

Internet Printing Protocol Workgroup Meeting Minutes

August 15-16, 2018

Meeting was called to order at approximately 10am MT on August 15, 2018 and 10:30am MT on August 16, 2018.

Attendees

Gupta Gyaneshwar (Oki Data)
Smith Kennedy (HP)
Jeremy Leber (Lexmark)
Ira McDonald (High North)
Michael Sweet (Apple)
Paul Tykodi (TCS)
Bill Wagner (TIC)
Uli Wehner (Ricoh)
Rick Yardumian (Canon)

Agenda Items

1. IP Policy and Minute Taker
 - http://www.pwg.org/chair/membership_docs/pwg-ip-policy.pdf
 - IP policy accepted, Mike taking minutes
2. Slides
 - <https://ftp.pwg.org/pub/pwg/ipp/slides/ipp-wg-agenda-august-18.pdf>
 - Q: Get-User-Printer-Attributes: Require/recommend for IPP System Service?
 - A: Continue discussion in IPP System Service session
3. IPP Everywhere v1.1 (Mike):
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeve11-20180704-rev.pdf>
 - <http://www.pwg.org/pipermail/ipp/2018/019670.html>
 - Q: Should we use RFC8011 references where section numbers are used?
 - A: In this document no since this is just for IANA registrations, but perhaps in other documents where there would be some ambiguity.
 - Action: Mike to post guidance about usage of RFC8010/8011 vs. STD92 to IPP WG list
 - Section 14.1: RFC 8011 -> STD 92
 - Q: IPP Everywhere Servers: Do we need conditional conformance requirements here?
 - Right now there are no direct requirements in 5100.14, several indirect ones through RFC 8011
 - A: Probably not
 - Q: Do we require Bonjour for servers?

- A: Maybe we can opt out, but if Bonjour is supported it needs to conform...
- Apple supports configuration profiles and Bluetooth beacons pointing to a server (and all its queues)
- IPP calls print servers a Logical Device
- Section 4:
 - "Logical Devices SHOULD and Physical Devices MUST support DNS-SD."
- Section 4.x: Adopt "if DNS-SD is supported" language as needed
- Section 4.2: Bonjour Printing Specification version 1.2.1
- <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert11-20180704-rev.pdf>
 - Add conditional stuff for DNS-SD on servers
 - Section 4.5:
 - Still have 720dpi sample files link, remove
 - Still Windows 7 - no TLS 1.3 support...
 - Windows 10 is still a non-starter for many corporate environments
 - Continue discussion in future IPP workgroup calls

4. IPP Job Reprint Password

- <https://ftp.pwg.org/pub/pwg/ipp/slides/IPP%20Job%20Print%20Password%20Use%20Cases%202018-08-14.pdf>
- Slide 10: Stored data is *not* Job A, it is the processed representation of Job A ("Output A"?)
- Nothing in JPS2 causes an IPP Job object to be retained indefinitely
 - job-save-disposition does not create a Saved Job as defined in JPS2, it saves the output to the specified destination (which may or may not be sufficient to recreate the original Job - all implementation-specific, determined by output mimeType)
 - No way to specify a serialized IPP object representation (application/ipp is a message format, not a serialization format)
 - proof-print asks for a Job to be retained but does not guarantee it is retained indefinitely
- The "job-restartable" keyword on "job-state-reasons" exists to tell a Client whether a Job can be reprinted via Restart/Reprocess/Resubmit-Job
 - What about a "job-retain-until (keyword)" Job Template attribute to explicitly tell the Printer how long to retain a Job
 - 'none', 'default', 'indefinite', 'month', 'week', etc. values
 - "job-retain-until-time (dateTime)" could provide an explicit date and time
 - "xxx-default" tells Client what the default retention policy is.
- Specifying "job-reprint-password" or "job-retain-until[-time]" will cause a Job to be retained so it can be the target of a Reprocess-Job or Resubmit-Job operation
- Q: How to do 'save-only' without job-save-disposition?
 - Nothing explicit, maybe could define 'none' value for "output-

- device"???
 - output-device-supported (1setOf name(127)) lists the supported output-device Job Template attribute values
 - Smith: output-device sounds like a hack
- Consensus: Probably need to do an errata update of PWG 5100.11 to address inconsistencies/ambiguity
 - Maybe just strip (deprecate) job-save-disposition ("put a stake in the heart" :)
- Proof Print with "null" output-device would provide full RIP pre-flighting of Job
- Just do a v2.0 of JPS2 that incorporates the Job Reprint Password content, "job-retain-until[-time]", and other fixes as needed
- If we do a single "job-print-password" that persists with the original Job and any subsequent copies, that password can be required at the control console OR in the Reprocess/Resubmit-Job request, satisfying both the PIN print and reprint use cases
- Smith will convert the existing JPS2 Word document to the current template in preparation for JPS2 v2.0
 - Filename should be wd-ippjobprinterext20-yyyymmdd.ext
- 5. IPP System Service v1.0 (Mike)
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippsystem10-20180701-rev.pdf>
 - Global: Remove old comments
 - Section 7.2.27: Add missing table reference before "lists the ..."
 - Section 7.3.21: Remove redundant "semantically analogous to"
 - Section 7.3.22:
 - Both are "semantically analogous to"
 - "with severity suffixes REMOVED"
 - Add keyword for shutting down
 - Global: Check all "semantically equivalent to" to make sure they are either exact mappings (equivalent) or derived mappings (analogous)
 - Section 7.5.1:
 - Add missing table reference.
 - Everything but resources have been prototyped in ippserver
 - That work should be done by the end of September
- 6. TLS 1.3 (Mike)
 - Site policies may influence cipher suite selections
 - Aside from TLS protocol issues, X.509 certificates are also an issue (MD5 or SHA1 hashes are no longer considered secure, SHA2 required by most browsers)
 - CUPS does bitwise comparisons to avoid hash issues
 - May want to say something specific for IPP (recommendations, etc.)
 - CA's have a max life of 3 years, self-signed (printer-generated) are typically 10 years
- 7. IPP Authentication Methods (Smith)
 - <https://ftp.pwg.org/pub/pwg/ipp/whitepaper/tb-ippauth-20180629-rev.pdf>
 - Abstract: Drop "is a whitepaper", reword "and how they can affect"

- Filename: wd-ippauth10-yyyymmdd.ext
- Q: Should this be a best practice?
 - Just documenting what exists, not making hard recommendations
 - A: "Ought to" and other language is close enough
 - Make it a best practice, use real conformance words (SHOULD, MAY, etc.)
 - Add conformance words to terminology section (SHOULD, MAY)
- Section 3:
 - Title: "Rationale"
 - Reword: "Although the authentication protocols can be used as-is with IPP, the IPP Client is not a web browser and implementors SHOULD consider factors that affect the user experience."
 - Add sub-sections for use cases, out-of-scope, etc.
 - Out of scope is definition of new auth methods
- Section 3.1:
 - "Overview"
 - Make top-level ("section 4")
 - Swap first and second sentences in first paragraph (start with what Authentication is, then talk about how a Printer uses it)
 - "An IPP Printer" -> "A Printer" or "Printers"
- Section 3.1.7:
 - Status codes only get returned after a successful TLS negotiation (Client and Printer certs OK, but subsequent validation might fail, e.g. user not authorized)
 - Action: Smith to look up IETF OAuth WG minutes from IETF 102 to see if there is anything germane to IPP
 - Stopped at section 3.1.7
- 8. IPP 3D Printing Extensions v1.1 (Mike)
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ipp3d11-20180704-rev.pdf>
 - Sections 8.2.1 and 8.2.2:
 - Define units (relative humidity and degrees Celsius)
 - Section 14.1:
 - Fix STD92 reference (both RFC 8010 and 8011, use html/std92)
 - Title is just "Internet Printing Protocol/1.1"
 - Check for UAX/UTR changes - just point to the base directory and not the specific version of the UAX/UTR
 - Leave as prototype status while we get more review from third parties
- 9. PWG Safe G-Code (Mike)
 - <https://ftp.pwg.org/pub/pwg/ipp/wd/wd-pwgsafegcode10-20180704-rev.pdf>
 - Section 5: Talk about what to do when a job is canceled
 - Section 7:
 - Fix STD92 reference
 - Leave as prototype status while we get more review from third parties
- 10. 3D Liaison Discussions (Paul)
 - ASTM: We need to provide a document they can reference for the PWG leaglease
 - IEEE P3030: In hibernation

- ISO: New 3D printing workgroup SG12 formed to coordinate all ISO 3D standards development, someone from HP is representing the US, Paul is representing the PWG
 - Action: Paul/Smith to determine whether ISTO needs to do anything to participate in ISO SG12
- 3D PDF Consortium is now an ISO TAG?
- 3MF:
 - Work on putting together 3D job ticket examples in 3MF sample files
 - Keep pushing on getting liaison agreement signed
- IPP 3D presentation: schedule review at a future IPP WG concall
- SME:
 - ITEAM database for standards, products, materials, etc. information
 - GUI/web API to allow lookups/guidance/cost information
- "3DHEALS" organization
 - <https://3dheals.com>
 - Focus on using/encouraging 3D printing for medical uses

11. Next Steps

- Job Reprint Password now IPP Job and Printer Extensions Set 2 (JPS2) v2.0, pushed out
- MFD Alerts errata - maybe Prototype Draft by Q4 2018
- Defer RFC updates - errata are good enough
- Q: IPP Everywhere: required pwg-raster-document-type-supported values?
 - A: Not OK to add requirements in an errata, but we can add recommendations for the common types
 - Add a note/rationale that we can't make the types required (oversight in 1.0 spec)
 - Also in self-cert document that we are testing for the recommended types
- Fix links on meeting page to point to IPP slides

Next Steps / Open Actions

- Next conference calls on August 30, 2018 and September 13, 2018
- Action: Mike to post guidance about usage of RFC8010/8011 vs. STD92 to IPP WG list
- Action: Smith to look up IETF OAuth WG minutes from IETF 102 to see if there is anything germane to IPP
- Action: Paul/Smith to determine whether ISTO needs to do anything to participate in ISO SG12
- Action: Mike to post approval of Canon sizes to IPP mailing list thread (DONE)
- Action: Mike to assemble a list of specifications that reference PWG 5100.7 (DONE)
- Action: Smith to post diagrams showing different encrypted job topologies (PENDING)

- Action: Mike to investigate IPPS issue in Wireshark - “ipp” filter not working (PENDING)
- Action: Smith to follow-up on the 3MF liaison agreement (IN PROGRESS - Alexander Auster (Autodesk) will be taking over, Kurt Hunter has retired from Microsoft, Adrian is now shepherding things)