

# Internet Printing Protocol Meeting Minutes

## May 7-8, 2024

Meeting was called to order at 1:45pm EST on May 7 and 12:45pm EST on May 8.

### Attendees

Tsuotomu Iwasaki (OKI)  
Till Kampeter (Canonical/OpenPrinting)  
Smith Kennedy (HP)  
Jeremy Leber (Lexmark)  
Ira McDonald (High North)  
Piotr Pawliczek (Google)  
Chris Rizzo (Xerox)  
Anthony Suarez (Kyocera)  
Michael Sweet (Lakeside Robotics)  
Paul Tykodi (TCS)  
Bill Wagner (TIC)  
Uli Wehner (Ricoh)  
Steven Young (Canon)  
Michael Ziller (Microsoft)

### Agenda Items

1. Antitrust and IP policies, minute taker
  - [https://www.pwg.org/chair/membership\\_docs/pwg-ip-policy.pdf](https://www.pwg.org/chair/membership_docs/pwg-ip-policy.pdf)
  - [https://www.pwg.org/chair/membership\\_docs/pwg-antitrust-policy.pdf](https://www.pwg.org/chair/membership_docs/pwg-antitrust-policy.pdf)
  - Antitrust and IP policies accepted, Mike taking minutes
2. Status
  - <https://ftp.pwg.org/pub/pwg/ipp/slides/ipp-wg-agenda-may-24.pdf>
3. 3D Printing
  - Safe G-Code
    - Standards work for concrete - how much water, what sort of reinforcing materials (to replace rebar)?
    - Also need to address the lack of forms, how long it takes for the concrete to cure and/or be ready for a load
    - Safe G-Code can be used to reproduce prints across different equipment/materials/water content - results can be measured/analyzed to produce standards data
  - November 2024 meetings
    - ICAM (Atlanta, GA, USA), TRB (Irvine, CA, USA), PWG (virtual), and Formnext (Frankfurt, Germany) each taking a week
      - Also IMTS 2024 earlier in September 2024, although not sure whether it will be applicable

- Alan has been invited back to present at ICAM (for 3D printer security)
    - Paul: Might also be able to present IPP 3D + TRUSTNOONE
  - Paul might want to attend TRB (depends on content)
  - Right now there isn't a strong reason for the PWG to attend Formnext
  - EU 3D printer security: Currently recommend using Common Criteria methodology (what we've been pushing for)
  - OPC UA work is currently on hold while they wait for other work to complete
4. IPP Shared Infrastructure Extensions v1.1
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippinfra11-20240226-rev.pdf>
  - Section 1.1:
    - Item 1: Drop last sentence.
    - Item 2: Drop last sentence.
    - Item 3: Drop last sentence.
    - Item 4: Drop "for a given Output Device" from the end.
  - Figure 4: Update title "without Release" or some other wording to indicate that the job isn't being held for release
  - Section 4.2.4:
    - Line 916: The Proxy chooses one of the Jobs from THIS list ...
    - Line 922: sets the state to 'processing' for each JOB as IT IS processed...
    - Line 927: capitalize Document
    - Line 932: sets the state to 'processing' for each DOCUMENT as IT IS processed...
  - Section 5.4:
    - Line 1335: "THEN the Infrastructure Printer..."
    - Move second sentence to a separate paragraph, prefix with Note:, "by sending Update-Output-Device and/or Register-Output-Device requests"
  - Section 5.7:
    - Convert the second sentence into a list of actions (add new Jobs in the first list, remove old Jobs in the second list), "Proxy list" vs. "internal list"
  - Release Printing
    - Still a potential issue for a 1.0 Proxy will now get fetchable held jobs and accept (acknowledge) them without waiting for release.
      - Should we require the Proxy to send a Release-Job request to release a held job before the Acknowledge-Job (Option 3)?
    - Option 1: Another advantage of this option is that it enables the Printer-side handling of Release Printing (with the Job transferred to the Printer)
      - Release-Job extension to accept output-device-uuid (assigns Job to output device)
    - Smith: Option 1

- Have the Proxy provide the Infrastructure Printer with the local Printer's job-release/password capabilities?
  - How to support the different release actions?
    - Mike: Can do it already:
      - Button press can be detected/honored by Proxy/Printer
      - Password can be detected/honored by Proxy/Printer
      - Authorization can be detected/honored by Proxy/Printer
  - Smith: Option 2: Is this a problem?
    - Mike: Works for job-release-action but not job-password (still some Clients that don't support Printers that require a job-password)
  - Bill: What about a third printer-mode value that corresponds to Option 2?
    - Mike: "default" or "auto"
    - "passthrough" (never held, passed through), "release-action" (user choice based on job-release-action/job-password), and "release-printing" (always release/pull printing)
  - Resource URIs:
    - Michael: Depends on how much or little you trust your network
    - Smith: Ultimately same-origin policy will be enforced by Client
      - Mike: Authentication/authorization by Printer/System/Server
    - Smith: Fine with same-origin policy
    - Mike: Web Browsers use something called CORS to allow cross-origin sharing, how much do we want to put on the Client to enforce this?
    - Ira: Maybe use "reachable via Public Internet Accessible URIs" to avoid accessible getting used twice
    - Action: Mike to post update to IPP list on CORS for Resource URIs
      - <https://www.pwg.org/pipermail/ipp/2024/021588.html>
5. Strong Device Identity BoF
- Mike: macOS/iOS show a lock icon next to printers that support TLS
  - Mike: Hard to stick to one policy - site specific, recommended by UX experts, recommended by security experts, etc. No single "right" answer
  - Smith: Right now management complexity prevents easy provenance on networks, most enterprises put printers behind print servers
  - Uli: Do we want to include enterprise policies in use cases? And default home policies?
    - Smith: Fine with adding that, use cases are on the Wiki so everyone with access can edit them
  - Mike: Use case 3 (negative) would more properly be an exception when the validation/correlation fails, obviously wouldn't use printer-uuid which can be easily spoofed.
6. IPP System Service v1.1
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippssystem11-20240504-rev.pdf>

- Section 4.1: "so it is more difficult for" -> "to mitigate the risk of"
  - Sections 7.1.3 and 7.1.4: Explicitly call out text(MAX) length (1023 octets/ bytes) and that certificates/requests often exceed this and are split over multiple text values (thus the 1setOf)
  - Bill: This is an errata update, do we need to prototype?
    - Mike: The new (but optional) Register-Output-Device X.509 support hasn't been prototyped for IPP System yet and I feel we should do this before advancing the document. This functionality is equivalent to the work Microsoft has done for their REST API in their Universal Print Service.
7. IPP Everywhere v2.0
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeve20-20240426-rev.pdf>
  - Section 4.1:
    - Fix missing references for LDAP
    - Drop SLP
    - Add infrastructure ("wide-area") DNS-SD discovery (so still four methods)
    - Smith: Do we need to list "wide-area" DNS domains?
      - Mike: Probably not, hard to filter based on network segments
  - Section 4.2:
    - Fix braces around PWG raster reference
  - Global: Spell check!
  - Global: Drop SLP
  - Section 4.3:
    - First sentence ends with colon, break out rest of paragraph
    - Put each category in a bullet list
    - "Workgroup IPP Everywhere Printers ..."
    - "... to PRODUCE finished hardcopy ..."
  - Section 5.2.4: Fix paragraph style, figure out what is going on with the "air" key descriptive text.
  - Section 6:
    - Drop "the" before BASE and NODRIVER
    - Drop second paragraph about the semantic model
  - Table 5: max-page-ranges-supported is in 5100.7
  - Global: Look for "notes N"
9. IPP Everywhere Printer Self-Certification Manual v2.0
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert20-20220510-rev.pdf>
  - Demo failed...

## Next Steps / Open Actions

- Next conference calls on May 23 and June 6, 2024 at 3pm
- Talk about more "Strong Device Identity" at future (soon) concall, determine requirements/use cases
- Action: Mike to post update to IPP list on CORS for Resource URIs (DONE)
- Action: Mike to start PWG Call for Objections of DOCOBJECT 1.2 (DONE)

- Action: Mike to update the IPP How-To Guide and post to IPP list for discussion (PENDING)
- Action: Paul to review existing 3D use cases and identify any gaps (PENDING)
- Action: Mike to update IPP Everywhere 2.0 test files (PENDING - started work on it)