

# Internet Printing Protocol Meeting Minutes

## October 10, 2024

Meeting was called to order at 3:00pm ET.

### Attendees

Charles Armstrong (Canon)  
Benjamin Gordon (Google)  
Smith Kennedy (HP)  
Ira McDonald (High North)  
Piotr Pawliczek (Google)  
Michael Sweet (Lakeside Robotics)  
Anthony Suarez (Kyocera)  
Bill Wagner (TIC)  
Uli Wehner (Ricoh)

### Agenda Items

1. PWG IP policy, minute taker, administrivia
  - Mike is taking minutes
2. Review IPP minutes from previous meeting:
  - <https://ftp.pwg.org/pub/pwg/ipp/minutes/ippv2-concall-minutes-20240926.pdf>
  - Approved as posted
3. 3D Updates
  - Alan invited to present at ICAM 2024
  - Paul may be attending ICAM 2024 and TRB 2024
  - Both in November, see PWG SC minutes for details
    - <https://ftp.pwg.org/pub/pwg/general/sc/pwg-sc-call-minutes-20240930.html>
4. Pending IPP WG documents:
  - IPP/2.x Fourth Edition (BASE)
    - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippbase23-20240912-rev.pdf>
    - PWG CfO concludes November 8, 2024
  - IPP Wi-Fi Configuration Extensions v1.0 (WIFI)
    - <https://ftp.pwg.org/pub/pwg/ipp/registrations/reg-ippwifi10-20240912.pdf>
    - Now published
5. Discuss novel mDNS/DNS-SD attack
  - <https://ftp.pwg.org/pub/pwg/ipp/slides/mdns-dnssd-20241010.pdf>
  - Mentioned in the original cups-browsed security report:
    - <https://github.com/OpenPrinting/cups-browsed/security/advisories/GHSA-rj88-6mr5-rcw8>
    - Go down a little more than half way for that discussion or search for

"mDNS"

- Benjamin: What happens when the hostname changes?
    - Mike: The printer generates a new cert, making it hard to know whether this is an attack or just a response to a conflict, existing UI would put it on the user to figure it out
      - Smith: Most users will just click through...
  - Uli: Can we just use a wildcard cert? Or put multiple potential names in the cert?
    - Mike: Wildcards make me nervous, SANs for multiple names could be problematic
  - Benjamin: Using the UUID (hash or otherwise) to pin helps for Service Instance Name attacks but will cause a hard failure if the hostname changes
    - Smith: Depends on setting up initial trust via pinning (no different from hostname pinning)
    - Mike: In discussions with IETF security folks, need to have trusted network identity framework (802.1X or similar)
  - Mike: Document this as a known attack in IPP System and IPP Everywhere, why to maintain the status quo, and that CA-signed certificates are the only way to mitigate the attack
    - Consensus is this is the only thing we can really do at the moment
    - Mike will also update the slides and text based on our discussions today
6. Review IPP Firmware Update Extensions v1.0 (FWUPDATE)
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippfwupdate-20241010-rev.pdf>
  - Section 4.1: Drop and have paragraph under 4
  - Section 4.1.x: Promote to 4.x
  - Section 4:
    - Bill: Are we only interested in traditional methods? Also, what about a local agent (other than a Client) doing the updates?
      - Smith: Client-managed is really just IPP System and not further discussed
      - Bill: Seems like you are dismissing this approach? Still viable, especially with special agent, current diagram makes it look like a human-controlled computer
        - Smith: Section 4.1.4 shows agent-like blob, can replace the laptop with something more generic
    - Bill: Also, autonomous diagrams suggest the printer is doing something client-like?
      - Smith: Perhaps I can replace the icon or clarify that it is not a Printer but a Physical Device
        - Printer - Physical Device - Update Agent
  - Section 4.1.2:
    - Update terminology (Physical Device/Agent is doing the updating, might be reflected through Printer to Client)
  - Mike: Probably want to discuss separation of Printer, Physical Printer, and Update Agent in section 4 intro for model discussion

- Mike: Maybe have a small set of generic diagrams in section 4 showing push vs. pull updates, maybe scheduled vs. triggered, then just use UML diagrams in the sub-sections
- Smith: I'll get rid of the current generic diagrams, and section 4.1.4 since it is really the same semantically

## **Next Steps / Open Actions**

- Next conference calls on October 24 and November 7, 2024 at 3pm
- Talk about more "Strong Device Identity" at future (soon) concall, determine requirements/use cases
- Action: Mike to publish WIFI registration and submit to IANA (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)