

# Internet Printing Protocol Workgroup Meeting Minutes

## April 26-27, 2016

Meeting was called to order at approximately 1:00pm MT on April 27, 2016 and 9:00am MT on April 28, 2016.

### Attendees

Aveek Basu (Lexmark)  
Till Kamppeter (Canonical/OpenPrinting)  
Smith Kennedy (HP)  
Jeremy Leber (Lexmark)  
Daniel Manchala (Xerox)  
Ira McDonald (High North)  
Matthew Morikawa (Kyocera Document Solutions - call in)  
Brian Norris (Google)  
Mike Scrutton (Adobe - call in)  
Ole Skov (MPI Tech)  
Michael Sweet (Apple)  
William Wagner (TIC)  
Craig Whittle (Sharp)  
Rick Yardumian (Canon)

### Agenda Items

1. IP Policy and Minute Taker
  - IP policy accepted, Mike taking minutes
2. Slides:
  - <http://ftp.pwg.org/pub/pwg/ipp/slides/ipp-wg-agenda-april-16.pdf>
  - Add IP policy slide
  -
3. IPP/1.1
  - <http://tools.ietf.org/html/draft-sweet-rfc2910bis>
  - <http://tools.ietf.org/html/draft-sweet-rfc2911bis>
  - Why do we have two references to pwg.org?
  - Consensus is to submit to Barry Leiba at IETF for review
  - Action: Ira to send RFC 2910bis and 2911bis to IETF for review
4. IPP System Service
  - <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippsystem10-20160425-rev.pdf>
  - Q: Do we use "-col" suffix for all collection attributes?
    - A: More discussion is needed, but we've done both recently
    - Maybe yes, since it makes it clear the attribute is a collection
      - But not for member attributes
  - Section 3.2.5: Use "ipp://printer12.example.com/ipp/print".
  - Section 5: Note that all tables list top-level attributes; collection member

attributes are not listed

- Maybe name all collection attributes with "-col" suffix (see above) or add note saying that the attribute is a collection
- Table 1:
  - Re-sort
  - Use "none" with note for the system-state-change-[date-]time
  - Replace system-owner-uri/vcard with system-owner
  - Note 8 should reference RFC 3995
- Section 5.8: printer-owner (collection), like system-owner
- Section 6.2 (Create-Printer):
  - Subunits also associated via service capabilities (e.g. sides-supported and duplexer, finishings-supported and finishers, print-color-mode-supported and colorants, etc.)
  - (association by intent and not explicit identification/listing of subunits)
- Section 7.2:
  - Split up into two sentences
  - "can potentially be set by"
  - Look at the text in RFC 3380
  - Add section reference to "system-settable-attributes-supported" attribute.
- Add Get-System-Supported-Values operation to get the full list of attributes and values.
- "system-settable-attributes-supported" attribute should be System Status
- Require support for Set-System-Attributes and Set-Printer-Attributes
- Section 7.2.5:
  - Add "system-strings-languages-supported" and "system-strings-uri" System Description attributes
  - Add forward reference to those attributes to point to client localization of system keyword and enum values.
- Section 7.2.7:
  - Add "-col" suffix
  - Talk about required to support, not to supply
  - Omitting a member attribute is effectively a wildcard.
- Drop section 7.2.7.1 (not needed in IPP)
- Section 7.2.7.x: If not specified, say what happens
- Section 7.2.7.3 (-power-state)
  - type2 keyword, not enum
  - squash -vendorN's
  - Constrain extensions to adding "-vendorN", talk about state ordering per PWG 5106.4, max 5 vendor states
- Section 7.2.7.5: type1 keyword, drop 'any'
- Section 7.2.7.6: integer(1:12), drop '13'
- Section 7.2.7.7: integer(1:31), drop '0'
- Section 7.2.7.8:
  - integer(0:23)
  - Need to say time zone comes from system-current-time, what

- about daylight savings time, etc.
  - Need quotes around attribute names
  - If you specify -hour but not -minute, then the policy happened on the hour (minute 0)
  - If you do not specify -hour or -minute, the policy happens at an implementation-defined time
  - Daylight savings might cause calendar events to potentially repeat or not be done.
  - Section 7.2.7.9:
    - integer(0:59)
    - Delete funky copy of -hour heading on line 1522
    - second minute of hour example is wrong
    - If you specify -minute but not -hour, then the policy happens every hour at the minute specified.
  - Global: Add "-col" to all collection attributes (but not members)
  - Section 7.2.10:
    - Say something about time zone/offset.
    - Consult definition in RFC 2911.
  - Section 7.2.19:
    - REQUIRED (not conditional)
  - Section 7.2.19.x:
    - Drop "system-" prefix, reference for "printer-owner-col" and "resource-owner-col"
  - Section 7.3.10:
    - Incremented by 1 for each Set-System-Attributes request or any change made by the system itself (regardless of the number of attributes changed)
    - Check what the initial value is - RFC 3805 says nothing?!? - should probably reset to 0 on power-on/restart
  - Add "printer-config-changes (integer(0:MAX))" Printer Status attribute
  - Section 7.3.15 (system-health): Drop
  - References: Fix reference to 5100.12
5. IPP 3D Extensions
- <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ipp3d10-20160420-rev.pdf>
  - Use case:
    - Add use case for jewelry printing (accuracy/density requirements)
  - Requirements/out-of-scope
    - Limit to home/office printing
    - "Non-industrial" might not be clear enough
    - What about medical printing?
    - Out-of-Scope:
      - Industrial printing
      - Medical printing
    - Requirements:
      - Attributes and values for consumer desktop 3D printers and print services
      - Attributes and values to specify print accuracy/tolerances

- Material properties: type, fill, temperature range, etc.
  - Provide a secure transport
    - USB is ok - physical security
    - Network requires TLS
  - Discovery
  - Look at IPP Everywhere and INFRA for other security/design requirements things
  - Materials:
    - Specify by name/type?
      - Substitutions not allowed
    - Specify by characteristics?
      - Usable temperature range after printing
      - Physical capabilities
  - 
  - Print Quality
    - Focus on specifying requirements: minimum accuracy, density, shell thickness
    - Drop print-quality-details
    - materials-cols:
      - shell-thickness
      - fill-percent
    - print-accuracy (integer) - dimensional accuracy in nanometers
  - Build Volume
    - Add z-offset is offset from initial build platform position
    - Change offsets to hundredths of millimeters
  - TLS Required?
    - Yes!
  - Add section talking about required resource paths in printer-uri-supported
  - Drop BONJOUR reference, add all material to DNS-SD discovery section
  - Add IANA registration of ipp3d service type
  - Next draft as prototype status
6. IPP Finishings 2.1
- <http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippfinishings21-20160418-rev.pdf>
  - Section 2.3:
    - Line 381: "copies, each"???
  - Section 3.1:
    - Drop "2.1" from heading
  - Section 3.2.17:
    - Lines 484-486: Run-on sentence, reword and simplify - Client looks up finisher restrictions based on media and orientation.
    - Move to exceptions section (3.3.x) and update accordingly.
  - Section 5.2.11.1:
    - Make a Printer Description attribute named "punching-hole-diameter-configured"
  - Section 5.2.12:
    - Fix last paragraph about what happens when a Client supplies an incomplete stitching collection. (maybe look at 5.2.11)

- Section 5.2.12.1 (stitching-angle)
  - counter-clockwise rotation, 0 is horizontal/parallel to the top edge of the page, rotation about the center of the staple
- Line 1117: Empty line
- Section 5.2.13.3:
  - 'draw-line': Marks a cut line ...
- Section 6.1.18.1:
  - Table 2 and section text is messed up.
- Section 6.20 (punching-hole-diameter-supported)
  - Delete (good spot for -configured)
- Lines 1511, 1517, 1519, and 1520, 1562-1563, 1565-1567: Get rid of
- Line 1553: rename to -configured
- Section 11.1:
  - Add normative reference to PWG 5101.1 (MSN2)
  - Add normative reference to RFC 20 (US ASCII)
- Section 13.x: Re-order subsections, newest to oldest...

## 7. Proposals

- HP Media Sizes:
  - Originally proposed in 2001
  - Drop "\_" before "mm"
  - No objections
  - Action: Mike to post registration template for HP media sizes
- Canon Multi-Hole Punch:
  - 'punch-multiple-{bottom,left,right,top}' enum and finishing-template: OK
    - Assign next finishings enum numbers to these 4.
    - Symbolic names for finishings enum values are also automatically registered finishing-template keywords
  - 'punching-number': No
  - Localization of values can show user how many holes (supplied by printer strings)
  - finishings-col-database/ready will list punching-locations values for each.
  - Action: Mike to post registration template for Canon 'punch-multiple-xxx' values
- Canon Job Account Password
  - job-account-password needs to be an operation attribute (private, not in ticket)
  - job-account-password passed as cleartext (not good)
  - need a status-code for failed authentication
  - Shouldn't authenticated user determine which job-account-id values are allowed?
    - i.e. user 'JohnDoe' is allowed to use three accounts: "project1", "project2", and "project3"
    - Printer can reject jobs when the authenticated user is not allowed to use the job-account-id specified
  - Consensus is to reject this specific proposal, but to leave open for

- future discussion.
  - Due to the complexity of the request we'll probably want a white paper that addresses the issues above.
  - HP Staple vs. Media Feed Orientation
    - <http://ftp.pwg.org/pub/pwg/ipp/slides/Finishings-2.1-Orientation-and-Feed-Orientation-Extensions.pdf>
    - Deferred for next conference call
8. Next steps
- IPP/1.1 last call in Q3
  - 3D printing going to prototype earlier (now)
  - System Service going to prototype later (Q3/Q4)
  - Transform, document encryption, CBOR, errata are 2017 projects

## Next Steps / Open Actions

- Next IPP conference calls May 9, 2016 at 3pm ET and May 16, 2016 at 4pm ET (3D)
- Action: Ira to send RFC 2910bis and 2911bis to IETF for review
- Action: Mike to post registration template for HP media sizes
- Action: Mike to post registration template for Canon 'punch-multiple-xxx' values
- Action: Smith to ask Mike for status on the printers list, and how notification works when submissions have been made and/or new printers are added to the list (PENDING)
- Action: Mike to update 2910bis / 2911bis and post notice to IPP WG reflector (DONE)
- Action: Mike to update 2911bis to say "SHOULD NOT return 'successful-ok-ignored-or-substituted-attributes' when there are attributes whose values should be identical but are not, and SHOULD instead return 'client-error-attributes-or-values-not-supported' or something similarly appropriate, and generally SHOULD NOT return any of the 'successful-ok-XXX' ..." (PENDING - needs discussion)
- Action: Smith to post updated draft of Finishings 2.1 before F2F (DONE)
- Action: Mike to post updated WD template with boilerplate "operating system providers" fixed (PENDING)
- Action: Mike to fix \*-k-octets in IANA IPP registry - should be Status attributes (DONE)