



The Printer Working Group

PWG February 2021 Face-to-Face Plenary Session

Smith Kennedy, PWG Chair
February 9, 2021



Plenary Agenda

- Administrivia
- PWG Steering Committee Updates
- PWG Workgroup Status [WG Chairs]
- Liaison Status
- Questions / Next Meeting / Any Other Business

Administrivia



- Welcome and Introductions
- Confirm Minutes Taker
- Review PWG Antitrust Policy, PWG IP Policy and Inappropriate Topics
- Agenda



PWG Antitrust Policy

- "This meeting is being held in accordance with the PWG Antitrust Policy"
 - https://www.pwg.org/chair/membership_docs/pwg-antitrust-policy.pdf
- The IEEE-ISTO Printer Working Group ("PWG") will not become involved in the business decisions of its Members. The PWG strictly complies with applicable antitrust laws. Every PWG Member shall comply with this policy. The PWG Officers and PWG Workgroup Officers are responsible to ensure that this policy is adhered to in all PWG activities.

PWG IP Policy



- "This meeting is being held in accordance with the PWG Intellectual Property Policy"
 - https://www.pwg.org/chair/membership_docs/pwg-ip-policy.pdf
- TL;DR: Anything you say in a PWG meeting or email to a PWG address can be used in a PWG standard
 - (but please do read the IP policy above if you haven't done so)



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 Working Group Meetings



Do Not Discuss:

- Validity or essentiality of patents or patent claims
- Cost of specific patent use
- Licensing terms or conditions
- Product pricing, territorial restrictions, or market share
- Ongoing litigation or threatened litigation

DO raise an objection if inappropriate topics are discussed

In Memoriam – Ron Bergman (Ricoh)



- Ron was a long time contributor to the PWG and we fondly remember his patience and gentle spirit.
- Ron passed on October 23, 2020 in Arizona after living for many years in Maui, Hawaii.
- Ron worked on IEEE 1284 in the later 1980s.
- Ron worked on IETF Printer MIB v1 (RFC 1759).
- Ron co-edited IETF Printer MIB v2 (RFC 3805)
- and IETF Finisher MIB (RFC 3806) (both 2004).
- Ron co-edited IPP 2.0 1st Edition (PWG 5100.10, 2009).
- Ron co-edited IPP 2.0 2nd Edition (PWG 5100.12, 2011).
- Please send donations to St. Jude Children's Research Hospital in Memphis, Tennessee. (www.stjude.org)
- Ron, you will be greatly missed!





Agenda Overview – Day 1

(All times Eastern Standard Time)

Tuesday, February 9

- 10:00 – 11:00 PWG Plenary
- 11:00 – 11:15 IPP WG : Status .
Driverless Printing Extensions v2.0
- 11:15 – 12:00 IPP WG: Evolution of IPP/2.0 and IPP Everywhere
- 12:00 – 12:30 Break / Lunch
- 12:30 – 1:30 IPP WG : INFRA Cloud Proxy Registration
- 1:30 – 2:00 IPP WG : IPP Production Printing Extensions v2.0



Agenda Overview – Day 2

(All times Eastern Standard Time)

Wednesday, February 10

9:45 – 11:45 IDS WG : Status and Discussion ·

PWG Hardcopy Device Security Guidelines v1.0

11:45 – 12:30 Break / Lunch

12:30 – 2:00 IPP WG : IPP Enterprise Printing Extensions v2.0

Agenda Overview – Day 3



(All times Eastern Standard Time)

Thursday, February 11

10:00 – 12:00 IPP WG: Finishings v2.2

12:00 – 12:30 Break / Lunch

12:30 – 1:45 IPP WG: 3D Printing Liaisons · Status & Guidance

1:45 – 2:00 IPP WG: Next Steps



The Printer Working Group

Steering Committee Updates



Officers (2019-2021 Term)

- PWG Chair: Smith Kennedy, HP Inc.
- PWG Vice-Chair: Jeremy Leber, Lexmark
- PWG Secretary: Ira McDonald, High North

**Anyone interested in serving in a PWG Officer role?
Reach out to chair@pwg.org!**

2021 Membership



28 Members

Alan Sukert	 Epson	 Konica Minolta	 Oki Data	 Toshiba Business Solutions
 Apple Inc.	 Fuji Xerox	 Kyocera	 PaperCut Software	 Tykodi Consulting Services LLC
 Brother Industries, Ltd.	 Google	 Lakeside Robotics	 Qualcomm	 Xerox
 Canon	 High North, Inc.	 Lexmark	 Ricoh	YSoft
Danny Brennan	 HP Inc.	 Meteor Network	 Synaptics	
directprint.io	 Intel	 Microsoft	Technical Interface Consulting	

Don't forget to pay your dues!

Thank You For Participating!



Thanks to all of you for contributing your
time and efforts to the PWG!



Future Meeting Schedule

- 2021
 - May 4–6: (Joint PWG/OpenPrinting) - Virtual
 - August 24–26: Virtual? In Person?
 - November 8–10: Virtual
- 2022
 - February 8-10 - Virtual

Contact chair@pwg.org if you are interested in hosting a PWG F2F event



IPP Everywhere™ Certified Printers

- <https://www.pwg.org/ipp/everywhere.html>
- **629** printers now certified!
 - Lexmark registered the first 92 IPP Everywhere v1.1 Certified Printers on October 21, 2020
 - <https://www.pwg.org/printers/>
 - More on the way!
- IPP Everywhere™ Self Certification 1.0 Update 5
 - Released June 2020; approved August 2020
 - **Valid for certification until June 30, 2021**
- IPP Everywhere™ Self Certification 1.1 Update 2
 - Released Oct 7, 2020; approved October 22, 2020
 - **Mandatory for certification starting July 1, 2021**
- Planning for IPP Everywhere v2.0 has begun



Recently Approved

- Best Practices
 - Job Accounting with IPP v1.0
 - <https://ftp.pwg.org/pub/pwg/informational/bp-ippaccounting10-20210205-5199.11.pdf>



Projects on GitHub

- PWG on GitHub:
 - <https://github.com/istopwg>
- IPP Sample
 - <https://github.com/istopwg/ippsample>
- IPP Everywhere Self Certification Tools
 - <https://github.com/istopwg/ippeveselfcert>
- IPP Registry
 - <https://github.com/istopwg/ipregistry>
- PWG Books:
 - <https://github.com/istopwg/pwg-books>



The Printer Working Group

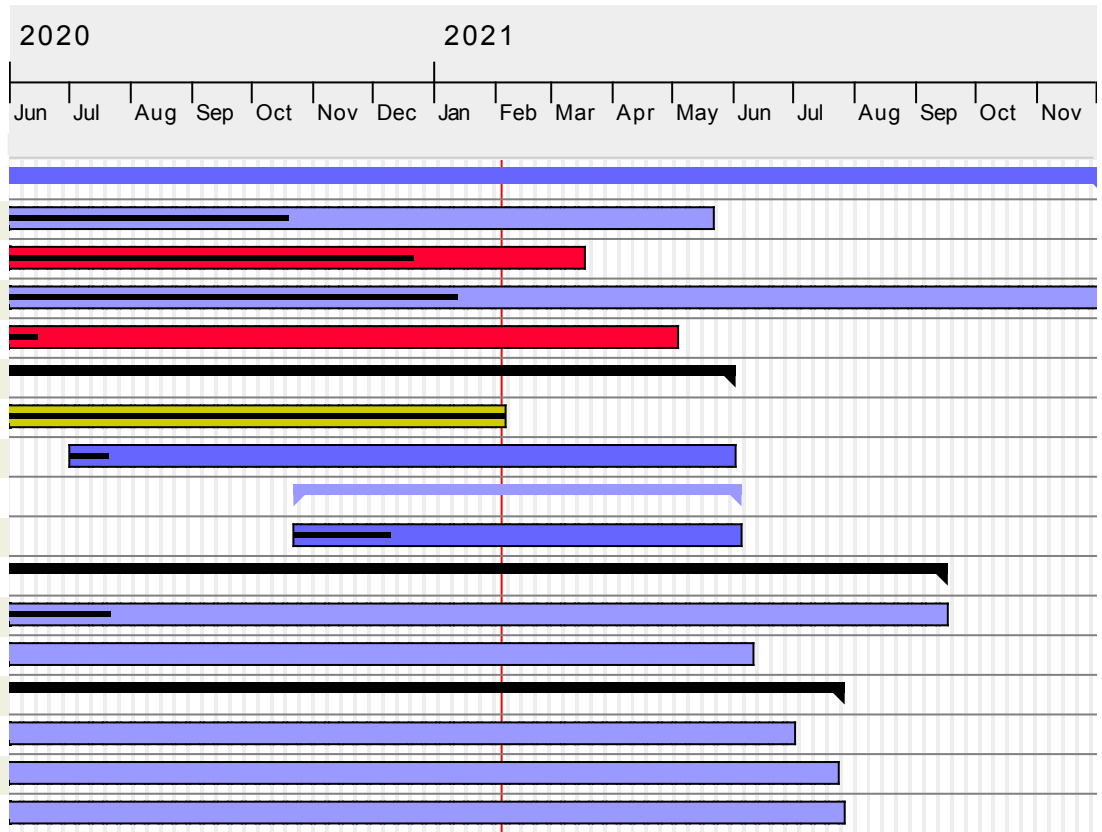
Workgroup Status

Work In Progress



Name

- IPP Workgroup
 - IPP Enterprise Printing Extensions v2.0
 - IPP Production Printing Extensions v2.0
 - IPP Driverless Printing Extensions v2.0
 - IPP Encrypted Jobs and Documents v1.0
 - IPP Registrations / White Papers
 - Job Accounting with IPP v1.0
 - PWG Design Principles
 - Errata Updates
 - IPP Finishings 2.2
 - IDS Workgroup
 - HCD cPP v1.0
 - PWG HCD Security Guidelines v1.0
 - PWG SC
 - PWG Process
 - New Website
 - PWG Design Principles



Planned

Interim

Prototype

Prototyped

Stable



The Printer Working Group

IDS Workgroup Status

Alan Sukert



IDS WG: Officers

- IDS WG Chair:
 - Alan Sukert
- IDS WG Vice-Chair
 - TBD
- IDS WG Secretary:
 - Alan Sukert
- IDS WG Document Editors:
 - Ira – PWG Hardcopy Device Security Guidelines v1.0



IDS: Current Status

- IDS Charter updated to reflect development of HCD Security Guidelines by Ira
- Focus now is on Common Criteria HCD Protection Profiles (PPs), HCD Security Guidelines and Hardcopy Device security standards
 - IDS Charter updated to focus the IDS WG on outreach with standards bodies involved in HCD security issues.
 - Monitoring development of Hardcopy Device collaborative PP (cPP) / Supporting Document (SD)
 - Looking at initiating interface with other standards efforts related to hardcopy devices
- Conference Calls.
 - Reinstated Regular IDS Conference Calls
 - Since last IDS F2F on 11/04/2020, Conference Calls held on 11/12 and 12/12 in 2020 and 1/7, 1/21 and 2/4 in 2021
 - Next Conference Call tentatively scheduled for 02/18/2021



IDS: Current Status

- Focus now is on Common Criteria HCD Protection Profiles and other HCD-related Security Standards
 - HCD international Technical Committee (iTC) Bi-Weekly Meetings:
 - Now that HCD iTC has been formally approved, have been holding bi-weekly HCD iTC Meetings; goal is to develop, review and publish an HCD cPP/SD v1.0 by 4Q 2021
 - Will discuss the results of the multiple Bi-Weekly HCD iTC Meetings held since last IDS F2F and the current HCD cPP/SD v1.0 status at the IDS F2F Session on Wednesday February 10th
 - Will also current status on HCD-related standards efforts of the Trusted Computing Group (TCG), Internet Engineering Task Force (IETF) and Linux Foundation
- Developing HCD Security Guidelines to provide guidance on current HCD security technology and security issues
 - Will review the latest status at the IDS F2F Session



IDS WG: More Information

- We welcome participation from all interested parties
- IDS Working Group web page
 - <https://www.pwg.org/ids/>
- Subscribe to the IDS mailing list
 - <https://www.pwg.org/mailman/listinfo/ids>
- IDS WG holds bi-weekly conference calls via WebEx announced on the IDS mailing list
 - Next conference call is scheduled for Thursday, February 18, 2021 at 3pm ET



The Printer Working Group

IPP Workgroup Status

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

Internet Printing Protocol Workgroup



- The Internet Printing Protocol (IPP) workgroup is chartered with the development of IPP and the maintenance of various SNMP MIBs
 - <https://www.pwg.org/ipp/>
- IPP WG holds bi-weekly phone conferences announced on the IPP mailing list
 - Next conference calls scheduled for Thursday, February 25, 2021 and March 11, 2021 at 3pm ET
- IPP WG Co-Chairs:
 - Paul Tykodi (TCS)
 - Ira McDonald (High North)
- IPP WG Secretary:
 - Michael Sweet (Lakeside Robotics)

Internet Printing Protocol Workgroup



- Documents in development:
 - IPP Driverless Printing Extensions v2.0, IPP Encrypted Jobs and Documents v1.0, IPP Enterprise Printing Extensions v2.0, IPP Finishings v2.2, IPP Production Printing Extensions v2.0
- Recently published:
 - PWG 5199.11-2021: Job Accounting with IPP v1.0
- Up-to-date pending IANA registrations online:
 - <https://www.pwg.org/ipp/ipp-registrations.xml>
- IPP Everywhere Printer Self-Certifications:
 - <https://www.pwg.org/printers>
 - <https://github.com/istopwg/ippeveselfcert>
- IPP Sample Code:
 - <https://github.com/istopwg/ippsample>



More Information

- We welcome participation from all interested parties
- IPP Working Group web page
 - <https://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



®

The Printer Working Group

Liaison Status



Linux Foundation OpenPrinting (1 of 2)

- **Linux Foundation OP Google Summer of Code 2020**
 - GSoC 2020 coding completed on 31 August 2020
<https://developers.google.com/open-source/gsoc>
- **Linux Foundation OP Google Season of Docs 2020**
 - GSoD 2020 project completed on 5 December 2020
<https://developers.google.com/season-of-docs>
- **Linux Foundation OP Mentorship Program 2020**
 - LFMP 2020 IPP Scan project completed in December 2020
<https://communitybridge.org/>
- **Linux Foundation OP New Website**
 - OP website
<https://openprinting.github.io/>
 - OP news
<https://openprinting.github.io/news/>
 - OP website issues
<https://github.com/OpenPrinting/openprinting.github.io/issues>
 - OP Driverless Printing w/ PWG IPP Everywhere™ logo
<https://openprinting.github.io/driverless/01-standards-and-their-pdls/>



Linux Foundation OpenPrinting (2 of 2)

- **OpenPrinting Projects**
 - **CUPS OP v2.3.3op1 released on 27 November 2020**
<https://github.com/OpenPrinting/cups/releases/tag/v2.3.3op1>
 - **PAPPL v1.0.0 released on 11 December 2020**
<https://github.com/michaelsweet/pappl/releases/tag/v1.0.0>
 - **CUPS Filters v1.28.7 released on 7 January 2021**
<https://github.com/OpenPrinting/cups-filters/releases/tag/1.28.7>
 - **PostScript Printer Application – work-in-progress**
<https://github.com/OpenPrinting/ps-printer-app>
- **Linux Foundation OP Google Summer of Code 2021**
 - **GSoC 2021 projects are TBD**
 - **GSoC 2021 timeline**
 - **Organization applications – 29 January to 19 February**
 - **Student applications – 29 March to 13 April**
 - **Application Review Period – 13 April to 17 May**
 - **Coding – 7 June to 16 August (reduced weekly hours)**
 - **Results Announced – 31 August**
- **Linux Foundation OP Google Season of Docs 2021**
 - **GSoD 2021 projects are TBD**
- **Linux Foundation OP Mentorship Program 2021**
 - **LFMP 2021 projects are TBD**



- Mopria liaison to PWG : Michael Rhines (Qualcomm)
- New 2-year liaison agreement signed April 3, 2020
- PWG Chair presented at the November 2020 Mopria Member Meeting
- Continuing email discussions concerning "client-info" as a proposed successor to "document-format-details"

INCITS TC (1 of 2)



- PWG / INCITS TC Liaison established April 15, 2020
- Paul Tykodi will represent the PWG in INCITS TC activities
- INCITS Digital Manufacturing Technical Committee
 - The IEEE-ISTO Printer Working Group has established a liaison relationship with INCITS Digital Manufacturing Technical Committee
<https://www.businesswire.com/news/home/20200505006085/en/International-Committee-Information-Technology-Standards-INCITS-IEEE-ISTO>.
 - The INCITS Digital Manufacturing Technical Committee meets monthly (third Tuesday of the month from 12 pm to 2 pm EDT).



- **INCITS Digital Manufacturing Technical Committee**
 - The INCITS Digital Manufacturing TC is currently deciding on a digital manufacturing standards development project to pursue. The PWG has put forward an idea about the two organizations potentially collaborating on an IPP 3D Scanning related effort
 - The INCITS Digital Manufacturing TC is the current US TAG for ISO/IEC JTC 1 WG 12 (3D Printing and Scanning). The Printer Working Group is monitoring the activities of JTC 1 WG 12 via the INCITS liaison relationship
 - ISO/IEC JTC 1 WG 12 3D Printing and Scanning eCommittee - https://www.web3d.org/sites/default/files/attachment/node/2326/edit/06_ByoungNamLee_JTC1_WG12_report_3D_Printing_and_ScanningSeoulJanuary2019.pdf

3D / Additive Manufacturing Liaisons



- America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) -
 - https://www.ansi.org/standards_activities/standards_boards_panels/amsc/America-Makes-and-ANSI-AMSC-Overview. The IEEE-ISTO Printer Working Group is participating in the AMSC initiative.
- ASTM Committee F42 on Additive Manufacturing Technologies - <https://www.astm.org/COMMITTEE/F42.htm>
 - The IEEE-ISTO Printer Working Group standardization efforts intersect with the activities of at least two ASTM F42 subcommittees.
 - Subcommittee F42.08 Data
 - Subcommittee F42.91 Terminology
 - The purpose of the liaison agreement is to keep the standardization efforts of ASTM F42 and the IEEE-ISTO PWG synchronized in areas where both organizations are actively working.
- 3MF Consortium
 - <https://www.3mf.io>

Possible Future 3D / Additive Manufacturing Liaisons



- **PDF Association**

- Paul Tykodi has been asked by the 3D PDF Consortium and PDF Association to chair an ad hoc for ISO TC171 SC2. The purpose of the ad hoc is to investigate how PDF files support 3D content stored within them and to make possible recommendations for enhancing future ISO 32000 (PDF standard) support for metadata describing 3D content placed into a PDF file.
- The PDF Association has taken over the role of US TAG for ISO TC171 SC2 from the 3D PDF Consortium. Paul Tykodi was asked to join the PDF Consortium as a member, in order to be allowed to create a PDF Association liaison working group, in support of the information gathering needs of the ad hoc. Once the ad hoc completes its efforts, the longer-term strategy for the PWG would likely be to create a liaison with the PDF Association.

- **ISO TC171 SC2 WG12 (PDF Metadata) -**

<https://www.iso.org/committee/53674.html>

- The IEEE-ISTO Printer Working Group has been asked to form a Category C liaison with ISO TC171 SC2 in order to participate in a new foundational metadata for 3D content contained in a PDF file standardization effort to be undertaken by WG12. This request is currently on hold pending the outcome of the research to be performed by the ad hoc described above.

- **Society of Manufacturing Engineers (iRAMP)**

- Interactive Rapid Additive Manufacturing Portal – www.sme.org/iramp/



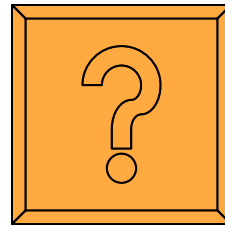
- **America Makes - AMNOW**

- Press Release – Nov 2019

<https://www.americamakes.us/ncdmm-and-catalyst-connection-announce-next-phase-of-amnow-program-to-support-additive-manufacturing-technology-insertion-into-the-u-s-army-supply-chain/>

- AMNOW initiative working on piloting 3D Printers as “Blackbox” devices. Possible opportunity to develop IPP 2.2 device capability for the IPP 3D Specification as part of AMNOW activities.

Other Questions / Comments



Next PWG Face-to-Face Meeting



May 4–6: (Joint PWG/OpenPrinting) - Virtual

Monitor pwg-announce@pwg.org or the [PWG meeting page](#) for more info.



The Printer Working Group

Backup



Process Updates

- Process v4.0 in development
 - New draft posted
 - Discussions ongoing
- PWG Policy
 - PWG IPP Registry Policy : 2020-05-18
 - PWG Namespace Policy : 2020-07-20
 - PWG Press Release Review Policy: 2020-09-08
 - PWG Roles and Responsibilities Policy : 2020-09-24
 - PWG Antitrust Policy : 2021-02-01
 - PWG Officer Elections : Draft in review
 - PWG Network Infrastructure : Draft in review