The Printer Working Group

August 2017 Face to Face Plenary Session

August 9, 2017

Smith Kennedy, HP Inc.

PWG Chair

Plenary Agenda

- Administrivia

- PWG Workgroup Status [WG Chairs]
  - 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 raise an objection if inappropriate topics are discussed

vF2F Agenda Overview

Wednesday, August 9

10:00 – 11:00	PWG Plenary
11:00 – 11:30	IPP WG : Status, Charter
11:30 – 12:00	Break / Lunch
12:00 – 2:00	IPP WG : IPP System Service
2:00 – 3:00	IPP WG : IPP Get-User-Printer-Attributes

Thursday, August 10

10:00 – 11:30	IPP WG : IPP Authentication White Paper
11:30 – 12:00	Break / Lunch
12:00 – 1:30	IPP WG : IPP Presets
1:30 – 3:00	IPP WG : PWG / AMSC / ISO 3D, Next Steps

2017 Membership

28 Members (27 Voting, 1 Non-Voting)

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

PWG Officers (2015-2017 Term)

- PWG Chair: Smith Kennedy, HP Inc.
    - Willing to serve 2017-2019 term

- PWG Vice Chair: Alan Sukert, Xerox
    - Willing to serve 2017-2019 term

- PWG Secretary: Ira McDonald, High North
    - Willing to serve 2017-2019 term

Any voting PWG member may serve as a PWG officer

Voting for officers will begin in September 2017 and new officers will be announced at the November 2017 F2F meeting

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
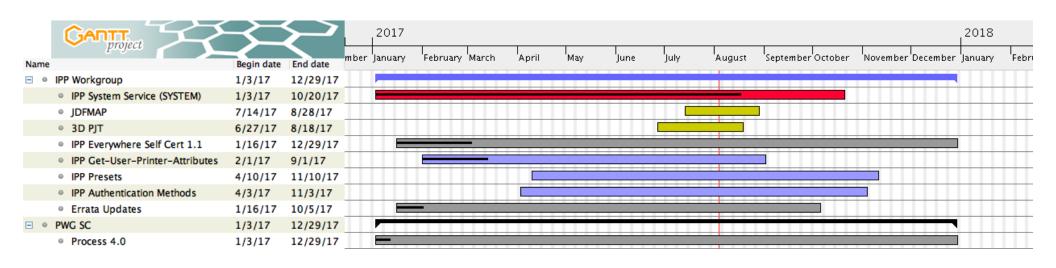 - https://github.com/istopwg/ippsample

The Printer Working Group

Workgroup Status

Work In Progress

Name	Begin date	End date
IPP Workgroup	1/3/17	12/29/17
IPP System Service (SYSTEM)	1/3/17	10/20/17
JDFMAP	7/14/17	8/28/17
3D PJT	6/27/17	8/18/17
IPP Everywhere Self Cert 1.1	1/16/17	12/29/17
IPP Get–User–Printer–Attributes	2/1/17	9/1/17
IPP Presets	4/10/17	11/10/17
IPP Authentication Methods	4/3/17	11/3/17
Errata Updates	1/16/17	10/5/17
PWG SC	1/3/17	12/29/17
Process 4.0	1/3/17	12/29/17

Planned **Interim** **Prototype** **Prototyped** **Stable**

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: Current Status

- Focus now is on Common Criteria HCD Protection Profiles
  - IDS Charter updated to focus the IDS WG on outreach with other standards bodies involved in HCD security issues.
    - Need to determine other applicable standards bodies that IDS WG could/should outreach with
  - Upcoming MFP Technical Committee (TC) Meetings:
    - MFP TC Face-to-Face Meeting likely at CCUF Workshop week on Oct 23rd in Berlin
    - Will hold a MFP TC Teleconference – date TBD

Will discuss both meetings in an IDS WG Session at the Nov PWG Meeting

The Printer Working Group

IPP Workgroup Status

Ira McDonald (High North)
Paul Tykodi (TCS)

- Current charter:

  - http://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20170615.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

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

PWG Specifications in development:

- PWG 3D Print Job Ticket and Associated Capabilities v1.0 (PJT3D)
  - → PWG Formal Vote until August 18
- Mapping CIP4 JDF to PWG Print Job Ticket (JDFMAP)
  - → PWG Formal Vote until August 28
- IPP System Service v1.0 (SYSTEM)
  - → Prototype Draft

Recent Candidate Standards:

- PWG 5100.1-2017: IPP Finishings 2.1 (FIN)
- PWG 5100.20-2016: IPP Everywhere Printer Self-Certification Manual v1.0 (SELFCERT)
- PWG 5100.21-2017: IPP 3D Printing Extensions v1.0 (3D)

Recent IETF RFCs:

- RFC 8010: Internet Printing Protocol/1.1: Encoding and Transport
- RFC 8011: Internet Printing Protocol/1.1: Model and Semantics

- 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
  - 89 printers currently listed (almost doubled since May 2017)
  - 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 ippfind, ippproxy, ippserver, ipptool, ipptransform, and ipptransform3d

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 bi-weekly phone conferences announced on the IPP mailing list

  - Next conference calls scheduled:

    · Thursday, August 17, 2017 at 3pm ET
    · Thursday, August 31, 2017 at 3pm ET

The Printer Working Group

Liaison Status

Mopria

PWG Chair presented to Mopria Technical Working Group

- "The Internet Printing Protocol in 2017: An Overview"
  - https://ftp.pwg.org/pub/pwg/general/presentations/PWG-2017-IPP-Overview-20170725.pdf
- Presented via GoToMeeting July 26 during their F2F meeting session
- Articulates the breadth of PWG IPP technologies currently approved and in active development
- Reception seemed to be positive

Trusted Computing Group (TCG)

- **Next TCG Members Meetings**
  - 23-27 October 2017 – Vancouver, BC – Ira to call in
  - 26 February – 1 March 2018 – Portland, OR – 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 (mobile banking)
  - Informal – ATIS, 3GPP, ITU-T, Small Cell Forum (trusted platform)
- **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
- **Recent Specifications**
  - http://www.trustedcomputinggroup.org/resources
  - TCG TNC Architecture 2.0 – publication in September 2017
  - TCG TNC Server Discovery 1.0 – publication in September 2017
  - TCG Guidance Securing Network Equipment – publication in Sept 2017
  - TCG TPM 2.0 Library v1.46 – public review in August 2017

Internet Engineering Task Force (IETF)

- **Next IETF Members Meetings**
  - 11-17 November 2017 – Singapore – Ira to call in
  - 17-23 March 2018 – London, UK – Ira to call in
- **Transport Layer Security (TLS)**
  - TLS/1.3 – Waiting for WG Chair for IETF Last Call
    - https://datatracker.ietf.org/doc/draft-ietf-tls-tls13/
- **Security Automation and Continuous Monitoring (SACM)**
  - SACM Requirements – Submitted to IESG
    - https://datatracker.ietf.org/doc/draft-ietf-sacm-requirements/
  - Concise Software Identifiers (CBOR instead of XML) – work-in-progress
    - https://datatracker.ietf.org/doc/draft-ietf-sacm-coswid/
- **Concise Binary Object Representation (CBOR)**
  - Concise Binary Object Representation (CBOR) – errata-in-progress
    - https://datatracker.ietf.org/doc/draft-ietf-cbor-7049bis/
  - Concise Data Definition Danguage (CDDL) – for JSON and CBOR schema
    - https://datatracker.ietf.org/doc/draft-ietf-cbor-cddl
- **CBOR Object Signing and Encryption (COSE)**
  - CBOR Object Signing and Encryption (COSE) – published in July 2017
    - https://datatracker.ietf.org/doc/rfc8152/
- **IRTF Crypto Forum Research Group (CFRG) – future algorithms**

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

- **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 second face to face meeting has been scheduled for Aug 29-31st, 2017 in Montreal Canada
  - 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

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America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC)

- **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.
  - **The AMSC Version 2.0 Launch Event is scheduled to occur on Thursday September 7th, 2017 in Philadelphia, PA**

- **Possible Opportunity to work with TC130 WG 2 TF 5 in collaboration with 3DPDF Consortium, ISO/IEC JTC 1 SG3, AMSC, ASME 14.41.1 work group, and US DoD/Supplier committee currently defining a Technical Data Package (TDP) Specification for interchange of files with 3D content**

  - Met with Martin Bailey (convenor of TC130 WG 2 TF 5 effort) in June 2017 to discuss possible opportunity for collaboration and to share PWG 3D Print Ticket draft standard information

  - JDFMAP provides possible roadmap for future collaboration

The Printer Working Group

Future PWG Meetings

Future PWG Face-to-Face Meetings

2017 Meetings

- November 15 – 16: Lexington, KY (hosted by Lexmark)
  - Collision with IETF?

2018 Meetings (Tentative)
- February 7 – 8 (Virtual)

- April 24 – 26 Sunnyvale, CA (Hosted by PWG)
  - Joint PWG/OpenPrinting summit

- August 22 – 23 (Virtual)

- November 14 – 15 (In-person, location TBD – please volunteer!)

If there are better dates, or collisions with other events or holidays, let us know!

Other Questions / Comments