Internet Printing Protocol WG Face-to-Face Minutes
May 25, 2011

Meeting was called to order at approximately 1:00pm (EST) May 25 and 26, 2011.

Attendees

Nancy Chen (Oki Data - call in)
Justin Hutchings (Microsoft)
Adrian Lannin (Microsoft - 25th only)
Ira McDonald (High North/Samsung - call in)
Joe Murdock (Sharp)
Ron Nevo (Samsung - call in 25th only)
Glen Petrie (Epson - call in)
Amir Shahindoust (Toshiba - call in)
Michael St. Laurent (PrinterOn)
Michael Sweet (Apple)
Jerry Thrasher (Lexmark)
Paul Tykodi (TCS - call in 25th only)
Bill Wagner (TIC)
Rick Yardumian (Canon)
Pete Zehler (Xerox)

Agenda Items

1. IP Policy and Minute Taker
   a. Policy accepted with Mike taking the minutes
2. Use Cases
   a. Add Selection of Previous Selected Printer
   b. Selection of a Printer Using Address or URI
      - “IP address or FQDN”
      - Split into two use cases
      - Discuss probing IP address to determine URI - SNMP port monitor MIB, directed discovery
        via WS-Discover, etc.
      - Validation of IP address or URI is a step
   c. Selection of Printer Using a Directory Service
      - IPP Everywhere: Conformance requirements for LDAP more than RFC requirements
      - Preconditions: Printer is registered with the directory service
      - Step 1: Client obtains list of Printers registered with the Directory Service for the User
      - Step 2: Client validates supported protocols for each Printer in the list
      - Step 3: Client user interface presents supported Printers to the User for selection
      - Step 4: User selects a Printer
      - Postconditions:
        - The Printer is selected
        - The Printer is not selected
   d. Add Selection of Printer Using Criteria
      - Protocol
      - Limit
      - Job Ticket Capabilities
      - Printer Description (Geo-location/location, speed)
      - Job size - k-octets yes, impressions/sheets no (in SM, not in IPP)
      - JPS3: job-impressions-supported, job-media-sheets-supported, other job description
        attributes as needed
      - Description: Criteria provided by User input or group/device/site policy or software heuristic
      - Step 1: Client obtains a list of Printers for the User that meet given Job Ticket and Printer
      - Description criteria provided by Client software or User
      - other steps identical to directory service
   e. Add Validation of Printer Use Case
      - Verify access to printer
      - Follows selection in all scenarios
- Includes marco-polo stuff
f. Add Selection using a discovery protocol
   - Continuous discovery as printers come and go - list is dynamic
   - Start and end discovery steps
   - User may select at any time
g. Selection of Printer Using a Cloud Service
   - Merge changes from Directory Service
   - Note issues in description with managing multiple online identities for different cloud services
     that clients need to address outside of the use case
   - Precondition: Client has obtained necessary credentials/identity for cloud service
   - Description: geo-location/location important/almost required
h. Selection of Printer Using Proximity
   - For Bluetooth/other proximity technologies
   - Potentially a list
   - Use UUID to tie to a visible/accessible printer
i. Selection of Printer Using Identifying Technology
   - For NFC/QRCode/Barcode selection like IP Address/URI

3. PWG Raster
   b. Abstract: May want to note (elsewhere) that the attributes are not that useful in directory service or
discovery
   c. Sample files: keep single file size under 250MB, limit srgb-16 for photo, alternate sizes and
resolutions, put under pub/pwg/ipp/raster with proper PWG naming convention
d. Proposal for page count: no objections
e. Proposal for coordinate space: no objections
f. Proposal for bounding box: no objections, pixels
g. Proposal for lower bound conformance requirements for pwg-raster-resolutions-supported;
   objections since we don't want to exclude printers and vendors won't want to provide an inferior
   print experience. No objection to providing a recommendation.
h. No support for indexed color
i. Grayscale: Add sRGB primary for target color for sgray colorspace
j. Vendor data: cupsInteger[14] is vendor ID, [15] is length, cupsReal and cupsString fields are
   reserved for vendor data.
k. Add recommendations for using PWG Raster over legacy "busses".
l. Did not get to spec review.

4. JPS3 (May 26th)
   b. Abstract: no objections
   c. Lines 216-218 (last paragraph in section 1): make bullets
d. Section 1.1: Replace first-xxx-index/first-xxx-id with "first-index (integer)" operation attribute as the
generic "first" value indicator. Also drop limit-operations-supported and limit-attributes-supported -
   instead document that successful-ok-ignored-or-substituted-attributes is the status code if not
   supported and to return "first-index" and/or "limit" in unsupported attributes group.
e. Line 239: "which attribute values are supported for a"
f. Section 1.2: Expand coloring to any operation, provide examples for authentication (limit returned
   jobs and job attributes) and get-printer-attributes (sides=two-sided-long-edge to limit the list of
media-col-database values) also add definition of coloring for terminology
g. Section 1.3: Use "Preferred" rather than "-preferred", and add note that we don't do this for
   subscriptions because they always act like ipp-attribute-fidelity=true
h. Line 262: "color rendering ESPECIALLY when the Printer..."
i. Line 272-273: drop "protocol roles" since we have more than that in the terminology now.
j. 3.2 Use Cases: Need use cases for limits and coloring, identification
k. 3.4 Design Requirements: Include discussion of limits and coloring for efficiency, security
   considerations for identify-printer, policy for printing page, etc.
l. Section 4.1: Add language from 2911 for authorized user, security considerations, intended use, etc.
   and prevention of denial-of-service attacks, etc.(point at RFC)
m. Section 5.1.1: Make "first-index"
   Section 5.1.2: Drop "first-subscription-id"
o. Section 5.1.3: Drop "print a page" and explain why (DoS, authorization, accounting, etc.)
p. Table 3: write out "Black Point Compensation" (bpc).
q. Line 404-405: "specifies how document colors (or shades of gray) are mapped to device colors
when printing."

r. Add Gamut, Black Point Compensation, etc. to terminology
s. Conditional conformance: print-rendering-intent and printer-icc-profiles are tied together.
t. Move job-uuid to top of job description attributes (Section 5.3)
u. Section 5.6.6/5.6.7: Remove since we are doing limits more widely.
   - "feed-direction (type2 keyword)" and "feed-orientation (type2 enum)" member attributes.
   - Does not appear in media-col-supported (not for job tickets)
   - Add discussion of media-source/media-source-properties to Section 1.
   - Informational/descriptive media-col member attributes to describe how media is pulled
     through the printer and its natural orientation (e.g. for envelopes). Include discussion of using
     feed-orientation as orientation-requested (when supported).
   - Include discussion that Clients should use media-col-ready, when available, instead of
     media-col-database.
w. Section 5.6.15/16: "printer-description-change-xxx" -> "printer-config-change-xxx"
x. Section 5.6.17: RECOMMENDED for printer-geo-location, MUST support manual configuration
   (regardless of auto-location capabilities)
y. Section 5.6.19: "one or more Printer" (capitalize), talk about device colorspaces and color proofing,
   conditional conformance with print-rendering-intent - reference system control and resource specs
   for how to add/replace/remove profiles.
z. Table 5: Make supply index OPTIONAL instead of RECOMMENDED, Make colorantname
   RECOMMENDED for supplies like ink and toner (with a note), maxcapacity REQUIRED
   - Note: Well-known values for colorant need to be added to the model
   - Update ABNF to reflect requirements
a. 5.6.26: "human-readable embedded web server page" - normalize to "printer-resident" for both web
   page and icons and profiles
b. 5.6.27: Move printer-uuid to be the first in this section
c. 6.1: Additional semantics for all operations - coloring, where meaningful.
d. 6.2: Make this first-index and limit
e. media-xxx-margin: RECOMMENDED for JPS3, REQUIRED for IPP Everywhere
f. Line 932, "Printer’s" should be "Printers"
g. Section 2: Add Image Box reference
h. Section 7.5: "smallest non-zero hardware margins" instead of "best non-fullbleed margins".
i. Stopped at 7.5.

5. PWG 5101.1: Update to register with IANA and add photo sizes
   a. Also character repertoire
6. IPP over USB
   a. Presented to chair, will be presented at Seattle DRB meeting (5-7 Wednesday) face-to-face next
      week and will likely form a working group project.
   b. Issue: working group activities in USB IF are private.
   c. Unique identifier: serial number traditionally for USB, but UUID (same as UUID for network IF) to
      eliminate duplicates
d. Add text/html as a standard format?
e. Clarify that this is based on USB Printer class, so it inherits everything from that class
f. Sleep states? Do we need to map USB sleep states to IPP?
   - Those will probably get defined by the USB IF

Next Steps / Open Actions

- Next conference call June 13, 2011 at 1:00pm (EDT) - 2 HOURS
- Action: Mike to issue new draft of JPS3 with changes accepted up to section 5.5.14 (COMPLETED)
- Action: Mike to prepare draft slides for IPP sessions for next concall (COMPLETED)
- Action: Paul and Ira to solicit DLNA assistance for UPNP discovery (ONGOING)
- Action: Mike and Paul to reach out to label/portable printer vendors to join IPP WG discussions (ONGOING
  - both to send summary to ipp list and details to SC list)