Charter of the PWG

IPP Workgroup

Status: PWG Approved

http://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20170615.pdf

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Problem Statement:

New mobile devices (cell phones, tablets, etc.) dynamically attach to networks, and need reliable discovery of available printers and their capabilities. This functionality is now supported by IPP Everywhere (PWG 5100.14) with testing supported by IPP Everywhere Self-Certification (PWG 5100.20). .

New network architectures (Cloud, SASS, Software-Defined Networks, etc.) are used in shared infrastructure environments (Cloud, SASS, SDN, etc.). Enterprise services and databases are often configured on external networks accessible only via the public Internet. Client enrollment, printer registration, job and document forwarding, and job accounting features are more difficult to deploy than for traditional enterprise networks. This functionality is now supported by IPP Shared Infrastructure Printer Extensions (PWG 5100.18).

Emerging manufacturing devices ("3D Printers") are just beginning to address network connectivity and pose new safety concerns. Current solutions depend on vendor specific software and low-level device control languages, hindering interoperability and operational safety, creating a market need for printing standards with required PDLs and service discovery methods. This functionality is now supported by IPP 3D Printing Extensions (PWG 5100.21).

Managed print service providers and enterprise networks would like to efficiently deploy and manage large numbers of printers and multifunction devices and offer discovery of devices and capabilities for administrators and end users, creating a market need for standards for system management.

Current IPP WG Projects:

Current IPP WG projects include the following new or updated specifications:

(a) IPP System Service v1.0 (SYSTEM) (wd-ippsystem10-yyyymmdd) – define an IPP System Service that extends IPP Job and Printer Administrative Operations (RFC 3998) and provides access to the status and description . defined in the PWG SM System object and PWG System Control Service, operations on Job Services, Resources, and Cloud registration, and is designed to be coherent with PWG SM System Control Service (PWG 5108.06-2012), PWG SM Resource Service (PWG 5108.03), and IPP Shared Infrastructure Extensions (INFRA);

(b) IPP Transform Service v1.0 (XFORM) (wd-ippxform10-yyyymmdd) – define an IPP Transform service based on existing PWG SM Transform Service drafts and PWG F2F discussions, to extend the set of multifunction services supported by IPP;

(c) IPP Everywhere Printer Self-Certification Manual v1.1 (SELFCERT) (wd-ippeveselfcert11-yyyymmdd) – define an errata update of IPP Everywhere Printer self-certification test procedures, the process required for registering the test results in order to use the PWG "IPP Everywhere " logo on a product, and a license agreement for the use of this logo;

(d) IPP Printer State Extensions v1.1 (PSX) (wd-ippstate11-yyyymmdd) – define an errata update to IPP Printer State Extensions v1.0 (PWG 5100.9-2009) to address known errata, add missing attributes or values, avoid increasing any conformance requirements, align with IPP Shared Infrastructure Extensions (PWG5100.INFRA), and submit IANA Printer TC registrations for new xxx-missing PrtAlertCodeTC values;

(e) Printer MIB and IPP MFD Alerts v1.1 (MFDALERTS) (wd-pmpmfdalerts11-yyyymmdd) – define an errata update to Printer MIB and IPP MFD Alerts v1.0 (PWG 5107.3-2012) to address known errata, add missing attributes or values, avoid increasing any conformance requirements, align with IPP Shared Infrastructure Extensions (PWG5100.INFRA) and submit IANA Printer TC registration for PrtAlertCodeTC new comments on fax-modem-protocol-error and xxx-recoverable-storage-error and new values of xxx-missing (drop suffix from IPP keyword w/ corresponding suffix (-error, -report, -warning) and add appropriate suffix depending on the Printer state over the wire);

(f) IPP FaxOut Service v1.1 (FAXOUT) (wd-ippfaxout11-yyyymmdd) – define an errata update to IPP FaxOut Service v1.0 (PWG 5100.14-2014) to address known errata, add missing attributes or values, avoid increasing any conformance requirements, and align with PWG IPP Scan Service (PWG5100.SCAN);.

Ongoing IPP WG Tasks:

Ongoing IPP WG tasks include the following:

(a) IPP Maintenance – define errata updates to IETF and PWG IPP protocol extensions as necessary, to address known errata, add missing attributes or values, and avoid increasing any conformance requirements;

(b) IANA IPP Registry Maintenance – add new operations, attributes, attribute values, etc. to IANA IPP Registry as they are defined in new or updated IPP specifications or registered via IPP WG review;

(c) PWG Semantic Model Maintenance – update existing machine-generated PWG Semantic Model schema from IANA IPP Registry (e.g., Print3D) as required to align with IPP updates;

(d) SNMP MIB Maintenance – update IETF and PWG SNMP MIBs as necessary, to address known errata, add missing values, and avoid increasing any conformance requirements.

Potential IPP WG Projects:

Potential IPP WG projects include the following new or updated specifications:

(a) IPP Concise (CONCISE) (tb-ippconcise10-yyyymmdd) – define a whitepaper on a new IPP Transport and Encoding (alternative to RFC 8010) optimized for gateway, management, monitoring, and control applications (i.e., not a replacement for IPP in general) that includes:

- Rationale, use cases with feasibility and constraints, and design requirements;
- IPP Transport (w/out HTTP) via Transport Layer Security 1.2 (TLS) (RFC 5246) and Datagram TLS 1.2 (DTLS) (RFC 6347) or later versions (see https://datatracker.ietf.org/wg/tls/documents/);
- IPP Encoding in Concise Binary Object Representation (CBOR) (see RFC 7049 and https://datatracker.ietf.org/doc/charter-ietf-cbor/);
- IPP Schema for operations, objects, and attributes in CBOR Data Definition Language (CDDL) (see IETF I-D draft-greevenbosch-appsawg-cbor-cddl);
- IPP Concise potential non-TCP transport layer protocols, e.g. DTLS over cellular Short Message Service (SMS, aka “text messages”) (see Appendix A of IETF TLS/DTLS IoT Profiles, RFC 7925).

(b) IPP Everywhere Multifunction v1.0 (EVEMFD) (wd-ippevemfd10-yyyymmdd) – define an update to IPP Everywhere v1.0 for multifunction devices that includes:

- IPP 2.0, 2.1, and 2.2 (IPP2X)
- IPP Transaction-Based Printing Extensions
- "ipps:" URI Scheme
- LDAP Printer Schema extensions
- IPP JPS3
- IPP Finishings v2.1
- IPP Shared Infrastructure Extensions
- IPP FaxOut
- IPP Scan
- IPP Transform
- IPP System Service

(c) PWG Semantic Model Schemas for Other Services – define a method for machine-generation of PWG Semantic Model schema for all MFD services that is based on:

- Adding a service association field in the IANA IPP Registry
- Enhancing the 'regtosm' tool to pull the attribute association graph from the XML IANA IPP Registry (instead of from the plain text file as is done currently)

Out-of-scope:

The following projects and activities are out-of-scope for the IPP WG:

- OOS-1 Definitions of new device discovery or service advertising protocols, except for new profiles or subsets of existing device discovery or service advertising protocols which are appropriate and encouraged.
- OOS-2 Definitions of new device management protocols, except for IPP System Service above, but new profiles or subsets of existing device management protocols, which are appropriate and encouraged.
- OOS-3 Definitions of new IPP transport bindings, except for potential IPP Concise above, but the design of IPP projects MUST NOT preclude additional transport bindings.
- OOS-4 Definitions of new work on the following potential IPP projects is suspended (until use cases, editors, and interested vendors have been identified): IPP FaxIn Service.
- OOS-5 Definitions of new work on the following potential IPP projects is abandoned: IPP Copy Service, IPP EmailIn Service, IPP EmailOut Service.

Objectives:

The following objectives should guide all new IPP WG projects:

- OBJ-1 Optimize all IPP extensions for small memory and resource footprints for IPP Clients and IPP Printers.
- OBJ-2 Design all IPP extensions to allow for other potential protocol bindings (e.g., Web Services, CBOR, etc.).
- OBJ-3 Design all IPP extensions to allow the use of vendor-neutral generic print software by IPP Clients.
- OBJ-4 Design all IPP extensions to allow ease of integration with shared infrastructure environments and Internet-based services.
- OBJ-5 Define the set of new IPP specifications enumerated in the current projects list in Problem Statement clause above.
- OBJ-6 Define errata, updates, and extensions to existing IETF and PWG IPP specifications and SNMP MIBs as necessary.

Milestones:

Charter Stage:

- CH-1 Interim draft of IPP WG Charter – Q1 2017 – DONE
- CH-2 Stable draft of IPP WG Charter – Q2 2017 – DONE
- CH-3 PWG Approval of IPP WG Charter - Q2/Q3 2017

Definition Stage:

- SELFCERT-1 Interim draft of IPP Everywhere Printer Self-Cert v1.1 – Q2/Q3 2017
- SELFCERT-2 Prototype draft of IPP Everywhere Printer Self-Cert v1.1 – Q3/Q4 2017
- SELFCERT-3 Stable draft of IPP Everywhere Printer Self-Cert v1.1 – Q3/Q4 2017

- SYSTEM-1 Initial draft of IPP System Service v1.0 – DONE
- SYSTEM-2 Prototype draft of IPP System Service v1.0 – Q2/Q3 2017
- SYSTEM-3 Stable draft of IPP System Service v1.0 – Q4 2017

- XFORM-1 Initial draft of IPP Transform Service v1.0 – Q3/Q4 2017
- XFORM-2 Prototype draft of IPP Transform Service v1.0 – Q4 2017 / Q1 2018

- IPPSTATE-1 Interim draft of IPP Printer State Ext v1.1 (Errata) – Q2/Q3 2017
- IPPSTATE-2 Stable draft of IPP Printer State Ext v1.1 (Errata) – Q3/Q4 2017

- MFDALERTS-1 Interim draft of MFD Alerts v1.1 (Errata) – Q2/Q3 2017
- MFDALERTS-2 Stable draft of MFD Alerts v1.1 (Errata) – Q3/Q4 2017

Implementation Stage:

- INTEROP-1 Interoperability testing of IPP Everywhere implementations –Self-Cert process