The Printer Working Group

IPP Workgroup Session, Day 1

August 23, 2016

PWG F2F Meeting

Camas, WA (Sharp)

PWG IP Policy

- "This meeting is being held in accordance with the PWG Intellectual Property Policy"
  - http://www.pwg.org/chair/membership_docs/pwg-ip-policy.pdf
- TL;DR: Anything you say in a PWG meeting or email to a PWG address can be used in a PWG standard
  - (but please do read the IP policy above if you haven't done so)

Agenda

August 23, 2016

When	What
10:30 - 12:00	IPP Workgroup Status, IPP/1.1 Updates, Issues, Proposals, Self-Certification
12:00 - 1:30	Lunch
1:30 - 3:15	IPP System Service (SYSTEM)
3:15 - 3:30	Break
3:30 - 5:00	IPP 3D Printing Extensions

August 24, 2016

When	What
11:15 - 12:00	IPP Finishings 2.1

Charter

- Current charter:
  - http://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20151225.pdf
- The Internet Printing Protocol (IPP) workgroup is chartered with the maintenance of IPP, the IETF IPP registry, and support for new clients, network architectures (Cloud, SDN), service bindings for MFDs and Imaging Systems, and emerging technologies such as 3D Printing
- In addition, we maintain the IETF Finisher MIB, Job MIB, and Printer MIB registries, and handle synchronization with changes in IPP

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 System Service (SYSTEM), IETF IPP/1.1
  - Michael Sweet (Apple) – IPP System Service (SYSTEM), IETF IPP/1.1, IPP 3D Printing Extensions
  - Smith Kennedy (HP Inc.) – IPP Finishings 2.1

- IETF RFCs in development:
  - IETF IPP/1.1: Encoding and Transport (obsoletes RFC 2910/3382)
    - IESG Approved, RFC Editor's queue
  - IETF IPP/1.1: Model and Semantics (obsoletes RFC 2911/3381/3382)
    - Second IETF LC to 6 Sept 2016

- PWG Specifications in development:
  - IPP 3D Printing Extensions (3D)   - Prototype Draft
  - IPP System Service (SYSTEM)   - Interim Draft
  - IPP Finishings 2.1 (FIN)   - Stable Draft, WG Last Call

- Recent Full Standard:
  - PWG 5100.12-2015: IPP 2.0, 2.1, and 2.2
- Recent Candidate Standards:
  - PWG 5100.20-2016: IPP Everywhere Printer Self-Certification Manual v1.0 (SELFCERT)
  - PWG 5100.19-2015: IPP Implementor's Guide v2.0 (IG)
  - PWG 5100.18-2015: IPP Shared Infrastructure Extensions (INFRA)
- Recent IETF RFCs:
  - RFC 7612: LDAP Schema for Printer Services
  - RFC 7472: IPP over HTTPS Transport Binding and "ipps" URI Scheme

Status (3/3)

- Up-to-date pending IANA registrations online:
  - http://www.pwg.org/ipp/ipp-registrations.xml
  - Continue to maintain this in parallel for new specifications
  - Github repository:
    - https://github.com/istopwg/ippregistry
- IPP Everywhere Printer Self-Certifications:
  - Submission page:
    - https://www.pwg.org/ippeveselfcert
  - Printer listing page:
    - https://www.pwg.org/printers
  - Still waiting for our first submission!
- IPP Sample Code:
  - Github repository:
    - https://github.com/istopwg/ippsample
  - Fork of CUPS code includes ippfind, ippproxy, ippserver, and ipptool

IETF IPP/1.1 Updates

- Developing two new RFCs to replace (obsolete) RFCs 2910, 2911, 3381 (deprecated job progress attributes), and 3382 (collection attribute syntax)
- Stable drafts:
  - http://tools.ietf.org/html/draft-sweet-rfc2910bis
  - http://tools.ietf.org/html/draft-sweet-rfc2911bis
  - *RFC2910bis is approved and waiting for RFC2911bis for publication*
  - *RFC2911bis is going through a second IETF Last Call to address some "down references" to informational documents.*
  - *RFCs will eventually be advanced to IETF Internet Standard through status change (IETF process)*
- Proposed schedule:
  - RFC Publication - Q4 2016

Issues

Review of pending document issues

- Alternate vendor prefix for keyword names

Alternate Vendor Prefix for Keyword Names

- Currently RFC 2911bis says to use reverse-DNS prefix on keyword names ('com.example-foo') unless the keyword defines another policy
- During the IPP WG conference call on July 25, 2016, an alternate (shorter) prefix was suggested using SMI Enterprise Numbers
  - https://www.iana.org/assignments/enterprise-numbers/enterprise-numbers
- Examples:
  - Hewlett-Packard (11): 'smi11-foo'
  - Apple (63): 'smi63-bar'
- SMI Enterprise Numbers are free to get and are widely used in other standards (TCG, etc.)
  - Also assigned for applications, organizations, etc.
- Prefix is obviously shorter than the reverse-DNS one
- Thoughts?

IPP Everywhere Self-Certification

- PWG 5100.20-2016: IPP Everywhere Printer Self-Certification Manual (SELFCERT)
  - http://ftp.pwg.org/pub/pwg/candidates/cs-ippeveselfcert10-20160219-5100.20.pdf
- Known Issues:
  - https://github.com/istopwg/ippeveselfcert/issues
  - https://github.com/istopwg/ippeveselfcert/blob/master/KNOWNISSUES.md
- Resources:
  - http://www.pwg.org/ipp/everywhere.html (for tools)
  - https://www.pwg.org/ippeveselfcert (submission form)
  - http://www.pwg.org/printers (printer list)
- Github repository for tools:
  - https://github.com/istopwg/ippeveselfcert

IPP Everywhere Self-Certification

- Working on 1.0 tools update that addresses known issues
  - Targeting end of September 2016 for PWG Call for Objections
- Future 1.1 errata update for manual and tools in 2017
  - More tests (Cancel-My-Jobs, Close-Job, Identify-Printer)
  - Other necessary changes that are not simple bug fixes in the tools/ submission portal

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Lunch Break

IPP System Service (SYSTEM)

- Current interim draft at:
  - http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippsystem10-20160818-rev.pdf
- Proposed Schedule:
  - Prototype draft in Q4 2016

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Break

IPP 3D Printing Extensions

- Current draft (prototype):
  - http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ipp3d10-20160816-rev.pdf
- Proposed schedule:
  - Stable draft Q3/Q4 2016
- Prototype experience (next slide)

- Apple has implemented a portion of the IPP 3D Printing Extensions - the current work-in-progress is available at:
  - https://github.com/istopwg/ippsample
  - The "examples" directory contains sample 3MF files from the 3MF Consortium's Github samples repository, along with an ipptool test file (create-job-3d.test) that can be used to test a prototype.
- THIS PROTOTYPE IS INCOMPLETE
- Issues addressed by updated prototype draft:
  - Conformance requirements for the new attributes/member attributes.
    - "materials-col-database" RECOMMENDED, "materials-col" + "materials-col-ready" REQUIRED
    - "print-rafts" and "print-supports" should be RECOMMENDED
    - 'ipp-3d' should be REQUIRED in "ipp-features-supported"
    - Add tables for IPP attributes that are required for IPP 3D, a la IPP Everywhere
  - "print-accuracy" now has an "accuracy-units" member attribute for explicit units
  - "material-diameter" is now nanometers, to match "material-shell-thickness"
  - The section on materials-col-database now talks about the contents of each collection, i.e. type and temperature range, diameter, rate, etc., omit member attributes that can take any of the xxx-supported values, etc.

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IPP Workgroup Session, Day 2

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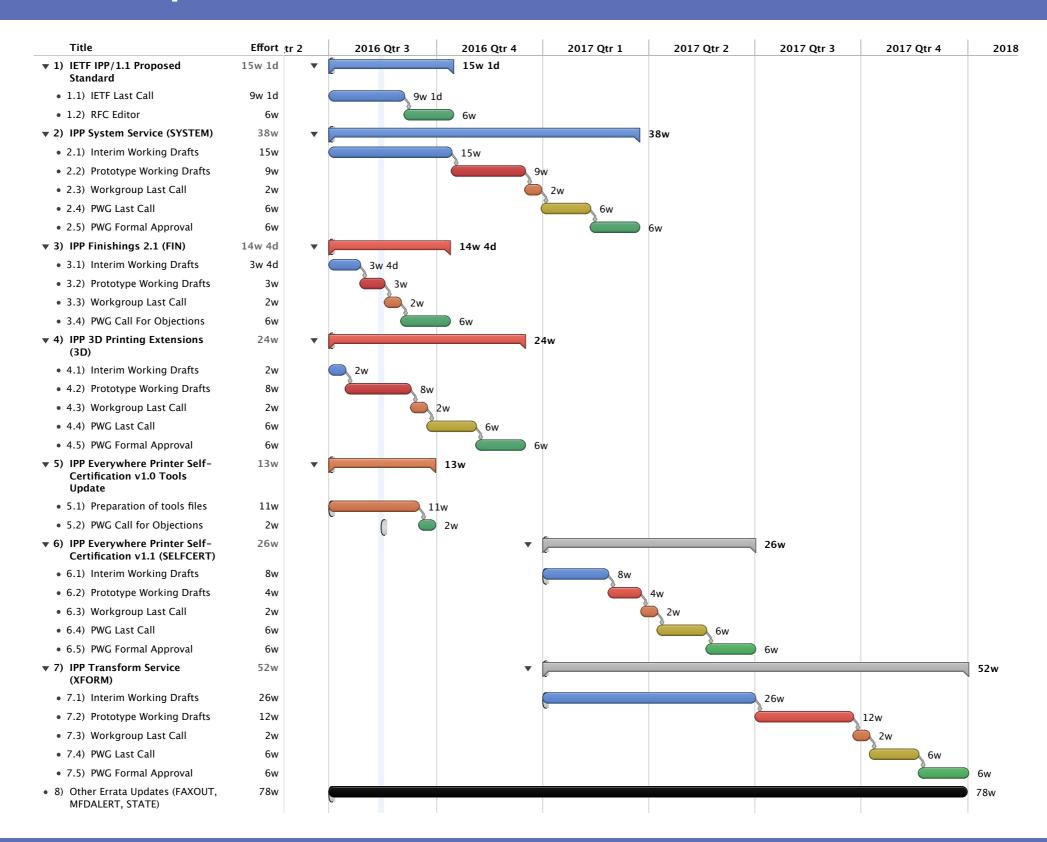| When	What
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IPP Finishings 2.1

- Current stable draft:
  - http://ftp.pwg.org/pub/pwg/ipp/wd/wd-ippfinishings21-20160815-rev.pdf
- Proposed schedule:
  - WG Last Call until August ??, 2016
  - PWG Call For Objections Q3/Q4 2016
  - PWG Publication Q4 2016

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Next Steps

Next Steps

Title	Effort	tr 2	2016 Qtr 3	2016 Qtr 4	2017 Qtr 1	2017 Qtr 2	2017 Qtr 3	2017 Qtr 4	2018
▼ 1) IETF IPP/1.1 Proposed Standard	15w 1d		15w 1d						
• 1.1) IETF Last Call	9w 1d		9w 1d						
• 1.2) RFC Editor	6w		6w						
▼ 2) IPP System Service (SYSTEM)	38w		38w						
• 2.1) Interim Working Drafts	15w		15w						
• 2.2) Prototype Working Drafts	9w			9w					
• 2.3) Workgroup Last Call	2w			2w					
• 2.4) PWG Last Call	6w				6w				
• 2.5) PWG Formal Approval	6w				6w				
▼ 3) IPP Finishings 2.1 (FIN)	14w 4d		14w 4d						
• 3.1) Interim Working Drafts	3w 4d		3w 4d						
• 3.2) Prototype Working Drafts	3w		3w						
• 3.3) Workgroup Last Call	2w		2w						
• 3.4) PWG Call For Objections	6w		6w						
▼ 4) IPP 3D Printing Extensions (3D)	24w		24w						
• 4.1) Interim Working Drafts	2w		2w						
• 4.2) Prototype Working Drafts	8w		8w						
• 4.3) Workgroup Last Call	2w		2w						
• 4.4) PWG Last Call	6w		6w						
• 4.5) PWG Formal Approval	6w		6w						
▼ 5) IPP Everywhere Printer Self–Certification v1.0 Tools Update	13w		13w						
• 5.1) Preparation of tools files	11w		11w						
• 5.2) PWG Call for Objections	2w		2w						
▼ 6) IPP Everywhere Printer Self–Certification v1.1 (SELFCERT)	26w				26w				
• 6.1) Interim Working Drafts	8w				8w				
• 6.2) Prototype Working Drafts	4w				4w				
• 6.3) Workgroup Last Call	2w				2w				
• 6.4) PWG Last Call	6w				6w				
• 6.5) PWG Formal Approval	6w				6w				
▼ 7) IPP Transform Service (XFORM)	52w				52w				
• 7.1) Interim Working Drafts	26w				26w				
• 7.2) Prototype Working Drafts	12w					12w			
• 7.3) Workgroup Last Call	2w						2w		
• 7.4) PWG Last Call	6w						6w		
• 7.5) PWG Formal Approval	6w							6w	
• 8) Other Errata Updates (FAXOUT, MFDALERT, STATE)	78w		78w						

Next Steps

- Advance IPP/1.1 to IETF Internet Standard
  - IETF process to advance to Internet Standard once RFCs are published...
- IPP System Service
  - Prototype working draft in Q4 2016
- IPP 3D Printing Extensions
  - Stable working draft in Q4 2016
- IPP Finishings 2.1
  - PWG Call for Objections in Q3 2016
- IPP Everywhere Printer Self-Certification 1.0 Tools Update
  - PWG Call for Objections in September 2016
- IPP Everywhere Printer Self-Certification Manual v1.1
  - Interim working draft in Q1 2017
- IPP Transform Service v1.0
  - Initial working draft in Q1 2017
- Other errata (IPP State, etc.) in 2017

More Information

- We welcome participation from all interested parties
- IPP Working Group web page
  - http://www.pwg.org/ipp/index.html
- Subscribe to the IPP mailing list
  - https://www.pwg.org/mailman/listinfo/ipp
- IPP WG holds weekly phone conferences announced on the IPP mailing list
  - Next conference calls September 12, 2016 at 4pm ET to discuss 3D Printing and September 19, 2016 at 3pm ET for 2D topics