



The Printer Working Group

May 2017 Face to Face Plenary Session

May 2, 2017

Virtual – Hosted by PWG WebEx

Smith Kennedy (HP Inc.)



Plenary Agenda

- Administrivia
- PWG Workgroup Status [WG Chairs]
 - Semantic Model (SM)
 - Internet Printing Protocol (IPP)
 - Imaging Device Security (IDS)
- Liaison Status
 - Trusted Computing Group (TCG)
 - Internet Engineering Task Force (IETF)
 - Mopria
 - ISO JTC1
 - AMSC / RAPID
- Future PWG Face-to-Face Meetings



Administrivia

- Welcome and Introductions
- Confirm Minutes Taker
- Review PWG Patent Policy
- Agenda Overview
- 2017 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 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
 - 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 WG Meetings



- Do Not Discuss:
 - The validity/essentiality of patents/patent claims
 - The cost of specific patent use
 - Licensing terms or conditions
 - Product pricing, territorial restrictions, or market share
 - Don't discuss ongoing litigation or threatened litigation

DO formally object if inappropriate topics are discussed



vF2F Agenda Overview

Tuesday, May 2

- 10:00 – 11:15 PWG Plenary
- 11:15 – 12:00 OpenPrinting Plenary
- 12:00 – 12:30 Break / Lunch
- 12:30 – 1:30 CUPS Plenary
- 1:30 – 2:00 OpenPrinting – GSoC 2017 Common Print Dialog
- 2:00 – 2:30 OpenPrinting – CUPS Filters

Wednesday, May 3

- 10:00 – 12:00 IDS WG : Status, Charter, CC MFP PP
- 12:00 – 12:30 Break / Lunch
- 12:30 – 2:30 IPP WG : Status, Charter, System Service

Thursday, May 4

- 10:00 – 10:45 OpenPrinting – Status of Ghostscript / MuPDF
- 10:45 – 11:15 PWG/OP - Collaborative Projects Discussion
- 11:15 – 12:00 SM WG : Charter, JDFMAP as Best Practices
- 12:00 – 12:30 Break / Lunch
- 12:30 – 1:00 IPP WG : Get-User-Printer-Attributes white paper
- 1:00 – 1:45 IPP WG : IPP Presets, HTTP Authentication Methods and IPP
- 1:45 – 2:30 IPP WG : IPP 3D Print Job Ticket, Next Steps

2017 Membership



29 Members (28 Voting, 1 Non-Voting)

Apple	High North	MWA Intelligence	Thinstream Technologies
Brother Industries	Intel	Northlake	Toshiba America Business Solutions
Canon	Konica Minolta	Oki Data	Tykodi Consulting Services LLC
Conexant Systems	Kyocera Document Solutions Inc.	Qualcomm	Xerox
Danny Brennan	Lexmark	Ricoh	YSoft
Epson	Meteor Network	Samsung	
Fuji Xerox	Microsoft	Sharp Labs	
HP Inc.	MPI Tech	Technical Interface Consulting (N-V)	



PWG Officers (2015-2017 Term)

- PWG Chair: Smith Kennedy, HP Inc.
- PWG Vice Chair: Alan Sukert, Xerox
- PWG Secretary: Ira McDonald, High North



Github Organization and Repositories

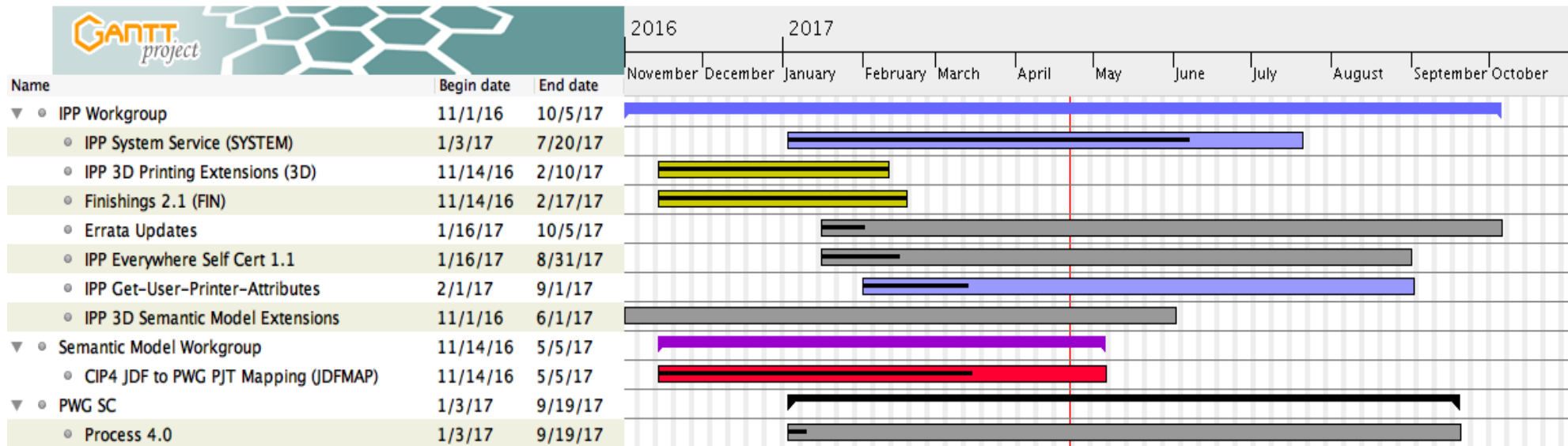
- Github PWG organization account:
 - <https://github.com/istopwg>
- Web site repository:
 - <https://github.com/istopwg/website>
- Semantic Model Repository
 - <https://github.com/istopwg/pwg-semantic-model>
- IPP Everywhere Self Certification Tools
 - <https://github.com/istopwg/ippeveselfcert>
- IPP Registry
 - <https://github.com/istopwg/ippregistry>
- IPP Sample
 - <https://github.com/istopwg/ippsample>



The Printer Working Group

Workgroup Status

Work In Progress



Planned

Interim

Prototype

Prototyped

Stable



The Printer Working Group

Semantic Model Workgroup Status

William Wagner (TIC)



SM: Charter

- By the last approved SM Workgroup charter, the primary function of the Semantic Model workgroup was to update the Semantic Model and keep it current to reflect the changes and additions to IPP.
- Attempts to do this by tracking the IPP IANA registry were time consuming and largely unsatisfactory, partially because of continuing update to the registry and partially because of lack of interest.
- The creation of a *regtosm* tool by Mike Sweet, and the successful generation of a Print3D Service model from registry information using this tool demonstrated that, to the extent that a Semantic Model representation of IPP attributes was necessary, it could be better done by automatic derivation from the IPP registry data. This derivation task reasonably falls to the IPP workgroup.



SM: Resolution

- Therefore, the SM Workgroup is no longer needed for its primary chartered function, and is to be put into an 'hibernation' state until some other appropriate function is identified by the PWG membership.
- The remaining wrap-up tasks for the workgroup are:
 - Resolving the status of the JDFMAP document, which has been dormant, by proceeding to release it as a Best Practices Informational document.
 - Putting incomplete work in a recoverable state, should there be reason to readdress it in the future.
 - Settling on a revised charter reflecting the state of the workgroup
- These tasks are scheduled to be addressed in a May 4 morning session of this PWG Virtual Face-to-Face meeting.
- The SM3 mail list and the SM3 directory in the PWG site will be retained for the foreseeable future. However, no future conference calls have been scheduled or are anticipated.



The Printer Working Group

IDS Workgroup Status

Alan Sukert (Xerox)



IDS: Original Charter

- Investigate and define 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
- Provide a path for vendors to review and contribute to the definition of Common Criteria HCD Protection Profiles



IDS: Status

- Document Status
 - Documents in process by IDS Working Group when WG went into “hibernation” have either been approved by PWG or archived for work by other PWG Working Groups in future
- Focus now is on Common Criteria HCD Protection Profiles
 - IDS Charter update in process to focus the IDS WG on outreach with other standards bodies involved in HCD security issues.
 - Need to determine what other standards bodies IDS WG could/should outreach with
 - MFP Technical Committee Meetings held on Apr 24 & 26, 2017:
 - Discussed results of Japanese Scheme evaluation of new HCD Protection Profile
 - Reviewed issues/questions found in implementing HCD Protection Profile (PP)
 - Discussed plans for future updates of HCD PP and generation of HCD collaborative PP (cPP)

Will expand on these topics at IDS Session on May 3rd



The Printer Working Group

IPP Workgroup Status

Ira McDonald (High North)

Paul Tykodi (TCS)



IPP WG: Charter

- Current charter:
 - <http://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20151225.pdf>
- The Internet Printing Protocol (IPP) workgroup is chartered with the maintenance of IPP, the IETF IPP registry, and support for new clients, network architectures (Cloud, SDN), service bindings for MFDs and Imaging Systems, and emerging technologies such as 3D Printing
- In addition, we maintain the IETF Finisher MIB, Job MIB, and Printer MIB registries, and handle synchronization with changes in IPP
- Minor charter update in progress (talk about this later)



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 System Service (SYSTEM)
 - Michael Sweet (Apple) – IPP System Service (SYSTEM), PWG 3D Print Job Ticket and Associated Capabilities v1.0 (PJT3D)
 - Smith Kennedy (HP Inc.) – Various white papers



IPP WG: Status (1/2)

- **PWG Specifications in development:**
 - PWG 3D Print Job Ticket and Associated Capabilities v1.0 (PJT3D)
 - Stable Draft
 - IPP System Service (SYSTEM) - Interim Draft
- **Recent Candidate Standards:**
 - IPP Finishings 2.1 (FIN)
 - PWG 5100.20-2016: IPP Everywhere Printer Self-Certification Manual v1.0 (SELFCERT)
 - IPP 3D Printing Extensions (3D)
- **Recent IETF RFCs:**
 - RFC 8010: Internet Printing Protocol/1.1: Encoding and Transport
 - RFC 8011: Internet Printing Protocol/1.1: Model and Semantics



IPP WG: Status (2/2)

- Up-to-date pending IANA registrations online:
 - <http://www.pwg.org/ipp/ipp-registrations.xml>
 - Continue to maintain this in parallel for new specifications
 - Github repository: <https://github.com/istopwg/ippregistry>
- IPP Everywhere Printer Self-Certifications:
 - <https://www.pwg.org/printers>
 - 47 printers currently listed
 - 1.0 self-certification tools update released in October 2016
- IPP Sample Code:
 - Github repository:
 - <https://github.com/istopwg/ippsample>
 - Fork of CUPS code includes ipppfind, ippproxy, ipppserver, ippptool, ippptransform, and ippptransform3d



IPP WG: More Information

- 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 weekly phone conferences announced on the IPP mailing list
 - Next conference calls scheduled for Thursday, May 11, 2017 and May 25, 2017 at 3pm ET



The Printer Working Group

Liaison Status



Trusted Computing Group (TCG)

- **Next TCG Members Meetings**

- 12-16 June 2017 – Hamburg, Germany – Ira to call in
- 23-27 October 2017 – Vancouver, BC – Ira to call in

- **Trusted Mobility Solutions (TMS)** – Ira is co-chair and co-editor

- Scope: enterprise, medical, banking, virtualization, mobile mgmt
- Formal – ETSI (NFV), Global Platform (TEE and SE), Open Mobile Alliance (device mgmt), Mobey Forum (platform integrity banking/payments, biometrics authentication)
- Informal - 3GPP, ITU-T, Small Cell Forum (platform integrity)

- **Mobile Platform (MPWG)** – Ira is co-editor

- Scope: mobile phones, PDAs, eBook readers, etc.
- Formal liaisons – Global Platform (TEE), Mobey Forum (banking)
- Multiple Stakeholder Model – TCG approved March 2016

- **Public Review Specifications**

- <http://www.trustedcomputinggroup.org/resources>
- TCG TPM 2.0 Provisioning Guidance – published March 2017
- TCG TPM 2.0 Library v1.38 – published February 2017
- TCG FIPS 140-2 Guidance for TPM 2.0 – published February 2017



- PWG and Mopria have signed a liaison agreement to begin partnering on areas of mutual interest
- PWG Steering Committee still working out how to engage appropriately with one another.
 - Intellectual property rules of the two organizations are so dissimilar (PWG is 100% open; Mopria is much like many other industry consortia - 95% closed)
 - IPR “culture” of Mopria may itself prevent it from seeing that it or its members can contribute to the PWG at any time.



ISO/IEC JTC 1 3D Printing and Scanning Study Group

- Active from Jan 2017 through early Sept 2017
- Must deliver a final report to JTC 1
- Reviewing whether JTC 1 standards development activities are needed to support the IT aspects of Additive Manufacturing
- ISO TC261 Additive Manufacturing has a liaison connection to the Study Group
- The members of the study group are meeting monthly via teleconference and a face to face meeting has been scheduled for May 24-26th, 2017 in Seoul Korea
- The 3D related activities of the PWG were uncovered by an initial survey performed by JTC 1.
- Paul Tykodi, representing his PWG member company (TCS), has been accepted into the study group to represent the PWG



ISO/IEC JTC 1 3D Printing and Scanning Study Group (cont.)

- Many of the participants in the JTC 1 study group have affiliations with other ISO work groups. From a semantic heritage point of view, the PWG efforts began with ISO/IEC 10175 (Document Printing Application – DPA) authored by *SC18 - Document processing and related communication* in 1996. Subsequently the SC18 work group ceased operations and the responsibility for the DPA set of standards was transferred to JTC 1 SC6 (telecommunications) because the standards referred to OSI Standards.

Action Items for PWG

- Explain why the PWG believes today's PWG semantics are a relevant contribution to the Additive Manufacturing ecosystem given the semantic link back to the set of ISO 10175 documents
- Update the PWG 3D activities information in the initial ISO/IEC JTC 1 3D Printing and Scanning work group survey



- **America Makes – Quoted From their web site:**
 - *"Established in 2012 and based in Youngstown, Ohio, America Makes is the flagship Institute for Manufacturing USA, the National Network for Manufacturing Innovation, infrastructure of up to 45 Institutes to follow and is driven by the [National Center for Defense Manufacturing and Machining \(NCDMM\)](#)."*
 - America Makes is a membership driven public – private partnership. While it collaborates with SDO's (Standards Developing Organizations), it does not develop standards itself. Much of the information created as part of different America Makes sponsored projects is only made available to paying members.
 - **America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) –**
https://www.ansi.org/standards_activities/standards_boards_panels/amsc/Default?menuid=3
. The IEEE-ISTO Printer Working Group is participating in the AMSC initiative.
 - **Additive Manufacturing Standardization Forum: Accelerating Standards & Specs Development** – Occurring May 9th, 2017 at the RAPID conference sponsored by SME – Pittsburgh, PA



- **SME is Profiling the work of AMSC via a Forum on Tuesday May 9th, 2017 from 2:00 to 5:00 pm**
 - PWG will be represented by Paul Tykodi at RAPID on May 9th and 10th, 2017
 - Mr. Tykodi will be participating in part of the forum activities (participant in a panel discussion from 4:00 to 5:00 pm on Tuesday May 9th, 2017)
- **Wednesday May 10th, 2017 PWG will have a table in the RAPID exhibition hall to promote its 3D related efforts**
 - SC working on collaterals for the table



The Printer Working Group

Future PWG Meetings



Future PWG Face-to-Face Meetings

2017 Meetings

- August 15 – 16 (Virtual / in-person?)
- October / November ? (Virtual only)

2018 Meetings

- February 6 – 8 (Virtual)
- April 24 – 26 (Sunnyvale, hosted by PWG)
 - Joint PWG/OpenPrinting
- August ?? - ?? (Virtual / in-person?)
- October / November ? (Virtual only)

Other Questions / Comments

