

Internet Printing Protocol Meeting Minutes

May 17-18, 2023

Meeting was called to order at 1:45pm ET on May 17 and 12:45pm on May 18.

Attendees

Amin Bandali
Gaytari
Benjamin Gordon (Google)
Till Kamppeter (Canonical/OpenPrinting)
Smith Kennedy (HP)
Jeremy Leber (Lexmark)
Ira McDonald (High North)
Piotr Pawliczek (Google)
Mike Rhines (Qualcomm)
Anthony Suarez (Kyocera)
Michael Sweet (Lakeside Robotics)
Paul Tykodi (TCS)
Bill Wagner (TIC)
Uli Wehner (Ricoh)
Steven Young (Canon)

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-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-23.pdf>
 - Shifting 3D discussions to May 18th before the OAuth discussions
3. JSON Encoding of IPP
 - Benjamin: Concerned that CDDL might make things more difficult? Goal is to formalize mapping but not add complexity
 - Ira: Don't need to map full IPP message syntax, can make CDDL schema bits optional to simplify. I have access to experts that can help us tailor things appropriately
 - Mike: Could also do a machine-generated CDDL schema from the registry, much like we did for the PWG Semantic Model XML schema, tailored to the areas we need standardized JSON objects/messages
 - Benjamin: Looking at a subset of printing operations - Get-Printer-Attributes, Get-Jobs, Get-Job-Attributes, Print-Job, Cancel-Job
 - Smith: Since JSON isn't strongly typed, important to define how IPP

- syntaxes/types are converted to JSON types
 - Benjamin: Important that new attributes/values can be supported using standard rules
 - Smith: What is the use case?
 - Benjamin: Right now Javascript only provides a single method for printing ("print" on the document) and there is no way to query the capabilities of a printer, format output better for a printer, etc.
 - Smith: Privacy and security concerns about a web page talking directly to printers
 - Benjamin: Yes, similar issues with WebBluetooth and other device access extensions
 - Smith: Would like use cases described more clearly to better understand what is needed
 - Ira: Me too
 - Benjamin: Another use case is for JSON format for ipptool output
 - Mike: ipptool does support this already, not a formal schema but I can document what it does
 - Benjamin: How to diagnose problems with printers?
 - Mike/Smith: ipptool has a way to export config files for ippserver/ippeveprinter
 - Smith: Another use could be as a textual representation of IPP messages in specs?
 - Uli: No good way to represent the type of the value
 - Mike: Probably need a lookup table like CUPS, or could have hints in printer attributes scheme (e.g. "name.type":"type")
 - Uli: Or a parallel type vs. value frame
 - Benjamin: This can come from the schema
 - Mike: Another option is to annotate the name with the type, e.g., "printer-uri-supported.uri", etc.
 - Ira: What kinds of operations would be exposed?
 - Benjamin: Browser would expose the basic stuff - get printers, get capabilities, print something
 - Ira: Concerned about security/exposure
 - Benjamin: Agreed, want something standardized that we can provide reasonable limits for
 - Next step: Google will put together some slides for review at a future IPP meeting
4. PWG Media Standardized Names v2.1 (MSN)
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-pwgmsn21-20230428-rev.pdf>
 - Section 3.1, Table 1 Fix deprecated to DEPRECATED
 - Global: Look for deprecated, replace with DEPRECATED
 - Check JTAPI URL in acronyms and references
 - Section 5:
 - Say something about close sizes - dimensions within 1mm or 0.01in?
 - Section 5.1: Delete class name sentence (MS1 comment)
 - Section 5.1.3:

- Investigate - is it sheet-fed or cut sheet? Check STD92, PPX, and others
- Section 5.1.9:
 - Add paragraph about localization, "english localized name, message catalogs used to provide locale-specific names with fallback to dimensional names, add note about OS's using local strings?"
 - Tables 3-N:
 - Bottom alignment for header rows
 - "English Localized Name"
 - Action: Mike to post question to IPP list about the sorting preference for media size tables in MSN2.1
 - Section 7: Add reference to PWG 5100.7
 - Section 8: Add reference to PWG 5100.7
- 5. IPP/2.x Fourth Edition
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippbase23-20220809-rev.pdf>
 - Waiting on EPX
- 6. IPP Everywhere v2.0
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeve20-20221107-rev.pdf>
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert20-20220510-rev.pdf>
 - HTTP Date header
 - Benjamin: Could a clients end bad values?
 - Mike: Sure, but if you don't have a battery or NTP you probably have bad time already
 - Ira: Rough Time has authenticated servers, doesn't just use one Date header, uses a quorum algorithm
 - Uli/Till: Probably just for low-end printers
 - Mike: Printer could require multiple Date values before it sets its date/time
 - Ira: Could point at Rough Time sections for security stuff
 - Consensus is to include this with Client SHOULD and Printer can, additional security discussion about trusting/using Date values
 - Wi-Fi Configuration
 - Uli: Can you get the address of the printer?
 - Mike: Not over IPP-USB
 - Till: Use DNS-SD and match UUIDs
 - Mike: Important that printer-uuid is the same for all network interfaces and USB
 - Consensus: Include this extension
- 7. 3D Discussions
 - AMSC Draft feedback:
 - Gap PC5: Delete
 - Gap PC13: Delete
 - Gap P4: Delete
 - Gap DE8:
 - Issue with AMF - not used
 - Action: Mike to write up 3MF+IPP3D paragraphs for the

- AMSC DE8 and DE20 gaps
- Smith: Is 3MF going to the AMSC meetings?
 - Paul: Not sure, will find out
 - Action: Mike to reach out to 3MF about AMSC participation
- Bill: What does "voluntary industry standard" mean?
 - Paul: Not sure
 - Mike: We should get clarification, don't want it to look like 3MF is not a real standard...
 - Action: Paul to find out what "voluntary industry standard" means
- Gap PC15: Add STD 92, System Service, Enterprise Printing Extensions
 - Bill: This is a catch-all, is it possible to get this changed/expanded/split-out?
 - Paul: Not much chance for v3, but they could do an errata version with changes
 - Mike: Seems to cover a lot of different things (hardware, firmware, documents to be printed, etc)
- Gap DA18: Add Common Criteria/IDS work
 - Action: Paul to reach out to Alan about Gap DA18 additions

8. IPP OAuth Extensions v1.0

- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippoauth10-20230315-rev.pdf>
- Status: Interim
- Abstract + section 1: Add "IPP" before "extensions"
- Section 2.4:
 - Ira: NIST has a good definition of Trusted Root/Trust Anchor, I will provide offline
 - NIST doesn't do Trusted Root - what they do is define Root CA https://csrc.nist.gov/glossary/term/root_certificate_authority and much less usefully they define Root Certificate by reference to RFC 5280 (I don't like this one) https://csrc.nist.gov/glossary/term/root_certificate In my SAE J3323 Trust Anchors and Authentication, I use the Trust Anchor from NIST (which is the BEST definition) https://csrc.nist.gov/glossary/term/trust_anchor

For Trust Anchor, in J3323, I used two NIST definitions from SP800-63 Part 3 and NIST SP80057 Part 1 Rev 5 (the NIST PKI core spec) - long test - I'll send it by email - it's quite possible that this longer two-pronged definition is useful for readers to disambiguate the PKI-backed Trust Anchor from a hardware-backed Root of Trust.

- Add Allow List term and definition
 - Ira: NIST definition of "white list":
 - <https://csrc.nist.gov/glossary/term/whitelist>
- Section 3: Fill out rationale (based on the following specs, etc....)
- Section 3.1.3: Print to Multiple Domains

- Section 3.4: IPP attributes and values
- Section 4.1: Fix missing "Figure 1"
 - Figure 1: Add separate printer without arrows from client (to differentiate from local)
- Section 4.1.3: "re-validate" instead of "reevaluate", "if a Client allows TOFU, it may need to re-validate the certificate", or something like that? "Once OAuth is in use" is awkward
- Section 4.2:
 - Piotr: Can we require Printers/Systems to support token exchange?
 - Mike: I thought the resource was part of the JWT and can be validated with token introspection?
 - Needs more investigation
 - Focus is on validating that the token is valid for the resource (Printer/System)
 - Smith: In 5100.18, is there a way to find the Infra Printer and vice-versa?
 - Mike: No, that was a Microsoft request, however
 - Make token exchange MUST for printers and systems, talk about how a printer or system validates the exchanged token is for the resource (valid token, resource must match)
- Global: replace "allow list" with "Allow List"
- Section 4.4: Locally stored, stored on clients/proxies/printer/systems
- Stopped before section 5

Next Steps / Open Actions

- Next conference calls on June 1 and 22, 2023 at 3pm
- Action: Mike to post question to IPP list about the sorting preference for media size tables in MSN2.1
- Action: Mike to write up 3MF+IPP3D paragraphs for the AMSC DE8 and DE20 gaps
- Action: Mike to reach out to 3MF about AMSC participation
- Action: Paul to find out what "voluntary industry standard" means
- Action: Paul to reach out to Alan about Gap DA18 additions
- Action: Smith to create IPP Everywhere 2.0 slides showing changes (PENDING - started on it)
- Action: Mike to update IPP Everywhere 2.0 test files (PENDING)