



# The Printer Working Group

## Semantic Model Workgroup Status

August 12, 2014

PWG F2F Meeting

Toronto, ON

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 Imaging System. The Objectives are:
  - The definition of a framework for the complete Imaging Semantic Model.
  - Drive to a standard semantic definition for an Imaging System's Subunits, Services, Jobs and Documents.
  - Agreement on the semantics of their attributes, operations and parameters.



# Semantic Model WG Officers

- **SM WG Chair:**
  - Daniel Manchala (Xerox)
- **SM WG Vice-Chair**
  - Paul Tykodi (TCS)
- **SM WG Secretary:**
  - TBD (volunteers needed)
- **SM WG Document Editors:**
  - Nancy Chen - CWMP Printer Data Model
  - Daniel Manchala (Xerox) - SM3, SM3 Schema
  - Ira McDonald (High North) – CWMP Printer Data Model
  - Paul Tykodi (TCS) - SM3, Mapping
  - Bill Wagner (TIC) - SM3



# Approved Documents:

- Multifunction Device Service Model Requirements (September 1, 2010)
- PWG 5105.1-2004: PWG Semantic Model Specification Version 1.00
- PWG 5108.1-2011: MFD Model and Common Semantics Version 1.00
- PWG 5108.02-2009: Network Scan Service Semantic Model and Service Interface Version 1.0
- PWG 5108.03-2009: Network Resource Service Semantic Model and Service Interface Version 1.0
- PWG 5108.04-2011: Copy Service Semantic Model and Service Interface Version 1.00
- PWG 5108.05-2011: FaxOut Semantic Model and Service Interface
- PWG 5108.06-2011: System Object and System Control Service Semantics Version 1.0
- PWG 5108.07-2012: PWG Print Job Ticket and Associated Capabilities Version 1.0



# Active Documents:

- Mapping Related Standards
  - Mapping of Adobe PostScript Printer Definition (PPD) format to PWG Print Job Ticket v1.0 (PPDMAP)
  - Mapping CIP4 JDF to PWG Print Job Ticket v1.0 (JDFMAP)
- Semantic Model 3.0
  - Semantic Model 3.0: Imaging System
  - Semantic Model 3.0: Subunits
  - Semantic Model 3.0: Jobs and Documents
  - (Updates to Counters and Power documents, if needed)
- CWMP Printer Data Model

# Schema Status



- Named version (v1.180) published for PWG Print Job Ticket and Associated Capabilities
- Latest (v2.900) Up to date with In Progress specifications
  - Cloud Print extensions (WIP – WSDL operations needs update)



# Potential Projects

- Planned to be addressed after the current documents are complete. (Subject to volunteers to be Editors)
  - Mapping of AFP Consortium MO:DCA-P and IPDS Formats to PWG Print Job Ticket v1.0 (AFPMAP)
  - Mapping of Microsoft MSPS to PWG Print Job Ticket v1.0 (MSPSMAP)
  - Service Integration with Workflow Environments v1.0





# Next Steps

- Appoint Secretary of Semantic Model Working Group
- Continue Mapping work
- Continue SM3 work



# More Info/How to participate

- We welcome participation from all interested parties
- SM Web Page:
  - <http://www.pwg.org/sm>
- Subscribe to the SM3 mailing list:
  - <https://www.pwg.org/mailman/listinfo/sm3>
- SM WG holds bi-weekly phone conferences announced on the SM3 mailing list
  - Next conference call is September 8, 2014 at 2pm ET
  - Conference calls on same weeks as Cloud conference calls
  - Conference calls on opposite weeks of IDS conference calls



# The Printer Working Group

## IPP Workgroup Status

August 12, 2014

PWG F2F Meeting

Toronto, ON

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 Shared Infrastructure Extensions (IPPSIX), IPP System Control Service, IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services
  - Michael Sweet (Apple) – IPP Shared Infrastructure Extensions (IPPSIX), IPP System Control Service, IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services, IPP Finishings 2.0
  - Smith Kennedy (HP) - IPP Implementor’s Guide 2.0
  - Peter Zehler (Xerox) - IPP Scan Service



- IETF RFCs in development:
  - IETF IPP over HTTPS Transport Binding and “ipps” URI Scheme
    - IETF Apps Area Review
  - IETF LDAP Schema for Printer Services (updates RFC 3712)
    - IETF Apps Area Review
- PWG Specifications in development:
  - IPP Everywhere Printer Self-Certification Manual 1.0
    - Prototype Draft
  - IPP Finishings 2.0
    - Stable Draft (PWG Last Call)
  - IPP Implementors Guide 2.0
    - Prototype Draft
  - IPP Scan Service
    - Stable Draft  
(PWG Last Call Completed)
  - IPP Shared Infrastructure Extensions (IPPSIX)
    - Prototype Draft
  - IPP System Control Service
    - Initial Draft  
(Review in conference call)



- Recent Candidate Standards:
  - PWG 5100.15-2014: IPP FaxOut Service (errata)
- 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
- Also pending errata for PWG 5100.9 and 5107.3 to correct xxx-error usage (per WG mailing list discussion)
  - Explain issues and update registry for IANA Printer MIB (ASN.1 comments)
  - Update IANA IPP registry for keywords that do not require "-error" on the end



# 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
  - <https://www.pwg.org/mailman/listinfo/ipp>
- IPP WG holds bi-weekly phone conferences announced on the IPP mailing list
  - Next conference calls August 25, 2014 and September 15, 2014 at 3pm ET
  - Held on opposite weeks of Cloud Imaging Model WG
  - Held on same weeks of Imaging Device Security WG



# The Printer Working Group

## IDS Workgroup Status

August 12, 2014

PWG F2F Meeting

Toronto, ON

Joe Murdock (Sharp), Alan Sukert (Xerox)





# Purpose of the effort

- IDS is investigating and defining standards for addressing general security attributes for imaging devices and services. Our general goals are to:
  - Define standard metrics and protocol bindings to assess the health of Hardcopy Devices to gauge if they should be granted access to a network.
  - Define a set of standard security and policy attributes and values for authorizing Hard Copy Devices, their services and users in a global workspace
  - Provide a general security model for other PWG standards to reference
- IDS is also providing a path for vendors to review and contribute to the definition of new Common Criteria MFP Protection Profiles

# Officers



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



# Approved Candidate Standards

- PWG 5110.1-2014
  - HCD-Attributes
- PWG 5110.2-2013
  - HCD-NAP
- PWG 5110.3-2013
  - PWG-LOG Common Log



# Current Document Status

- HCD-TNC Binding Document
  - Prototype draft completed May 8, 2014
  - Need prototypes
- IDS-Model Common Requirements
  - Prototype draft completion date Q4, 2014
- IDS-IAA specification
  - Subset addressing privileges and permissions
  - Prototype draft completion date Q4, 2014
- HCD Health Remediation
  - Prototype draft completion date Q2, 2015



# Next Steps

- IDS Identification, Authentication and Authorization specification
  - Definition of core set of Policy Attributes
    - Harmonize with TCG TNC specifications
    - Access control values
- IDS Model specification
- IDS Health Remediation specification
  - Integrate with TCG TNC Work Group
- MFP Technical Community - monitor progress of Protection Profile work



# Participation

- We welcome participation from PWG member companies and input from the user community
- The group maintains a Web Page for IDS update:
  - <http://www.pwg.org/ids/index.html>
- To subscribe to the IDS mailing list, go to:
  - <https://www.pwg.org/mailman/listinfo/ids>
- The group holds bi-weekly conference calls on Mondays at 11:00AM PST/2:00PM EST
  - Next teleconference August 25, 2014
  - Conference calls on same weeks as IPP conference calls
  - Conference calls on opposite weeks of SM conference calls



# The Printer Working Group

## Cloud Imaging Model Workgroup Status

August 12, 2014

PWG F2F Meeting

Toronto, ON

Ron Nevo (Samsung), Bill Wagner (TIC)



# Introduction

- The intent of the Cloud Imaging Model Working Group is to develop a model for providing Imaging Services via a Cloud Imaging System in a way consistent with the PWG Semantic Model.
- The current PWG Cloud Imaging Model contends that the operations interface between a User Client and a Cloud Imaging Service is no different than that between a User Client and any networked Imaging Service, with the exception of asynchronous notification capability (if any).
- However, Cloud Imaging Services often must interface with out-of-cloud end devices (e.g., printers, scanners) to which direct access is blocked by a firewall. The PWG Model identifies a Local Imaging System Proxy intermediate agent and defines a new set of operations from Proxy to Cloud Service.





# Officers and Contributors

- Chair: Ron Nevo (Samsung)
- Vice Chair: Bill Wagner (TIC)
- Secretary: Michael Sweet (Apple)
- Document Editors:
  - Bill Wagner (TIC): Editor
  - Ron Nevo (Samsung): Editor



# Status of Requirements and Model

- Draft at:
  - <http://ftp.pwg.org/pub/pwg/cloud/wd/wd-cloudimagingmodel10-20140730.pdf>
- Schedule
  - Current Draft should be at a Prototype Draft level by October 2014
  - PWG Last Call requires previous notice of prototyping of the model binding by either the IPP or SM WG. Advance to Stable level and the Last Call milestone is dependent upon prototype notice for binding.
  - The WGs have attempted to co-ordinate the Model design and IPPSIX.
  - It is anticipated that IPPSIX interoperability testing and specification Last Call will be completed by Q4 2014, and that the Cloud Imaging Requirements and Model Specification may then be advanced to stable state, submitted to WG and then PWG Last Call, and then voted on.
- Next Steps
  - When the Cloud Model specification is approved, the Cloud Model information will be transferred to the Semantic Model WG for inclusion into SM3.
  - The Cloud Imaging Model Workgroup Charter identifies no project beyond this Requirements and Model specification.



# Possible Cloud Imaging Projects

- Cloud Imaging WG Charter includes just Model Spec.
- Should Cloud WG take on other Projects?
  - Is consideration of other Cloud-related standards activities appropriate to this WG?
    - TCG: Trusted Multi-tenant Infrastructure WG for Security Issues
    - IDS: Interact with PWG IDS WG on Cloud Imaging Security
    - IPPSIX: Potential extensions prompted by IPPSIX prototype and implementation experiences
    - Google Cloud Print Documents, Job Ticket and Capabilities mappings
  - Other extant Cloud Imaging Approaches
  - Cloud-based storage of documents including Cloud based repository as for for Scan Service or location independent accessibility.
  - Any other projects that the workgroup should consider?



# Cloud Imaging WG Participation

- We welcome participation from all interested parties
- Cloud Imaging Workgroup Web page
  - <http://www.pwg.org/cloud/index.html>
- Subscribe to the Cloud mailing list
  - <https://www.pwg.org/mailman/listinfo/cloud>
  - [cloud@pwg.org](mailto:cloud@pwg.org)
- Cloud Imaging WG holds bi-weekly phone conferences announced on the Cloud mailing list
  - Next conference call is September 8, 2014 at 3 pm (ET)
  - Conference calls on same weeks as SM conference calls
  - Conference calls on opposite weeks of IPP conference calls



# The Printer Working Group

## Liaison Status

# AFP Consortium - AFPMAP



- Paul Tykodi created 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 October 2013
- The full mapping will be defined in the AFPMAP document produced by the PWG Semantic Model WG
  - Draft use cases have been prepared
  - Working with Harry Lewis on proposed schedule to present to PWG Semantic Model WG for review and approval

# CIP4 - JDFMAP



- In October 2011, PWG started developing mappings of Adobe PPD, CIP4 JDF, and MS Print Schema to PWG PJT
- CIP4 officers agreed in December 2013 to establish a liaison with PWG, with JDFMAP spec to be developed in the PWG SM WG with reviews and contributions from CIP4 members for tricky and complex mappings
- Rainer Prosi (CIP4 CTO) attended the PWG F2F meetings in February 2014 and May 2014 and an ongoing series of PWG SM WG special telecons to review JDFMAP spec
- Ira McDonald (High North) and Rick Yardumian (Canon) updated JDFMAP spec from April 2014 to August 2014 – added full Xpath for JDF and PWG Finishing mappings
- JDFMAP spec to be reviewed at next PWG SM WG special conference call on 25 August 2014



# TCG News (1 of 2)

- Next TCG Members Meeting
  - October 20-24, 2014 in New Orleans, LA USA
- Trusted Mobility Solutions (TMS)
  - Scope: enterprise, medical, banking, virtualization, mobile mgmt
  - TCG formal liaison with Mobey Forum (mobile banking)
  - TCG published: TMS BYOD Use Cases – October 2013
    - [http://www.trustedcomputinggroup.org/resources/tms\\_use\\_cases\\_\\_bring\\_your\\_own\\_device\\_byod](http://www.trustedcomputinggroup.org/resources/tms_use_cases__bring_your_own_device_byod)
- Embedded Systems (EmSys)
  - Scope: Auto, IoT, SmartGrid, Financial, Medical, Industrial Ctrl
  - Public review: TPM 2.0 Auto Thin – ends 19 August 2014
    - [http://www.trustedcomputinggroup.org/resources/tcg\\_tpm\\_20\\_library\\_profile\\_for\\_automotivethin](http://www.trustedcomputinggroup.org/resources/tcg_tpm_20_library_profile_for_automotivethin)
- PC Client
  - Public review: PC Client TPM Profile – ended 22 July 2014
    - [http://www.trustedcomputinggroup.org/resources/pc\\_client\\_platform\\_tpm\\_profile\\_ptp\\_specification](http://www.trustedcomputinggroup.org/resources/pc_client_platform_tpm_profile_ptp_specification)





- **Mobile Platform (MPWG)**
  - Scope: Mobile tablets, phones, PDAs, eBook readers, etc.
  - TCG formal liaison with Mobey Forum (mobile banking)
  - Public review: TPM 2.0 Mobile Reference Arch – ended 3 June 2014
    - [http://www.trustedcomputinggroup.org/resources/tpm\\_20\\_mobile\\_reference\\_architecture\\_specification](http://www.trustedcomputinggroup.org/resources/tpm_20_mobile_reference_architecture_specification)
  - Public review: TPM 2.0 Mobile CRB Interface – ended 3 June 2014
    - [http://www.trustedcomputinggroup.org/resources/tpm\\_20\\_mobile\\_command\\_response\\_buffer\\_interface\\_specification](http://www.trustedcomputinggroup.org/resources/tpm_20_mobile_command_response_buffer_interface_specification)
- **Trusted Multi-tenant Infrastructure (TMI)**
  - Scope: Trusted Cloud/SDN end-to-end reference models
  - TCG published: TMI Reference Model – December 2013
    - [http://www.trustedcomputinggroup.org/resources/trusted\\_multitenant\\_infrastructure\\_reference\\_framework](http://www.trustedcomputinggroup.org/resources/trusted_multitenant_infrastructure_reference_framework)
  - TCG published: TMI Use Cases – December 2013
    - <http://www.trustedcomputinggroup.org/resources/>

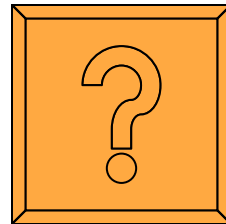


- The Wi-Fi Alliance is close to publishing new specifications for Wi-Fi Direct-based services
  - “Wi-Fi Direct Services”
- The specifications define discovery, transport, and file formats
- There is a Wi-Fi Direct Services Print service
  - IPP/2.0, generally a subset of IPP Everywhere
  - 2 streaming raster formats required for Clients, at least one must be supported by a Printer:
    - PWG Raster
    - PDF-based raster format (not the PWG PDF/is profile...)



- The PWG proposed CSS extensions to the W3C that provide both basic-intent and explicit (JDF, PJT, etc.) job tickets in August 2013
  - <http://ftp.pwg.org/pub/pwg/general/slides/pwg-w3c-properties-20130823.pdf>
- Subsequent discussions with the W3C CSS WG have resulted in a request for a white paper to formalize the proposal
- Paul Tykodi is preparing the white paper

# Other Questions / Comments



# Next PWG Meeting



- November 4-6 in Waltham, MA (hosted by Conexant Systems, Inc.)