

# Internet Printing Protocol WG Minutes

## August 12-14, 2014

Meeting was called to order at approximately 3:00pm ET August 12, 2014, 3:00pm ET August 13, 2014, and 1:00pm ET August 14, 2014.

### Attendees

Danny Brennan (IBM)  
Till Kamp Peter (Canonical/OpenPrinting)  
Smith Kennedy (HP - call in)  
Alex Korobkin (Google - call in)  
Shane Lin (Monotype)  
Daniel Dressler  
Daniel Manchala (Xerox - call in)  
Ira McDonald (High North - call in)  
Johannes Meixner (SuSE)  
Joe Murdock (Sharp)  
Mike Sweet (Apple)  
Paul Tykodi (TCS - call in)  
Bill Wagner (TIC)  
Rick Yardumian (Canon)  
Pete Zehler (parc)

### Agenda Items

1. IP Policy and Minute Taker
  - a. Policy accepted with Mike taking the minutes
2. Review IPPSIX
  - a. <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippsix10-20140226.pdf>
  - b. Change abbreviation to IPPINFRA
  - c. Change filename to wd-ippinfra10-yyyymmdd.ext
  - d. Abstract:
    - "This document defines extensions to IPP that allow IPP Printers to interface with shared services based in the network infrastructure, i.e., software-defined networks, and/or through Cloud solutions to remotely ..."
    - Add reference to Cloud Imaging Model
  - e. Reference compression-accepted and document-format-accepted from IPP Scan (PWG5100.SCAN)
  - f. Section 1:
    - Add reference to Cloud and SDN references
    - Add reference to Cloud Imaging Requirements and Model document [PWG5109.CLOUD]
    - "This specification defines an IPP Binding of the Cloud Imaging

- Requirements and Model [PWG5109.CLOUD]. While the focus is on IPP Cloud Printers, the same IPP Binding can be used in any environment where ..."
- ", as is common ..." -> ". This is common ..."
  - ". Some examples are:" -> ", such as:"
  - "uses the printing interface defined ..." -> "uses the IPP Binding defined ..."
- g. Figure 1: Add [RFC2911]
- h. Show mapping of IPP operations to Cloud Imaging Model operations
- i. Q: Do we make "Binding" a defined term?
  - A: Reasonable, do we ever do it?
  - Action: Joe to provide definition of IPP Binding for IPPINFRA
- j. Global: "interface" -> "IPP Binding", etc.
- k. Update RFC2616 to RFC7230
- l. Section 2.2:
  - Proxy: "An IPP Client ..."
  - Move Infrastructure Printer definition here from 2.3
  - Make new 2.2 for Printer Terminology, list 2911 terms
  - 2.2 becomes 2.3 Protocol Role Terminology
  - 2.3 becomes 2.4 Other Terminology
  - Add period to end of Output Device definition.
  - Perhaps more review after IPP System Control Service
- m. Global: IPPSIX -> IPPINFRA
- n. Global: 5100.SIX -> 5100.INFRA
- o. Section 3
  - "Given the existing specifications below and ..."
  - Also look at IPP System Control and IDS Model
  - Add quotes around document titles, no leading "The" on those lines.
- p. Figure 2: Update IPPSIX
- q. Section 4:
  - Lines 477-479: "The Infrastructure Printer can augment the capabilities of the Output Device, such as by providing document conversion, ...."
  - Line 485: "Figure 3 shows two Proxy implementations of this model."
  - Add forward references from Infrastructure Printer and Proxy to the 4.x subsections.
- r. Figure 3: "Examples of IPP Proxy Implementations"
- s. Section 4.1:
  - Line 505: Comma after e.g.
- t. Section 4.1.1:
  - Line 524: "minimal pre-processing (late binding)"
  - Maybe add examples about watermarking and conversion explicitly being allowed. Reword to allow pre-processing, focus on late binding to preserve fidelity and minimize bandwidth.
  - For example, pre-binding copies can cause problems down the

- road (bandwidth, etc.)
    - Also email revised text to IPP mailing list for specific discussion.
  - u. Stopped at 4.1.1
  - v. From Cloud Imaging Model session:
    - Add job-id to Identify-Printer extensions to specify output-device handling a given job
      - Also passed in response to Acknowledge-Identify-Printer request?
    - IANA and PWG Considerations section
    - PWG Semantic Model Registrations sub-section
      - Boilerplate text pointing to 5108.01
      - Table of registrations for elements, operations, and well-known values from IPP attributes
    - Clarify reject job requirements? (i.e. proxy wants to reject, or proxy wants to ignore?)
    - Talk more about document-uri and how a proxy gets the Infrastructure Printer to dereference
3. Session 2: IPP Everywhere Self-Certification Status
- a. <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeveselfcert10-20140729-rev.pdf>
  - b. Section 2.2: Protocol Role terminology
  - c. Section 2.3:
    - Drop "existing" from Product Family definition
    - Add definition of Production-Ready Code and update references/terms throughout
  - d. Section 4.5:
    - Add back reference to section 1.3 for mailing list (how to subscribe)
    - You -> vendor
  - e. Global: change You to Vendor (or Developer) as needed
  - f. Section 8.2:
    - Change "production-ready software and/or firmware" to "Production Ready Code"
    - Include a definition of Production-Ready Code on the web form
  - g. Section 8.3:
    - "or cancel the self-certification" instead of abandon
    - "Otherwise, the submitter can a) correct ..., b) cancel ..., or c) appeal the decision to the PWG Steering Committee."
  - h. Section 8.4:
    - #4, "timely Production-Ready Code update"
    - #5 Remove until we have examples
4. Session 3: IPP Implementor's Guide 2.0 Review
- a. <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippig20-20140513-rev.pdf>
  - b. Reviewing Smith's in-progress draft
  - c. Section 7.1
    - Title: Targets
    - Intro: IPP operations require a target consisting of a "printer-uri" operation attribute and zero or more identifier attributes such as "job-id" [section 3.1.5 of RFC 2911].

- MUST use ipp/ipps, MUST NOT use http/https, reference RFC 2910
  - Also /ipp/print/queue (copy from IPP Scan or IPP FaxOut)
  - 'A Print, FaxOut, or Scan service are identified by a "printer-uri" attribute.'
  - SHOULD support / for Get-Printer-Attributes and SHOULD NOT support Job Creation requests (can be used to discovery correct service URIs)
  - Add reference to RFC 3510 for "ipp", Ira draft for "ipps"
  - Add reminder that relative URIs are not allowed, with reference to RFC 3510
  - Printers SHOULD NOT allow requests using relative URIs.
  - Add paragraphs for FaxOut and Scan URIs with references to the corresponding specs
  - Add:
    - The "job-uri" path has never been fully specified. Printers SHOULD choose a path appropriate for the implementation. Clients MUST use the "printer-uri" and "job-id" attributes to target a Job object for a Job operation and MUST NOT use the "job-uri" attribute to target a Job object.
- d. Section 7.2:
- FaxOut SHOULD handle URIs using the "fax" URI scheme as being equivalent to the "tel" URI scheme.
  - Drop last sentence.
- e. Section 7.3:
- Title: "Printer Resource URIs"
  - "... to various Printer-resident resources ..."
  - "... SHOULD be Network Accessible even ..."
  - Line 1413: Drop "used to direct a Client", "URIs for" instead of "URIs to"
  - Line 1414: Drop "other than IPP"
  - Line 1414-1415: "Printer or print server" -> "Output Device"
  - Line 1416: "printer" -> "Output Device"
  - Line 1416-1419: 'Since the "printer-icons" attribute is defined to contain a set of "http:" or "https:" URIs, each URI SHOULD include the port number of the IPP Server, e.g., "http://myprinter.example.com:631/icon.png".'
- f. Document header: Add "(Updates RFC 3196)" after title
- g. Section 4.x: Add something somewhere about fax: basic FaxOut recommendation, Clients SHOULD use "tel" instead of "fax" URIs with reference to tel URI RFC
- h. Section 4.x: Add something somewhere about scan: basic pull scan and push scan recommendations
- i. Section 8:
- Add a brief statement that 8.x.1 is client and 8.x.2 is server specific.
- j. Section 8.1:
- Update title "New HTTP/1.1 Specifications"

- RFC 723x obsoletes RFC 2616. Provide whole list of 723x RFCs for HTTP/1.1.
    - Most other places just need to refer to RFC 7230 (lead RFC)
    - "ensure conformance with the current HTTP/1.1 specifications."
  - k. Stopped at 8.2.
  - l. Updated draft to be posted to:
    - <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippig20-20140814-rev.docx>
    - <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippig20-20140814-rev.pdf>
5. IPP Scan Review
- a. <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippscan10-20140806.pdf>
  - b. 6.1.1: Addition of "compression-accepted" is accepted
  - c. 6.1.2: Update of delay section and addition of "compression" attribute are accepted
  - d. 7.1.1: Addition of "compression-accepted" is accepted
  - e. 8.1.2.1: Addition of "access-oauth-scope" is accepted
  - f. 8.1.2.3: Addition of "access-oauth-uri" is accepted
  - g. 8.3.3.1: Addition of "destination-oauth-uri" is accepted, re-sort after "destination-oauth-token"
  - h. 8.3.3.2: Addition of "destination-oauth-scope" is accepted, re-sort before "destination-oauth-token"
  - i. 10.x: Updates are accepted
  - j. Table 10: Fix table style
  - k. Numbered list style: numbers appear to be left of the normal margin instead of indented?
  - l. 2 Terminology: separate out protocol role terminology (if needed)
  - m. Section 14: "IANA and PWG Considerations"
  - n. Add section 14.x "Semantic Model Registrations"
    - List new well-known values? DestinationAccesses, DestinationUriReady
    - Anything else not in SM Scan Service
  - o. Comment 4:
    - Reject, do not remove date-time requirement
    - Most scanners have an attached printer
    - Most MFPs do fax, which requires date/time
    - Printers can use the Date: header in requests to initially set time.
      - Implementor's Guide 2.0 talks about this...
    - Add informational reference to IPP Implementor's Guide 2.0 (so as not to block publication)
  - p. Comment 13: Remove destination-oauth-scope from destination-accesses operation attribute (leave destination-oauth-uri)
  - q. Pete to post new stable draft for final WG review on August 25th before formal vote
6. Next Steps:
- a. IPP/3.0? or IPP/1.1 full standard update
    - Deprecate/drop "job-uri" attribute (section 3.1.5 of RFC 2911, and other places)
    - Lots of other stuff that will set off alarms in IETF about moving

- existing documents to full standard
- Q: Do we care about getting IPP/1.1 updated to full standard?
  - A: Only if it is a requirement for getting 2.0 to full standard
  - PWG Process/3.0 doesn't have any requirement for it
- Q: Is updating RFC 2910/2911/3382 worth the work?
  - A: Maybe, but use the independent stream through the RFC Editor
- Action: Mike to file errata for RFC 2910 and 2911 for the TLS reference and IPP URI scheme issues
- Decisions:
  - Leave 2910/2911 alone (aside from errata)
  - Q2 2015: Prepare an update of IPP/2.x (PWG5100.12) with any errata changes we have so far
  - Q2 2015: WG Last Call
  - Q3 2015: PWG Last Call
  - Q3/Q4 2015: PWG Formal Vote to advance
  - Q1 2016: Paperwork to IEEE
  - Mike will volunteer to edit
  - Action: Ira to update charter to include advancing IPP/2.x (PWG 5100.12) to full standard, updating FaxOut, and other editorial changes as needed
- b. Possible future work for 2015:
  - If no progress is made on IPPS and LDAP updates by December 2014, retarget these documents as PWG 5100.x and 5106.x standards.
- c. IPP FaxOut
  - Update needed to address SM changes for how a hardcopy document object is represented
    - input-attributes as an alternative to document-uri or document data
  - Ira will volunteer to edit
  - Defer scheduling but still add to charter

## Next Steps / Open Actions

- Action: Joe to provide definition of IPP Binding for IPPINFRA
- Action: Mike to file errata for RFC 2910 and 2911 for the TLS reference and IPP URI scheme issues
- Action: Ira to update charter to include advancing IPP/2.x (PWG 5100.12) to full standard, updating FaxOut, and other editorial changes as needed
- Joint IPP/Cloud conference call August 4, 2014 at 3pm ET
- IPP F2F meetings August 13 at 3:15pm ET and August 14 at 11:15am ET and 1pm ET
- Next IPP conference call August 25, 2014 at 3pm ET
- Action: Mike to post PWG Last Call of IPP Finishings 2.0 ending August 22
- Action: Mike to post discussion and register 'collator' and 'job-separator' values

- for "output-bin" in the IANA IPP registry (PENDING - Mike to send Ira the updated XML registry file with prohibition for output-bin-actual)
- Action: Ira to add comments to Printer MIB TC for fax-modem-protocol-error and xxx-recoverable-storage-error - suffix dropped from IPP keyword with corresponding suffix (-error, -report, -warning) added depending on the printer state. (PENDING)
- Action: Mike to submit IANA registration for IPP printer-state-reasons updates for fax-modem-protocol and xxx-recoverable-storage (PENDING)
- Action: Ira to submit Printer MIB registration for new xxx-missing PrtAlertCodeTC values (PENDING)
- Action: Mike to propose an approach for deprecation of IPP attributes and values in the IANA registry (ONGOING)