



# The Printer Working Group

## PWG May 2022 Face-to-Face Plenary Session

Jeremy Leber, PWG Chair  
May 17, 2022

# 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](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 17**

- 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 : Status of GhostScript and MuPDF
- 2:30 – 3:00 Break
- 3:00 – 4:00 OpenPrinting : Status of Chrome OS Printing

# Agenda Overview – Day 2



(All times Eastern Daylight Time)

## **Wednesday, May 18**

- 10:00 – 11:00 OpenPrinting : CUPS Plenary
- 11:00 – 12:00 OpenPrinting : Printer Applications – Retro-Fitting  
Printer Applications
- 12:00 – 12:45 Break / Lunch
- 12:45 – 1:45 OpenPrinting : cups-filters, CUPS Snap, Printer  
Applications, Driverless Scanning
- 1:45 – 2:15 IPP WG : Status – Prototype Ready Specifications
- 2:15 – 2:45 Break
- 2:45 – 3:00 IPP WG : IPP 3D – Introduction
- 3:00 – 3:30 IPP WG : Understanding 3D PDF (PDF  
Association)
- 3:30 – 4:00 IPP WG : Rendering 3D Content into 2D Graphics  
Contexts (Elysium)



# Agenda Overview – Day 3

(All times Eastern Daylight Time)

## **Thursday, May 19**

- 10:00 – 11:45 IPP WG : Evolution of IPP/2.0 and IPP Everywhere v2.0
- 11:45 – 12:00 IPP WG : Next Steps
- 12:00 – 12:45 Break / Lunch
- 12:45 – 2:45 IDS WG : Status and Discussion – PWG Hardcopy Device Security Guidelines v1.0



**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

# 2022 Membership



## 30 Members

Alan Sukert	directprint.io	Intel	<b>Microsoft</b> Microsoft	Synaptics Synaptics
Apple Inc.	Epson	Konica Minolta	<b>OKI</b> PRINTING SOLUTIONS Oki Electric Industry Co., Ltd	Technical Interface Consulting
Brother Industries, Ltd.	<b>FUJIFILM</b> FUJIFILM Business Innovation Corp.	Kyocera	<b>PaperCut</b> PaperCut Software	<b>TOSHIBA</b> Leading Innovation >>> Toshiba Business Solutions
Canon	Google	Lakeside Robotics	Qualcomm	Tykodi Consulting Services LLC Tykodi Consulting Services LLC
Danny Brennan	<b>High North Inc</b> High North, Inc.	Lexmark	<b>RICOH</b> Ricoh	<b>xerox</b> Xerox
Digital Check Corp	HP Inc.	Meteor Network	<b>SNBC</b> SNBC	YSoft

**Welcome New Member: Digital Check!**

# Thank You For Participating!



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





# Future Meeting Schedule

## 2022

- August 16-18 – Virtual
- November 15-17 – Virtual?

## • 2023

- February 7-9 – 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>
- **854** printers now certified!
  - <https://www.pwg.org/printers/>
  - New printers from Digital Check, OKI, HP, Lexmark, and Samsung (via HP)
  - More on the way!
- IPP Everywhere™ Self Certification 1.1 Update 3
  - Released May 17, 2021; approved June 16, 2021
  - **Mandatory for certification starting July 1, 2021**
  - **IPP Everywhere v1.0 Certifications no longer accepted**
- IPP Everywhere™ Self Certification 1.1 Update 4
  - Beta now available
- PWG IPP Everywhere Logo Policy update published May 16, 2022
  - Extends grace period for when it is acceptable for members to use the IPP Everywhere logo and name in their marketing collateral



# Process 4.0 and Policy Updates

- Process v4.0 - development nearing completion!
  - Draft nearly ready for broader review
  - 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
  - **PWG Communications Infrastructure : Draft in review**
  - **PWG Roles and Responsibilities Policy : Draft in review**
  - **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/ipregistry>
- PWG Books:
  - <https://github.com/istopwg/pwg-books>



**The Printer Working Group**

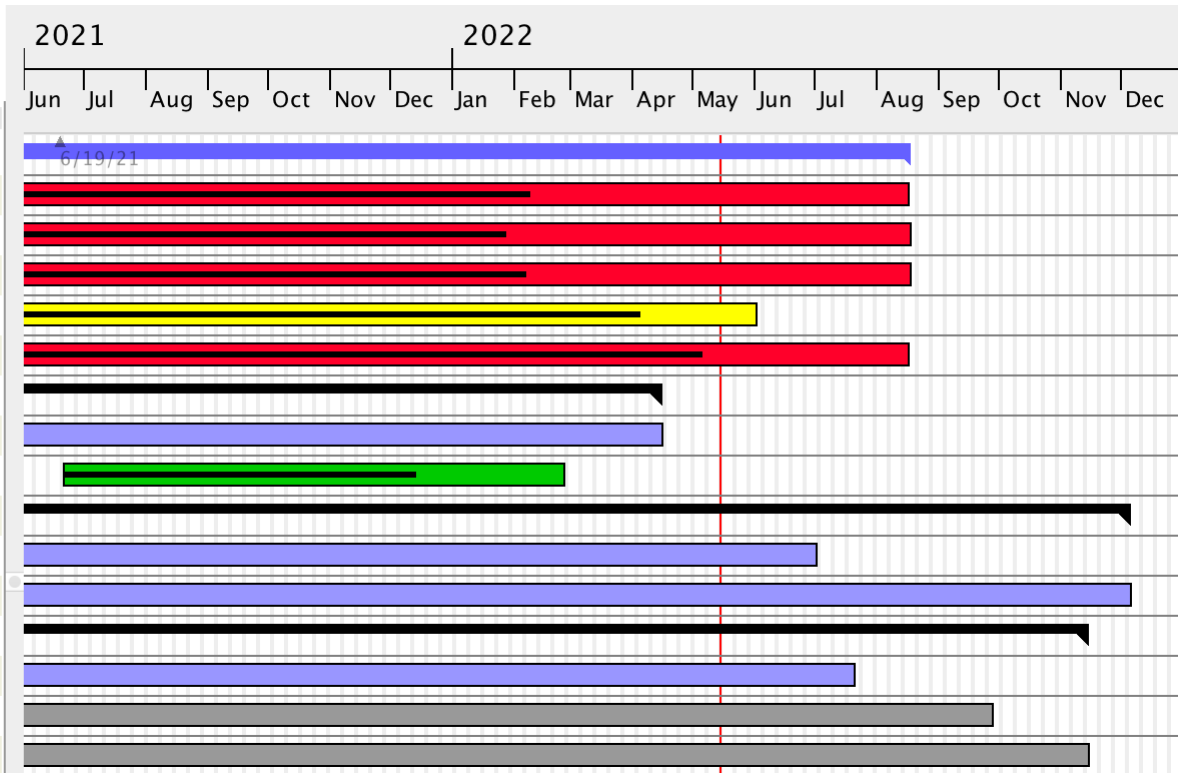
Workgroup Status

# Work in Progress



Name

- IPP Workgroup
    - IPP Driverless Printing Extensions v2.0
    - IPP Encrypted Jobs and Documents v1.0
    - IPP Enterprise Printing Extensions v2.0
    - IPP Finishings 3.0
    - IPP Production Printing Extensions v2.0
  - IPP Registrations / White Papers
    - INFRA Cloud Proxy Registration v1.0
    - Deprecating IPP Print by Reference v1.0
  - IDS Workgroup
    - HCD cPP v1.0
    - PWG HCD Security Guidelines v1.0
  - PWG SC
    - Process 4.0
    - New Comm. Infrastructure
    - PWG Design Principles



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, 2022, IDS WG Meetings held on 2/17, 3/3, 3/31, 4/28 & 5/12 in 2022
    - Next IDS WG Meeting scheduled for 5/12/22

# IDS: Current Status

- HCD international Technical Committee (iTC):
  - HCD iTC holds weekly HCD iTC Meetings; goal now is to develop, review and publish an HCD cPP/SD v1.0 in early 3Q 2022
  - Will discuss the results of the weekly HCD iTC Meetings held since last IDS F2F in Feb 2022 and the current HCD cPP/SD v1.0 status at the IDS F2F Session on Thursday May 19<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 IPP security-related topic by Mike Sweet on TRUSTNOONE
- 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, May 12, 2022 at 3pm ET



# The Printer Working Group

## IPP Workgroup Status

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



# IPP WG: Charter

- Current charter:
  - <https://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20210409.pdf>
- The Internet Printing Protocol (IPP) workgroup is chartered with the maintenance of IPP and the IETF IPP registry, and support for new clients, network architectures (Cloud, SDN), MFD/Imaging service bindings, and emerging technologies such as 3D Printing
- In addition, we maintain the IETF Finisher MIB, Job MIB, and Printer MIB registries, the PWG MIBs, the PWG Semantic Model schema, 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 (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 Production Printing Extensions v2.0
  - Smith Kennedy (HP Inc.) – IPP Driverless Printing Extensions v2.0, IPP Encrypted Jobs and Documents v1.0, IPP Enterprise Printing Extensions v2.0, IPP Finishings v3.0

# IPP WG: Status



- PWG Specifications in development:
  - Internet Printing Protocol/2.x Fourth Edition - Interim
  - IPP Driverless Printing Extensions v2.0 - Prototype
  - IPP Encrypted Jobs and Documents v1.0 - Prototype
  - IPP Enterprise Printing Extensions v2.0 - Prototype
  - IPP Everywhere™ v2.0 - Interim
  - IPP Finishings v3.0 - Formal Vote
  - IPP Production Printing Extensions v2.0 - Prototype
- Up-to-date pending IANA registrations online:
  - <https://www.pwg.org/ipp/ipp-registrations.xml>
  - Continue to maintain this in parallel for new specifications
  - Github repository: <https://github.com/istopwg/ippregistry>



# IPP WG: 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
  - Next conference calls scheduled for Thursday, June 2 and June 16, 2022 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: Michael Rhines (Qualcomm)
- 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



# 3D / Additive Manufacturing Liaisons

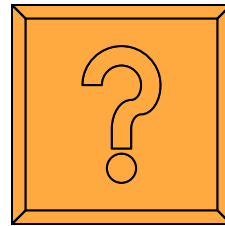
- America Makes & ANSI Additive Manufacturing Standardization Collaborative (AMSC) -
  - <https://www.ansi.org/standards-coordination/collaboratives-activities/additive-manufacturing-collaborative>. The IEEE-ISTO Printer Working Group is participating in the AMSC initiative.
- ASTM Committee F42 on Additive Manufacturing Technologies -
  - <https://www.astm.org/COMMITTEE/F42.htm>
- INCITS Digital Manufacturing Technical Committee -
  - <https://www.incits.org/committees/digitalmanufacturing>
    - Liaison allows PWG to monitor activities of ISO/IEC JTC 1 WG12 3D Printing and Scanning
- 3MF Consortium -
  - <https://www.3mf.io>



# 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 the possibility that the IEEE-ISTO Printer Working Group may be invited to deliver a webinar on its Safe G-Code best practice document to ACI 564 committee members in the summer of 2022
- 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 16 – 18: Virtual

Monitor [pwg-announce@pwg.org](mailto: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