Internet Printing Protocol Meeting Minutes
December 8, 2022

Meeting was called to order at 3pm EST on December 8, 2022.

Attendees

Benjamin Gordon (Google - ChromeOS)
Smith Kennedy (HP)
Jeremy Leber (Lexmark)
Ira McDonald (High North)
Piotr Pawliczek (Google - ChromeOS)
Anthony Suarez (Kyocera)
Michael Sweet (Lakeside Robotics)
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. IPP minutes from previous meetings
   - https://ftp.pwg.org/pub/pwg/ipp/minutes/ippv2-concall-minutes-20221110.pdf
   - https://ftp.pwg.org/pub/pwg/ipp/minutes/ippv2-f2f-minutes-20221115.pdf
      - Mike needs to add links in minutes, will post
      - Otherwise approved once the links are added
   - Actions:
      - Should we divert errata issues to Github? Future discussion
      - For now, just update the documents database to include the informational documents with their 5199.x numbers.
3. Status/Review of various IPP mailing list notes (Mike, Smith)
   - https://www.pwg.org/archives/ipp/2022/021319.html
      - OAuth 2.0 and RAR - do we need new attributes?
   - https://www.pwg.org/archives/ipp/2022/021325.html
      - Add "oauth-authorization-resource" attribute?
   - See below for OAuth discussions...
4. Status of AMSC and ISO liaisons w/ PWG (Paul)
   - https://ftp.pwg.org/pub/pwg/general/sc/pwg-sc-call-minutes-20221017.htm
   - https://ftp.pwg.org/pub/pwg/general/sc/pwg-sc-call-minutes-20221031.htm
   - https://ftp.pwg.org/pub/pwg/general/sc/pwg-sc-call-minutes-20221128.htm
   - See PWG Steering Committee minutes from 10/17/22, 10/31/22, 11/28/22
5. Status of PWG and IPP WG Formal Approvals and Last Calls (All)

- Job Extensions v2.1 (Mike)
  - https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippjobext21-20221124-rev.pdf
  - https://www.pwg.org/archives/ipp/2022/021323.html
  - Stable draft - for a Candidate Standard
  - PWG F2F review on 16 August 2022
  - IPP WG Last Call started on 11/24/22 and ended today
  - Feedback from Benjamin Gordon on 12/06/22
  - Schedule - PWG Call for Objections in Q1 2023
- IPP Driver Replacement Extensions v2.0 - status (Smith/Mike)
  - https://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippnodriver20-20221027.pdf
  - Stable draft - for a Candidate Standard
  - New document name in recent drafts (for clarity)
  - PWG F2F review on 16 November 2022
  - PWG Last Call started on 10/31/22 and ended on 11/28/22
  - Quorum NOT achieved (30 members x 30% = 9 / 8 responses)
  - Extending last call to January 5, 2023
    - Action: Mike to post extension of NODRIVER last call to January 5, 2023
  - Schedule - PWG Formal Approval in Q4 2022 / Q1 2023
6. OAuth2 (Mike, Smith, Piotr, Benjamin)
   - https://github.com/istopwg/ippsample/wiki/IPP-and-OAuth
   - PWG F2F discussion on 11/16/22
   - See mailing list notes above at item (3)
   - More discussion today on resources, attestation, trustworthiness?
   - Q: How do you trust the printer/URI, and how do you know the URI you have is the one associated/registered with the OAuth Authorization Server?
     - Mike: printer-uri-supported+uri-authentication-supported identifies the URI to use for OAuth (and printer-xri-supported/uri-authentication)
     - Only use printer URI that is flagged as using OAuth
     - Need to validate printer URI hostname with X.509 certificate, and certificate MUST use a trusted root (no self-signed)
       - Enterprises will have necessary infrastructure
       - Home users of OAuth can get signed certs from cloud/managed service for printer or via IoT-ACME
     - Hostnames should be unique within a domain (mDNS .local names might have duplicates on different network segments, need to say something about managing unique names for mDNS
     - X.509 certificate typically contains a list of hostnames for the printer in the SubjectAltName entries
   - Q: Does OAuth AS authenticate using Printer's X.509 certificate (i.e. TLS client cert authorization)?
     - Mike: Not sure there is metadata to tell Client that certificates are used for authorization
     - Token Exchange allows the Client to validate the printer (URI) is

known to the AS
- Q: What happens if two users call their printer's "bobs-printer.local"
    - If Bob1 and Bob2 are in the same organization, the AS/INFRA service needs to detect and protect against this
    - If Bob1 and Bob2 are in different organizations, the AS/INFRA service needs to treat these as distinct environments
    - Ordinarily the default hostname has a MAC address in it "example-xx-xx-xx.local"
    - Provide recommendations/best practices for mDNS (ad-hoc) and DNS (managed) hostnames
- OAuth vs. OpenID
    - OAuth is just about authorization
    - OpenID also provides identity
    - OAuth just controls access, OpenID provides information needed to identify/bill users for accounting
        - Token introspection could provide identity information but doesn't scale
- Limit supported configurations:
    - OAuth (RFC 8414) or OpenID metadata
    - Scopes or RAR
    - Single access token or per-printer access token via token exchange
- RAR: How much control to give?
    - Specify level or just get highest level for authorized user?
    - Mike: Concerns about granting full access when only printing? Access token could be stolen and used by malicious software...
    - Define basic type for now, can add new types as needed for fine-grained/limited approach
    - Continue to thing/analyze this path

Next Steps / Open Actions

- Next conference calls on January 5 and 19, 2023 at 3pm
- Action: Mike to add an errata issue about job-processing-time for Job Accounting BP (PENDING, no mechanism)
- Action: Mike to start IPP WG last call of JOBEXT ending December 7, 2022 (DONE)
- Action: Mike to update template to include Printer Conformance and boldface value examples for list paragraph (PENDING)
- Action: Mike to start PWG Formal Vote of PPX starting on Jan 3, ending Jan 31, 2023 (PENDING)
- Action: Mike to send updated IANA IPP registry deprecating duplicated media sizes (DONE)