

IPP Working Group Session

April 25, 2012

Cupertino, CA

PWG F2F Meeting

IPP WG Meeting Agenda



Wednesday, April 25

1:00 - 1:05	Introductions, Minute Taker, Agenda Review
1:05 - 1:15	Current IPP WG status
1:15 - 1:30	Preliminary Results of IPP/2.0 Interoperability
1:30 - 3:15	IPP Everywhere
3:15 - 3:30	Break
3:30 - 4:30	PWG Media Standardized Names 2.0 (MSN2)
4:30 - 5:00	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:
 - Ira McDonald (High North) – IPP Everywhere, IPP JPS3, IPP Scan Service, IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services
 - Michael Sweet (Apple) – IPP Everywhere, IPP JPS3, PWG Media Standardized Names 2.0, IPP over HTTPS Transport Binding and “ipps” URI Scheme, LDAP Schema for Printer Services, IPP FaxOut Service

IPP WG Status



- IPP Everywhere specs in development:
 - IPP Everywhere
 - IPP: Job and Printer Extensions - Set 3 (JPS3 - **PWG Last Call**)
 - IETF IPP over HTTPS Transport Binding and "ipps" URI Scheme
 - IETF LDAP Schema for Printer Services (updates RFC 3712)
 - PWG Media Standardized Names 2.0 (MSN2)
- IPP Multifunction specs in development:
 - IPP Scan Service
 - IPP FaxOut Service
- IPP Cloud binding specs in development:
 - None

IPP WG Status



- New Candidate Standard:
 - PWG Raster Format
- Up-to-date pending IANA registrations online:
 - <http://www.pwg.org/ipp/ipp-registrations.xml> (+ .txt)
 - Will maintain this in parallel for new specifications
 - Also have some MIB registrations pending

Document Editors Needed



- As we complete our work on IPP Everywhere, we need to identify editors for the IPP Multifunction specifications
- Need a new editor for IPP Scan Service since Andrew is no longer able to serve as editor
- Additional multifunction services need to be addressed: FaxIn, Copy, System Control, Transform
 - These should be relatively easy since they are essentially binding specs that reference the corresponding Semantic Model specs
 - See FaxOut for an example of how easy it will be
- IPP Multifunction spec will likely be an update of IPP Everywhere with pointers to the corresponding service specifications

IPP Interoperability Event



- During the August 2011 F2F we decided the IPP/2.0 interoperability event will be virtual using the CUPS ipptool program and conformance test files
- February 2012 release of ipptool covers:
 - All required operations and attributes for IPP/2.0
 - Partial coverage of operations and attributes for IPP/2.1
 - Basic testing for existence of IPP/2.2 operations and attributes
- Future update to include tests for undefined attribute and group tags, plus additions to IPP/2.1 and IPP/2.2 tests
- Test results to be sent to Mike Sweet (msweet@apple.com) for presentation at future F2F's
 - Preliminary results today!
 - "Final" results at August 2012 F2F?

IPP Interoperability Event



- Thus far I have not received testing results from any vendor
 - ... so I tested a bunch of shipping printers myself!
- We need independent testing results to make this event a success
- We want results from printers regardless of their level of conformance
 - Important to understand where the issues are!
 - Results will be collated and reported anonymously!

Preliminary Results

- Tested 14 shipping printers from 5 vendors
 - 8 IPP/1.1 printers
 - 6 IPP/2.0 printers
- Omitted most of the higher-level print job tests for this set of runs
- 6 out of 14 printers did not complete the tests
 - These printers hung at the “waiting for job to complete” phase of the test - will be investigating the exact causes in case it is an ipptool problem
- Average score of printers that did finish was 72% correct responses
-

Preliminary Results



PASS

FAIL

SKIP

DID NOT FINISH

Printer/Test	A1	B2	B3	B4	B5	B6	B7	B8	B9	C10	C11	D12	E13	E14	AVG
IPP Version	2.0	1.1	2.0	2.0	2.0	1.1	1.1	2.0	1.1	1.1	2.0	1.1	1.1	1.1	
RFC 2911 section 3.1.1: Bad request-id value 0	P	F	F	F	P	F	F	F	F	F	P	P	F	F	
RFC 2911 section 3.1.4: No Operation Attributes	P	P	P	P	P	P	P	P	P	F	P	P	P	P	
RFC 2911 section 3.1.4: attributes-charset	P	P	P	P	P	P	P	P	P	F	P	P	P	P	
RFC 2911 section 3.1.4: attributes-natural-language	P	P	P	P	P	P	P	P	P	F	P	P	P	P	
RFC 2911 section 3.1.4: attributes-natural-language + attributes-cha	P	F	F	F	P	F	F	F	F	F	P	P	F	F	
RFC 2911 section 3.1.4: attributes-charset + attributes-natural-lang	P	F	F	F	P	F	F	F	F	F	P	P	F	F	
RFC 2911 section 3.1.8: Unsupported IPP version 0.0	P	P	P	P	P	P	P	F	P	P	P	F	P	P	
RFC 2911 section 3.2: No printer-uri operation attribute	P	F	F	F	P	F	F	F	F	F	P	P	F	F	
RFC 2911 section 3.2.1: Print-Job Operation	F	P	P	P	P	P	F	F	P	F	P	F	P	P	
RFC 2911 section 3.2.3: Validate-Job Operation	F	P	P	P	F	P	F	F	P	P	P	F	P	P	
RFC 2911 section 3.2.5: Get-Printer-Attributes Operation (default)	P	F	F	F	F	F	F	F	F	F	F	F	F	F	
RFC 2911 section 3.2.5: Get-Printer-Attributes Operation (requested-	P	P	F	P	F	F	F	F	P	P	P	F	F	F	
RFC 2911 section 3.2.6: Get-Jobs Operation (default)	P	F	P	F	P	P	F	P	P	P	P	P	P	P	
RFC 2911 section 3.2.6: Get-Jobs Operation (requested-attributes)	F	S	S	S	F	S	F	F	S	P	P	F	P	F	
RFC 2911 section 3.2.6: Get-Jobs Operation (my-jobs)	F	S	S	S	F	S	F	F	S	P	P	F	P	P	
RFC 2911 section 3.2.6: Get-Jobs Operation (my-jobs different user)	P	S	S	S	P	S	F	P	S	P	P	P	P	P	
RFC 2911 section 3.2.6: Get-Jobs Operation (which-jobs=not-completed)	F	S	S	S	F	S	F	F	S	P	P	F	F	P	
Get-Job-Attributes Until Job Complete	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	P	P	S	P	P	
RFC 2911 section 3.2.6: Get-Jobs Operation (which-jobs=completed)	P	DNF	DNF	DNF	DNF	DNF	F	P	DNF	P	P	P	P	P	
RFC 2911 section 3.2.6: Get-Jobs Operation (which-jobs, requested-at	F	DNF	DNF	DNF	DNF	DNF	F	P	DNF	P	P	F	P	P	
RFC 2911 section 3.3.3: Cancel-Job Operation (completed job)	P	DNF	DNF	DNF	DNF	DNF	F	P	DNF	P	P	P	P	P	
RFC 2911 section 3.3.3: Cancel-Job Operation (pending/processing job)	P	DNF	DNF	DNF	DNF	DNF	F	P	DNF	P	P	P	P	P	
RFC 2911 section 3.3.4: Get-Job-Attributes Operation	F	DNF	DNF	DNF	DNF	DNF	F	P	DNF	F	P	F	F	F	
RFC 2911 section 3.2.2: Print-URI Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Print-URI with bad URI: Print-URI Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
RFC 2911 section 3.2.4: Create-Job Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
RFC 2911 section 3.3.1: Send-Document Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Send-Document missing last-document: Create-Job Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Send-Document missing last-document: Send-Document Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
RFC 2911 section 3.3.3: Cancel-Job Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
RFC 2911 section 3.3.2: Send-URI Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Send-URI with bad URI: Create-Job Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Send-URI with bad URI: Send-URI Operation (bad URI)	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Send-URI with bad URI: Cancel-Job Operation	S	DNF	DNF	DNF	DNF	DNF	S	S	DNF	S	S	S	S	S	
Print-Job with copies	F	DNF	DNF	DNF	DNF	DNF	S	S	DNF	F	P	S	S	S	
PWG 5100.12 section 6.2 - Required Printer Description Attributes	F		DNF	DNF	DNF			F			F				
Total Passes	15	7	7	7	11	7	4	11	8	13	23	11	15	15	11
Total Failures	9	6	6	6	6	6	18	12	5	11	2	11	8	8	8
Total Skips	12	4	4	4	0	4	13	13	4	11	11	13	12	12	8
Scores	75%						49%	67%		69%	94%	69%	77%	77%	72%

Preliminary Results



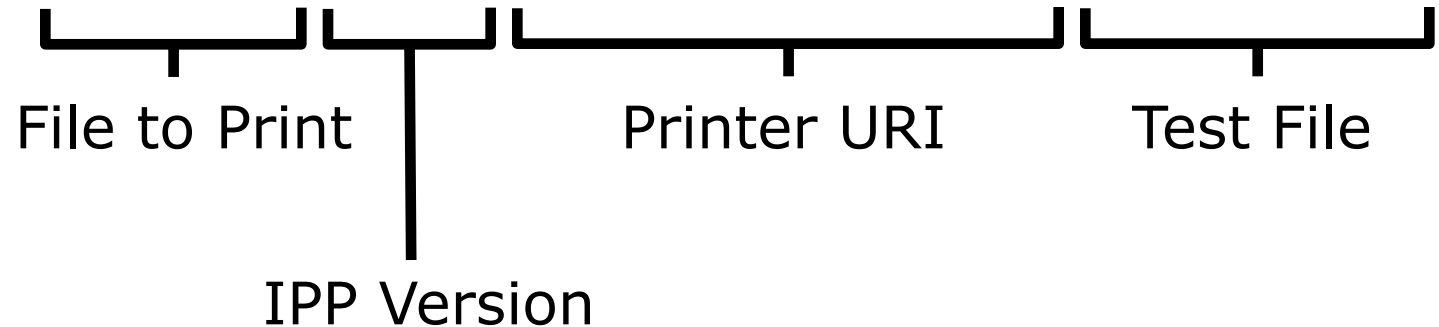
- Common Problems:
 - Not validating request-id, order and type of attributes (10/14)
 - Returning wrong status codes (13/14)
 - Supporting Print-URI/Send-URI but not "ftp" URIs (3/14)
 - Using http: URIs for printer-uri-supported (4/14)
 - Reporting duplicate Printer attributes (3/14)
 - Not reporting media-size-supported and other media-col Printer attributes (6/6)
 - Missing job history (9/16)

Where to Get CUPS ipptool

- <http://www.cups.org/software.php>
- Binaries available for Linux, Mac OS X, and Windows
- See the file “IPPTOOL.txt” for instructions on running the conformance tests
- Additional documentation in man-ipptool.html and man-ipptoolfile.html

How to Use ipptool

```
ipptool -Itf file.ext -V 2.x ipp://address/path ipp-2.x.test
```



Example for IPP/2.0 printer with PDF support:

```
ipptool -Itf testfile.pdf -V 2.0 ipp://192.168.0.1/ipp \  
ipp-2.0.test | tee make-model-2.0-results.log
```

How to Send ipptool Results

- Send an email to "msweet@apple.com"
- Subject: IPP/<version> Test Results-<company name>-<last name>-<Pass/Fail>
- Attach the output from ipptool to the email
- Include any comments you like
- Example:

To: msweet@apple.com

Subject: IPP/2.0 Test Results-Acme-Doe-Pass

Found no issues with our implementation.

<acme-uberprinter-2.0-results.log>

IPP Everywhere



- Current (prototype) draft at:
 - <ftp://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippeve10-20120418-rev.pdf>
- Known Issues:
 - Should we document how to handle OutputIntents in PDF files (use Ghostscript implementation as guide)?
- Proposed Schedule:
 - WG Last Call during May 2012
 - Stable draft and PWG Last Call to span June 2012 F2F
 - PWG Formal Vote starting in July 2012

PWG Media Standardized Names 2.0 (MSN2)



- Current (prototype) draft:
 - <ftp://ftp.pwg.org/pub/pwg/ipp/wd/wd-pwgmsn20-20120418-rev.pdf>
- Proposed Schedule:
 - WG Last Call during May 2012
 - Stable draft and PWG Last Call to span June 2012 F2F
 - PWG Formal Vote starting in July 2012

IPP WG Next Steps

- IPP 2.0/2.1/2.2 Interoperability Testing
 - Virtual interoperability event through August 2012 F2F
- IPP Everywhere
 - Finish prototype draft specifications in Q2 2012
 - Last Call and Formal Vote Q2/Q3 2012
 - Virtual interoperability event for IPP Everywhere starting in Q4 2012
- IPP Multifunction
 - Interim working drafts of IPP Scan Service and IPP FaxOut Service in Q3/Q4 2012
 - Initial working drafts of other specifications starting in Q3 2012
- IPP Shared Infrastructure Extensions starting in Q2 2012?

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
 - Next conference call is May 14, 2012 at 3pm (EST)