



# The Printer Working Group

## PWG May 2023 Face-to-Face Plenary Session

Jeremy Leber, PWG Chair  
May 16, 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](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](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)

## **Tuesday, May 16**

- 10:00 – 11:00 PWG Plenary
- 11:00 – 12:00 OpenPrinting Plenary
- 12:00 – 12:45 Break / Lunch
- 12:45 – 1:30 OpenPrinting : GSoC Project Updates
- 1:30 – 2:30 OpenPrinting : cups-filters 2.x
- 2:30 – 3:00 Break
- 3:00 – 4:00 OpenPrinting : ChromiumOS Printing Update



# Agenda Overview – Day 2

(All times Eastern Daylight Time)

## **Wednesday, May 17**

- 10:00 – 11:00 OpenPrinting : CUPS Plenary
- 11:00 – 12:00 OpenPrinting : Printer Applications – Scanner Applications and Retro-Fitting Printer Applications
- 12:00 – 12:45 Break / Lunch
- 12:45 – 1:45 OpenPrinting : CUPS Snap, Driverless Scanning/Scanning Applications, Printing GUI
- 1:45 – 2:15 IPP WG : Status – Prototype Ready Specifications
- 2:15 – 2:45 Break
- 2:45 – 3:00 IPP WG : 3D Printing Liaisons – Status and Guidance
- 3:00 – 4:00 IPP WG : Evolution of IPP/2.0 and IPP Everywhere v2.0



# Agenda Overview – Day 3

(All times Eastern Daylight Time)

## **Thursday, May 18**

- |               |   |
|---------------|---|
| 10:00 – 12:00 | IDS WG : Status and Discussion – PWG Hardcopy Device Security Guidelines v1.0 |
| 12:00 – 12:45 | Break / Lunch   |
| 12:45 – 2:45  | IPP WG: Evolution of OAuth and IPP – Using OAuth with IPP v1.0                |
| 2:45 – 3:00   | 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](mailto:chair@pwg.org).

# 2023 Membership



## 29 Members

Alan Sukert	directprint.io	 Konica Minolta	 OKI PRINTING SOLUTIONS Okie Electric Industry Co., Ltd	 Synaptics® Synaptics
 Apple Inc.	 Epson	 Kyocera	 PaperCut PaperCut Software	Technical Interface Consulting
 Brother Industries, Ltd.	 FUJIFILM FUJIFILM Business Innovation Corp.	 Lakeside Robotics	 PrinterLogic a VISION solution PrinterLogic	 TOSHIBA Leading Innovation >>> Toshiba Business Solutions
 Canon	 Google	 Lexmark™ Lexmark	 Qualcomm Qualcomm	 TCS Tykodi Consulting Services LLC. Tykodi Consulting Services LLC
Danny Brennan	 High North Inc High North, Inc.	 meteor network Meteor Network	 RICOH Ricoh	 xerox™ Xerox
 Digital Check Corp	 HP Inc.	 Microsoft Microsoft	 SNBC SNBC	

# Thank You For Participating!



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





# Future Meeting Schedule

## 2023

- August 8-10 – Virtual
- 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](mailto:chair@pwg.org) if you are interested in hosting a PWG F2F event

# IPP Everywhere™ Certified Printers



- <https://www.pwg.org/ipp/everywhere.html>
- **965** printers now certified!
  - <https://www.pwg.org/printers/>
  - New printers from 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 – In PWG Last Call
  - <http://ftp.pwg.org/pub/pwg/general/wd/wd-pwg-process-4-20230501.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 : 2023-05-1
  - PWG Roles and Responsibilities Policy : 2023-05-1
  - 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>

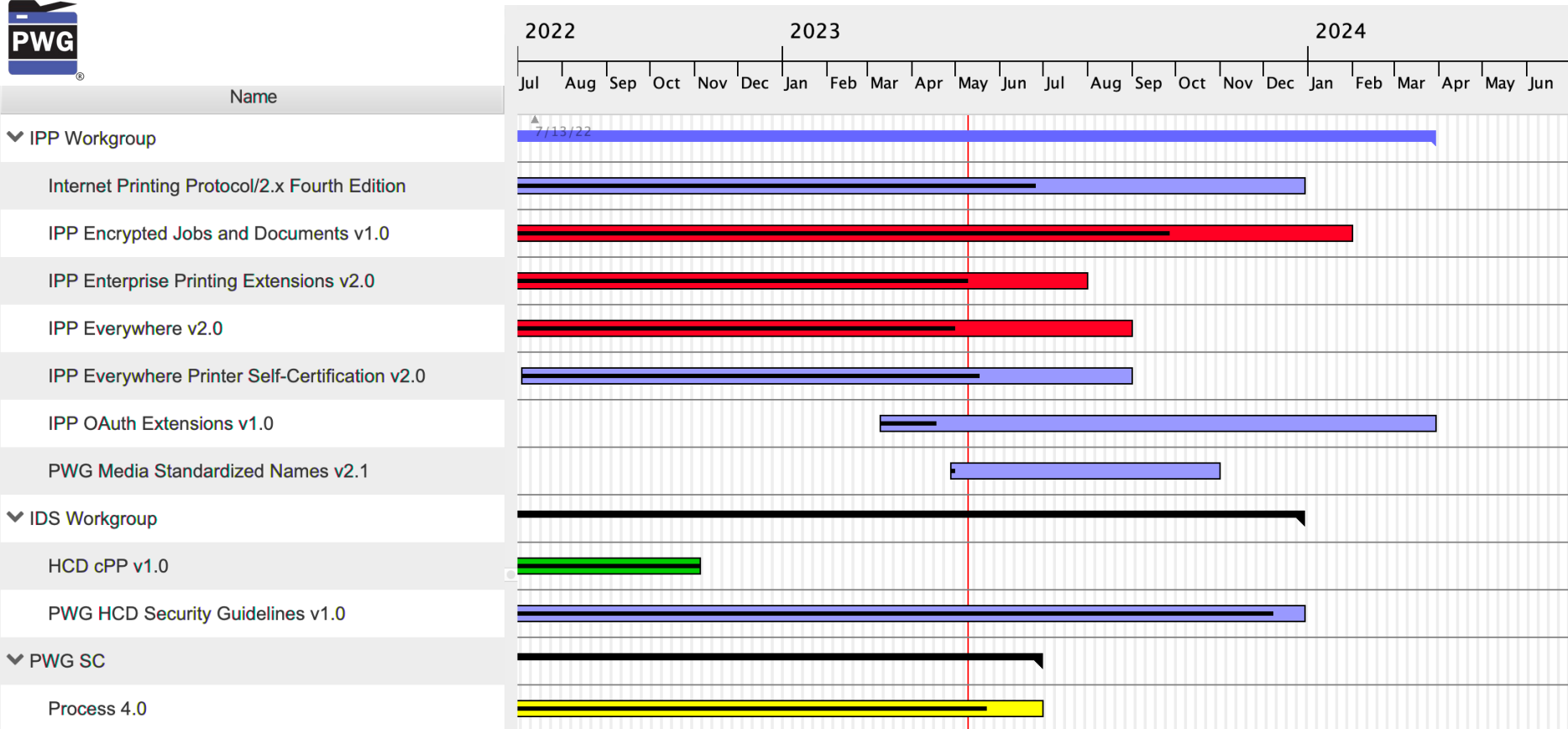


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# The Printer Working Group

## Workgroup Status

# Work in Progress



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 Feb 9, 2023, IDS WG Meetings held on 2/23, 3/23 & 4/20 2023
    - Next IDS WG Meeting scheduled for 6/1/2023



# 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 and plans for future updates to the published HCD cPP and HCD SD at the IDS F2F Session on Thursday May 18<sup>th</sup>
- 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 summarizing the 2023 US cybersecurity strategy and plans
- 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, June 1, 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
  - 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)
- 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, June 8 and 22, 2023 at 3pm ET



# The Printer Working Group

Liaison Status – May 2022





**Covered in OpenPrinting Plenary and other sessions later today and tomorrow.**

# 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 new Executive Director of the 3MF Consortium
- Mike Sweet (Lakeside Robotics) is the PWG liaison to the 3MF
- No updates since the February 2023 virtual Face-to-Face meeting
- Latest released 3MF specifications: <https://3mf.io/3mf-specification/>



# 3D / Additive Manufacturing Liaisons

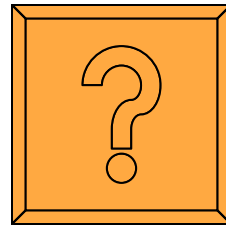
- America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) -
  - <https://www.ansi.org/standards-coordination/collaboratives-activities/additive-manufacturing-collaborative>.
    - The IEEE-ISTO Printer Working Group is participating in the AMSC version 3 update. The proposed schedule has version 3 being published in June 2023.
- ASTM Committee F42 on Additive Manufacturing Technologies -
  - <https://www.astm.org/COMMITTEE/F42.htm>
- The ASTM International Conference on Additive Manufacturing ( ICAM 2023 – Oct 30-Nov3, 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.

# 3D / Additive Manufacturing Liaisons



- American Concrete Institute Committee 564 - 3-D Printing with Cementitious Materials
  - [https://www.concrete.org/committees/directoryofcommittees/acommitteehome.aspx?committee\\_code=C0056400](https://www.concrete.org/committees/directoryofcommittees/acommitteehome.aspx?committee_code=C0056400)
    - 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 ACI 564 members via an ACI Training Webinar. Answer from ACI Committee 564 was that their organization is very materials focused and they felt the idea was more suited to a process-oriented standards organization like ASTM F42.
- 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
- 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

# Other Questions / Comments





# Next PWG Face-to-Face Meeting

August 8 – 10: Virtual

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