

IPP Working Group Session

19 October 2010

Lexington, KY - PWG F2F Meeting

IPP WG Meeting Agenda



3:00 - 3:05	Introductions, Minute Taker, Agenda Review
3:05 - 3:15	Current IPP WG status
3:15 - 4:45	Discuss IPP Everywhere
4:45 - 5:00	Action Items and Next Steps

IPP WG Officers



- IPP WG Co-Chairs:
 - Paul Tykodi (TCS)
 - Ira McDonald (High North)
- IPP WG Secretary:
 - Michael Sweet (Apple)
- IPP WG Document Editors:
 - Tom Hastings (retired Xerox) – IPP JPS2
 - Ira McDonald (High North) – IPP Version 2.0
 - Michael Sweet (Apple) – IPP Version 2.0

IPP JPS2 Formal Vote



- PWG Formal Vote - ends Saturday 30 October 2010
 - <ftp://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippjobprinterext10-20100927.pdf>
- How to Vote
 - Send email to:
 - msweet"at"apple"dot"com* (Mike Sweet, PWG Chair)
 - ptykodi"at"tykodi"dot"com* (Paul Tykodi, PWG Secretary)
 - bluroofmusic"at"gmail"dot"com* (Ira McDonald, IPP WG Co-Chair)
 - tom"dot"hastings"at"verizon"dot"net* (Tom Hastings, IPP JPS2 Editor)
 - Put your vote in the subject:
 - IPP JPS2 Formal Vote-<company name>-<last name>-Yes*
 - IPP JPS2 Formal Vote-<company name>-<last name>-No*
 - IPP JPS2 Formal Vote-<company name>-<last name>-Abstain*

IPP/2.0 Second Edition



- PWG Last Call - ends Saturday 30 October 2010
 - <ftp://ftp.pwg.org/pub/pwg/ipp/wd/wd-ipp20-20100926.pdf>
- How to Comment
 - Send email to:
ipp@pwg.org
 - Indicate whether you have comments in the subject line:
<company name> *has reviewed IPP/2.0 SE and has comments*
<company name> *has reviewed IPP/2.0 SE and has no comments*
 - List your comments in the message body

CUPS ipptool



- <http://www.cups.org/software.php>
- IPP/1.1, IPP/2.0, and IPP/2.1 conformance tests
 - Working on IPP/2.2 conformance test
- Binaries available for Linux, Mac OS X, and Windows
- Thousands of downloads since April
- Features in October release:
 - “Continue past errors” mode
 - Conditional tests based on success/failure of previous test
 - Timeout, authentication, and ipps: support

CUPS ipptool



- Simple text-based test files:

```
{  
  NAME "Name of test"  
  OPERATION Get-Printer-Attributes  
  GROUP operation-attributes-tag  
  ATTR charset attributes-charset "utf-8"  
  ATTR naturalLanguage attributes-natural-language "en"  
  ATTR uri printer-uri "$uri"  
  STATUS successful-ok  
  EXPECT printer-uri-supported OF-TYPE uri  
}
```

IPP Everywhere

IPP Everywhere Topics



- Related Standards
 - DLNA
 - UPNP
- Definitions
- Use Cases
- “Top 5” Extensions
- Document Formats

Digital Living Network Alliance (DLNA)



- Focus of printing support is on images - JPEG required, GIF, PNG, TIFF optional
- HTTP is the primary transport, documents pulled from Client (print by reference)
- UPNP is the primary discovery mechanism
- Not an open standard
- Minor intersection with some IPP Everywhere use cases/requirements, but definitely a subset WRT printing

Universal Plug and Play (UPNP)



- Alternate discovery protocol?
- Comparison to DNS-SD/mDNS/Zeroconf:
 - <http://www.zeroconf.org/ZeroconfAndUPnP.html>
 - Uses same link-local addressing as ZeroConf
 - No name resolution services
 - SOAP application discovery vs. arbitrary service discovery
 - Not a coherent standard - many (73!) separate specifications
- Not directly compatible with IPP, although it could be used with a SOAP-based protocol mapping
- Based on a lot of expired Internet drafts
- Several known security issues

Definitions



- Clients
 - Mobile Internet Device
 - Notebook computer
 - Desktop computer
 - Server application
 - Other network-enabled device (refrigerators, TVs, etc.)
 - No printer/vendor-specific drivers
- Printers
 - Low-cost personal inkjet/laser
 - Mid-range workgroup inkjet/laser
 - High-end enterprise inkjet/laser
 - Kiosks/Printing services

Definitions



- Content:
 - Photos
 - Web pages
 - Email
 - Reports/presentations
 - Books
 - Local and remote storage

Use Cases



- Pete is traveling and wants to print a list of local pubs to visit to a printer in the hotel he is staying at. He discovers the printer by geographic location.
- Jane wants to print a photo from her IP-enabled phone to a photo printer. She discovers the printer on the local network and chooses it based on photo printing capabilities.

Use Cases



- Joe wants to print a document at a coffee shop. He discovers a paid print service offered by the coffee shop and uses third-party identification and authorization to complete the transaction and collect his document.
- Ira wants to print a secure document from his Mobile Internet device to a secure printer. He chooses a local printer with the appropriate security capabilities.

"Top 5" Extensions



1. Expose geolocation information based on RFC 1876

- Existing proposal from Pete and Mike
- NEW RFC 5870 "geo URI scheme"

2. Pay-for-print

- Job accounting/cost information
- Printer description attributes for user estimates - cost + currency + info URL?
- PIN printing, other attributes for paid printing
- Look at job-ticket and job-receipt for "real" job ticket info?

“Top 5” Extensions



3. Cloud/Global Printing

- Need to define operation model/states/data flow
- Job, printer, subscription, document, fan-in, fan-out UUIDs
- Poll/Retrieve-Job operation?
- “job-incoming” or “job-ready” notify event?
- Printer attributes for cloud authentication/registration?

4. Output intent

- Color: rendering intent for out-of-gamut colors, device ICC color profile(s) for soft proofing
- "output-mode (type2 keyword)" to pick between color and monochrome?

“Top 5” Extensions (con’t)



5. Media selection

- Additional media-col member attributes:
 - media-bottom-margin (integer), media-left-margin (integer), media-right-margin (integer), media-top-margin (integer) to provide document margins - printer can choose proper mode to satisfy?
 - media-source (type3 keyword) to specify the input source/tray?
- Media size, type, source, and margins often go together, but should these be first-class attributes?
- Also media-*-supported first-class attributes to list supported values?
- Extend Get-Printer-Attributes to filter on attributes other than document-format?
 - Useful for getting answers like "what are the supported media/margins for duplex printing?"

Document Formats



- Require support for raster format(s)
 - One lossless, multipage format + (maybe) one lossy format
 - Must be low overhead for client and printer
 - IPP provides supplemental document compression - make recommended but not required
 - Proposal for CUPS Raster (v2) as the lossless format and JPEG (W3C JFIF, EXIF) for lossy/photo printing
 - Other proposed raster formats pending
- Make support for vector format(s) optional/recommended
 - PDF 1.4/1.5 for recommended vector format
 - Need to investigate DRM issues
 - Need to think about format version support

IPP WG Next Steps

- IPP Job and Printer Operations Set2 (JPS2)
 - PWG Format Vote ends 30 October 2010
- IPP Version 2.0 Second Edition
 - PWG Last Call ends 30 October 2010
- IPP 2.0/2.1/2.2 Interoperability Testing
 - Interoperability event in Q2/Q3 2011
- IPP Everywhere
 - Initial draft requirements in Q4 2010
 - Initial draft specifications in Q1 2011
 - PWG Last Call of Requirements in Q2 2011
 - Prototype draft specifications in Q3 2011
 - Interoperability event in Q4 2011

IPP WG Info / Participation



- We welcome participation from all interested parties
- IPP Working Group web page
 - <http://www.pwg.org/ipp/index.html>
- IPP Working Group wiki
 - <http://pwg-wiki.wikispaces.com/IPP>
- Subscribe to the IPP mailing list
 - <http://www.pwg.org/mailhelp.html>
- IPP WG holds bi-weekly phone conferences announced on the IPP mailing list