



The Printer Working Group

PWG August 2023 Face-to-Face Plenary Session

Jeremy Leber, PWG Chair
August 9, 2023

Plenary Agenda



- **Please Note: This PWG Meeting is Being Recorded**
- 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



Agenda Overview – Day 1

(All times Eastern Daylight Time)

Wednesday, August 9

- | | |
|---------------|--|
| 10:00 – 10:45 | PWG Plenary |
| 10:45 – 11:00 | IPP: Status, IPP Encrypted Jobs and Documents v1.0, IPP Enterprise Printing Extensions v2.0, PWG Media Standardized Names v2.1 |
| 11:00 – 12:00 | IPP: IPP OAuth Extensions v1.0 |



Agenda Overview – Day 2

(All times Eastern Daylight Time)

Thursday, August 10

- | | |
|---------------|---|
| 10:00 – 12:00 | IDS WG : Status and Discussion – PWG Hardcopy Device Security Guidelines v1.0 |
| 12:00 – 12:45 | Break / Lunch |
| 12:45 – 1:45 | 3D Printing Liaisons – Status and Guidance |
| 1:45 – 2:00 | IPP WG: Next Steps |



The Printer Working Group

Steering Committee Updates



Officers (2021-2023 Term)

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

2023 is a PWG Officers election year. Selection of officers begins in Fall 2023. Those interested in serving in PWG Officer roles should contact chair@pwg.org.

2023 Membership



27 Members

Alan Sukert	 Epson	 Kyocera	 PaperCut Software	 Leading Innovation >>> Toshiba Business Solutions
 Apple Inc.	 FUJIFILM Business Innovation Corp.	 Lakeside Robotics	 PrinterLogic	 Tykodi Consulting Services LLC
 Brother Industries, Ltd.	 Google	 Lexmark	 Qualcomm	 Xerox
 Canon	 High North, Inc.	 Meteor Network	 Ricoh	
Danny Brennan	 HP Inc.	 Microsoft	 Synaptics	
 Digital Check Corp	 Konica Minolta	 PRINTING SOLUTIONS Okie Electric Industry Co., Ltd	Technical Interface Consulting	

Thank You For Participating!



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



Future Meeting Schedule

2023

- November 14-16 – Virtual

2024

- February 6-8 – Virtual
- May 14 – 16 – Lexington? Sunnyvale? (Joint with OP)
- August 6-8 – Virtual
- November 12 -14 - 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>
- **982** printers now certified!
 - <https://www.pwg.org/printers/>
 - New printers from Canon, Digital Check, OKI, HP, Lexmark, Ricoh, and Samsung
 - **More on the way!**
- IPP Everywhere™ Self Certification 1.1 Update 4
 - Announced Sept. 2, 2022
 - **IPP Everywhere v1.0 Certifications no longer accepted**



Process 4.0 and Policy Updates

- Process v4.0 – Approved (Formal Vote complete 2023-08-04)
 - <https://ftp.pwg.org/pub/pwg/general/wd/wd-pwg-process-4-20230626.pdf>
 - Detailed content moved to separate PWG Policy documents to simplify update approval process
 - PWG Document Types Policy
 - PWG Document Development Policy
 - PWG Document Approval Policy
 - PWG Meetings Policy
 - PWG Workgroup Decisions Policy
- PWG Policy Document Status
 - <http://pwg.org/about.html>
 - PWG Communications Infrastructure : 2023-05-01
 - PWG Roles and Responsibilities Policy : 2023-05-01
 - PWG IPP Everywhere Logo Policy: 2022-05-16
 - PWG Officer Elections : 2021-04-21
 - PWG Antitrust Policy : 2021-02-01
 - PWG Press Release Review Policy: 2020-09-08
 - PWG Namespace Policy : 2020-07-20
 - PWG IPP Registry Policy : 2020-05-18



Projects on GitHub

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



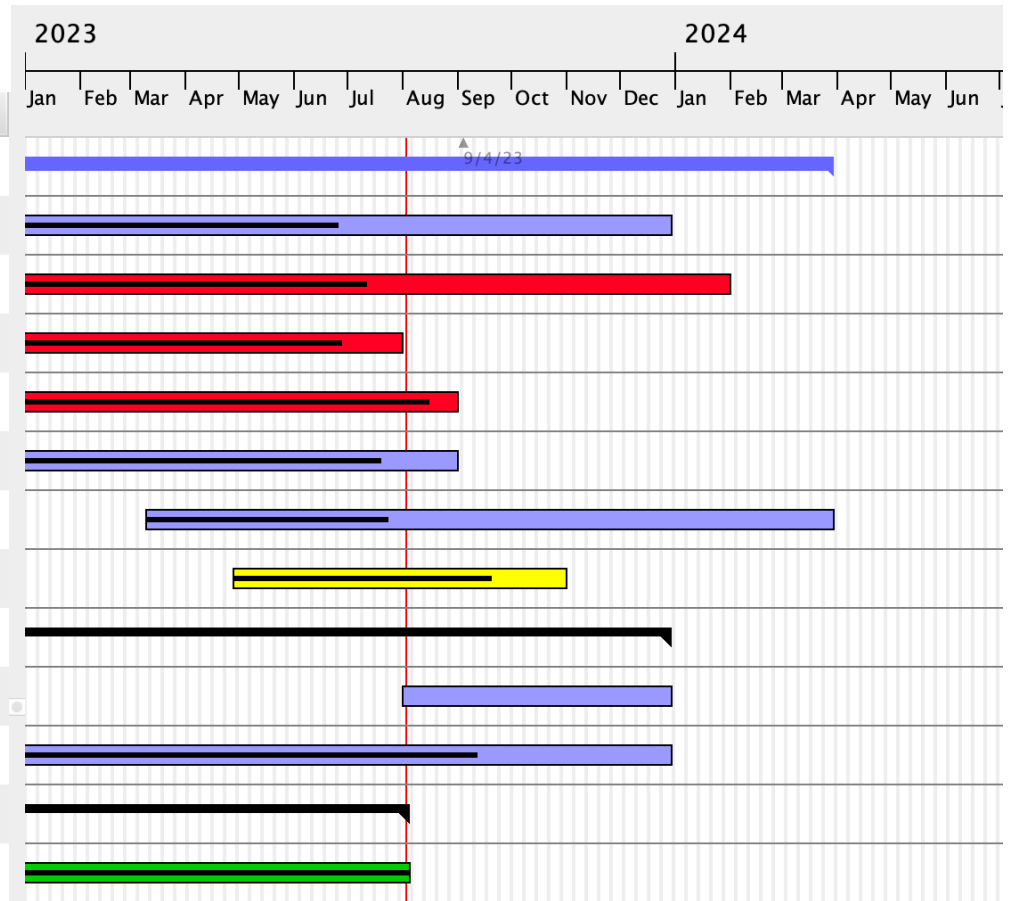
The Printer Working Group

Workgroup Status

Work in Progress



Name	Begin date	End date
▼ IPP Workgroup	2/16/17	3/29/24
Internet Printing Protocol/2.x Fourth Edition	6/1/21	12/29/23
IPP Encrypted Jobs and Documents v1.0	2/16/17	1/31/24
IPP Enterprise Printing Extensions v2.0	2/14/19	7/31/23
IPP Everywhere v2.0	6/1/21	8/31/23
IPP Everywhere Printer Self-Certification v2.0	7/4/22	8/31/23
IPP OAuth Extensions v1.0	3/10/23	3/29/24
PWG Media Standardized Names v2.1	4/28/23	10/31/23
▼ IDS Workgroup	1/2/18	12/29/23
HCD cPP v1.0 Errata	8/1/23	12/29/23
PWG HCD Security Guidelines v1.0	1/2/18	12/29/23
▼ PWG SC	1/3/18	8/4/23
Process 4.0	1/3/18	8/4/23



Planned

Interim

Prototype

Stable

Approved



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 – HCD Security Guidelines



IDS: Current Status

- IDS Charter updated to reflect development of Hardcopy Device (HCD) Security Guidelines by Ira and new focus on Common Criteria HCD Protection Profiles (PPs), HCD Security Guidelines and Hardcopy Device security standards
 - Want 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
 - IDS WG Meetings
 - Since last IDS F2F on May 18, 2023, IDS WG Meetings held on 6/8, 6/22 and 7/27 in 2023
 - Next IDS WG Meeting scheduled for 8/24/2023



IDS: Current Status

- HCD international Technical Committee (iTC):
 - Since the publishing of HCD cPP v1.0 and HCD SD 1.0 on 10/31/22, the HCD iTC now holds HCD iTC Meetings every month
 - Will discuss the current status of the HCD iTC, the status of the HCD Interpretation Team (HIT) and plans for future updates to the published HCD cPP and HCD SD at the IDS F2F Session on Thursday August 10th
- 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 F2F Session will have a special topic on US and EU approaches to AI Cybersecurity
- Finally, IDS F2F Session will review current status of HCD-related standards efforts of the Trusted Computing Group (TCG) and Internet Engineering Task Force (IETF)



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 meetings via WebEx announced on the IDS mailing list
 - Next meeting is scheduled for Thursday, August 24, 2023 at 3pm ET



The Printer Working Group

IPP Workgroup Status

Paul Tykodi (TCS), Ira McDonald (High North),
Michael Sweet (Lakeside Robotics)



IPP WG: Officers

- IPP WG Co-Chairs:
 - Paul Tykodi (TCS)
 - Ira McDonald (High North)
- IPP WG Secretary:
 - Michael Sweet (Lakeside Robotics)
- IPP WG Document Editors:
 - Michael Sweet (Lakeside Robotics) – Internet Printing Protocol/2.x Fourth Edition, IPP Encrypted Jobs and Documents v1.0, IPP Everywhere v2.0, IPP OAuth Extensions v1.0, PWG Media Standardized Names v2.1
 - Smith Kennedy (HP Inc.) – IPP Encrypted Jobs and Documents v1.0, IPP Enterprise Printing Extensions v2.0



IPP WG: Status

- PWG Specifications in development:
 - Internet Printing Protocol/2.x Fourth Edition (Interim)
 - IPP Encrypted Jobs and Documents v1.0 (Prototype)
 - IPP Enterprise Printing Extensions v2.0 (Prototype)
 - IPP Everywhere™ v2.0 (Prototype)
 - IPP Everywhere™ Printer Self-Certification Manual v2.0 (Interim)
 - IPP OAuth Extensions v1.0 (Interim)
 - PWG Media Standardized Names v2.1 (Stable)
- Recently approved:
 - PWG 5100.3-2023: IPP Production Printing Extensions v2.0 (PPX)
 - PWG 5100.7-2023: IPP Job Extensions v2.1 (JOBEXT)
 - PWG 5100.13-2023: IPP Driver Replacement Extensions v2.0 (NODRIVER)
- Up-to-date pending IANA registrations online:
 - <https://www.pwg.org/ipp/ipp-registrations.xml>
 - Continue to maintain this in parallel for new specifications



IPP WG: More Information

- We welcome participation from all interested parties
- IPP workgroup 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
 - Next conference calls scheduled for Thursday, August 31 and September 14, 2023 at 3pm ET



The Printer Working Group

Liaison Status – August 2023



Linux Foundation OpenPrinting

- **OpenPrintingGoogle Summer of Code 2023 (Aveek/Till)**
 - <https://developers.google.com/open-source/gsoc/timeline>
 - Aveek/Till are the coordinators for all Linux Foundation projects
 - Coding started 29 May 2023 and ends 28 August 2023
- **OpenPrinting CUPS (Zdenek Dohnal, RedHat)**
 - <https://openprinting.github.io/cups-2.4.6/>
 - Current release is OP CUPS v2.4.6 on 22 June 2023
 - <https://github.com/OpenPrinting/libcups/releases/v3.0b1>
 - Current beta release is OP CUPS v3.0b1 on 9 February 2023
- **OpenPrinting CUPS Filters (Till)**
 - <https://github.com/OpenPrinting/cups-filters/releases/tag/1.28.17>
 - Current release is OP CUPS Filters v1.28.17 on 24 January 2023
 - <https://github.com/OpenPrinting/cups-filters/releases/tag/2.0rc2>
 - Current beta release is OP CUPS Filters v2.0rc2 on 4 July 2023
- **OpenPrinting PAPPL (Printer Application) (Mike)**
 - <https://github.com/michaelsweet/pappl/releases/tag/v1.3.2>
 - Current release is PAPPL v1.3.2 on 6 May 2023
- **OpenPrinting LPrint Label Printer Application (Mike)**
 - <https://github.com/michaelsweet/lprint/releases/tag/v1.2.0>
 - Current release is LPrint v1.2.0 on 31 December 2022
- **OpenPrinting PostScript, Ghostscript, Gutenprint, HPLIP Printer Apps (Till)**
 - <https://github.com/OpenPrinting/ps-printer-app>
 - <https://github.com/OpenPrinting/ghostscript-printer-app>
 - <https://github.com/OpenPrinting/gutenprint-printer-app>
 - <https://github.com/OpenPrinting/hplip-printer-app>
- **OpenPrinting CUPS Legacy Driver Retro-Fitting Printer Applications (Till)**
 - <https://github.com/OpenPrinting/pappl-retrofit>

Mopria Alliance



- Mopria Alliance liaison to PWG: Anthony Suarez (Kyocera)
- Liaison agreement addendum signed May 10, 2022
 - Renews liaison agreement and auto-renews it until one or both parties cancel it
- No collaboration currently active but opportunities exist

3MF Consortium



- Duann Scott (Bits to Atoms) is the Executive Director of the 3MF Consortium
- Mike Sweet (Lakeside Robotics) is the PWG liaison to the 3MF
- **No updates since the May 2023 Face-to-Face meeting**



3D / Additive Manufacturing Liaisons

- America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) -
 - <https://www.ansi.org/standards-coordination/collaboratives-activities/additive-manufacturing-collaborative>.
 - The IEEE-ISTO Printer Working Group participated in the AMSC version 3 update activities. ANSI announced publication of version 3 on July 17th, 2023.
- ASTM Committee F42 on Additive Manufacturing Technologies -
 - <https://www.astm.org/COMMITTEE/F42.htm>
 - Paul Tykodi is investigating whether it might be possible for the IEEE-ISTO Printer Working Group to make a presentation on its Safe G-Code best practice document to American Concrete Institute Committee 564 (*3-D Printing with Cementitious Materials*) members via a training webinar sponsored by ASTM F42 and PWG.

3D / Additive Manufacturing Liaisons



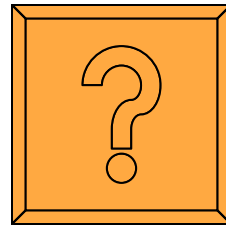
- The ASTM International Conference on Additive Manufacturing (ICAM 2023 – Oct 30-Nov 3, 2023 – Washington DC) -
 - <https://amcoe.org/event/icam2023/>
 - Alan Sukert chairperson of the IEEE-ISTO PWG Imaging Device Security(IDS) Workgroup participated in the **Industry 4.0: Cyber Security Aspects of AM** track within the 2022 ICAM conference.
 - Alan has recently received confirmation that his latest submission has been approved and he will be giving another Common Criteria Cyber Security focused presentation at ICAM 2023.
- VDMA OPC UA for Additive Manufacturing - Joint Working Group 40 540
 - <https://www.vdma.org/events-trade-fairs/-/event/view/70649>
 - Paul Tykodi is representing the IEEE-ISTO Printer Working Group in the activities of the Joint Working Group. The JWG has a potential interest in referencing IPP 3D standard for secure remote job submission

3D / Additive Manufacturing Liaisons



- 3D PDF at the PDF Association -
 - <https://www.pdfa.org/3d-pdf-at-the-pdf-association/>
 - Paul Tykodi is representing the IEEE-ISTO Printer Working Group in the activities of the PDF Association 3D PDF Technical Working Group (TWG) and as time permits the 3D PDF User Liaison Working Group (LWG) as well.
 - Participation in the work of the PDF Association allows the PWG to monitor the activities of ISO TC171 SC2 - *Document file formats, EDMS systems and authenticity of information* <https://www.iso.org/committee/53674.html>, which is the committee responsible for PDF file format standardization
 - Current PDF Standards Supporting 3D Content
 - ISO 32000-2:2020 PDF 2.0 <https://pdfa.org/resource/iso-32000-pdf/#pdf-2>
 - ISO 21757 (ECMAScript for PDF) <https://pdfa.org/resource/iso-21757-ecmascript/>
 - ISO 14739-1:2014 PRC <https://pdfa.org/resource/3d-formats/#prc-1>
 - ISO/TS 24064:2023 STEP (AP242) <https://www.iso.org/standard/77686.html>
 - In Process PDF Standards Supporting 3D Content
 - ISO/CD TS 32007 Document management — Portable Document Format — RichMedia annotations conforming to glTF assets <https://www.iso.org/standard/45880.html>

Other Questions / Comments





Next PWG Face-to-Face Meeting

November 14-16 : Virtual

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