

Charter of the PWG

IPP Workgroup

Status: PWG Approved

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<https://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20240510.pdf>

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Problem Statement:

The ongoing evolution of trust models, authentication technologies, mobile devices, laptops, servers, operating systems, and home and enterprise network architectures leads to new requirements for registration, discovery, and management of imaging devices, as reflected in the current and potential IPP WG projects described below.

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

Evolving network architectures (Cloud, SaaS, Software-Defined Networks, etc.) are used in shared infrastructure environments (Cloud, SaaS, 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 supported by IPP Shared Infrastructure Printer Extensions (PWG 5100.18). Enterprise local and commercial service providers often offer paid or quota-based printing. This functionality is supported by IPP Transaction-Based Printing Extensions (PWG 5100.16).

Emerging additive manufacturing devices ("3D Printers") with network connectivity pose safety and security 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 supported by IPP 3D Printing Extensions (PWG 5100.21).

Managed print service providers and enterprise networks 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. This functionality is supported by IPP System Service (PWG 5100.22).

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Current IPP WG Projects:

Current IPP WG projects are those projects with currently active or planned drafts. Current IPP WG projects include the following new or updated documents:

(a) IPP Enterprise Printing Extensions v2.0 (EPX) – define a major revision of IPP Job and Printer Extensions – Set 2 (JPS2)" (PWG5100.11-2010) as a basis for a revision of IPP Version 2.0, 2.1, and 2.2 (PWG 5100.12-2015);

(b) IPP Encrypted Jobs and Documents v1.0 (TRUSTNOONE) – define a new specification for encrypted IPP message formats that support IPP extensions for end-to-end encryption of IPP Job attributes, Document attributes, and Document data;

(c) IPP 2.x Fourth Edition (BASE) – define a major revision of IPP Version 2.0, 2.1, and 2.2 (PWG 5100.12-2015) based on the revisions of PWG 5100.1-2022, PWG 5100.3-2023, PWG 5100.5-2024, PWG 5100.7-2023, PWG 5100.13-2023, PWG 5100.16-2020, and other PWG standards track documents;

(d) IPP Everywhere v2.0 (IPPEVE) – define a major revision of IPP Everywhere v1.1 (PWG 5100.14-2020) based on the revision of PWG 5100.12-2015 described above that requires TLS/1.2 or higher and defines different classes of printers with required standard extensions, features, authentication, etc.;

(e) IPP OAuth Extensions v1.0 (OAUTH) – define IPP extensions, best practices, and implementation guidance for using OAuth 2.0 and OpenID Connect with IPP;

(f) IPP Shared Infrastructure Extensions v1.1 (INFRA) – define an errata revision of PWG 5100.18-2015 to address known issues and add explicit OAuth/X.509 support;

(g) IPP System Service v1.1 (SYSTEM) – define an errata revision of PWG5100.22-2019 to support cloud printing extensions (including IPP OAuth);

(h) IPP Authentication Methods v1.1 (IPPAUTH) – define an errata revision of 5199.10-2019 best practices to amend OAuth recommendations and descriptions;

(i) IPP Cloud Printing with IPP Everywhere v1.0 (IPP CLOUD) – define 5199.xx best practices for cloud printing.

Ongoing IPP WG Tasks:

Ongoing IPP WG tasks include the following:

- (a) IPP Maintenance – define errata updates as needed to existing IPP specifications, to address known errata, add missing attributes or values, and avoid increasing any conformance requirements; also define new registrations as needed for new or extended IPP operations, attributes, and/or values in existing IPP specifications;
- (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) SNMP Imaging MIB Maintenance – update SNMP Imaging MIBs – including IETF Job Monitoring MIB (RFC 2707), IETF Printer MIB (RFC 3805), IETF Printer Finishing MIB (RFC 3806), PWG Imaging System State and Counter MIB (PWG 5106.3), PWG Imaging System Power MIB (PWG 5106.5), PWG Printer Port Monitor MIB (PWG 5107.1) – as necessary, to address known errata, add missing values, and avoid increasing any conformance requirements.

Possible IPP WG Projects:

Possible IPP WG projects are those projects without currently active or planned drafts that could possibly define new services, operations, features, extensions, and/or attributes. Possible IPP WG projects include the following documents:

- (a) IPP Transform Service v1.0 (XFORM) (wd-ippxform10-yyyymmdd) – define a new 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;
- (b) IPP 3D Production Printing Extensions v1.0 (3DPPX) (wd-ipp3dppx-yyyymmdd) – define a new specification that updates IPP 3D Printing Extensions v1.1 (PWG 5100.21-2019) for 3D production-level features;
- (c) IPP 3D Scan Service v1.0 (3DSCAN) (wd-ipp3dscan-yyyymmdd) – define a new specification that updates IPP 3D Printing Extensions v1.1 (PWG 5100.21-2019) for 3D scan features.
- (d) IPP Direct Printing (DIRECT) (wd-ippdirect-yyyymmdd) – define a new specification that addresses support for IPP Direct to a discovered local printer, rather than a discovered cloud printer.
- (e) IPP Cloud Scan (INFRASCAN) (wd-ippinfrascan-yyyymmdd) – define a new specification that addresses support for IPP Scan in the Cloud.

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, but new profiles or subsets of existing device management protocols, including IPP System Service, are appropriate and encouraged.
- OOS-3 Definitions of new IPP transport bindings that are hidden in other IPP projects.
- OOS-4 Definitions of new work on the following inappropriate IPP projects: IPP Copy Service, IPP EmailIn Service, IPP EmailOut Service, IPP FaxIn Service.

126 Objectives:

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The following objectives should guide all new IPP WG projects:

- 129 • OBJ-1 Optimize all IPP extensions for small memory and resource footprints for IPP Clients and
130 IPP Printers.
- 131 • OBJ-2 Design all IPP extensions to allow for other potential protocol bindings (e.g., Web
132 Services, CBOR, etc.).
- 133 • OBJ-3 Design all IPP extensions to allow the use of vendor-neutral generic print software by IPP
134 Clients.
- 135 • OBJ-4 Design all IPP extensions to allow ease of integration with shared infrastructure
136 environments and Internet-based services.
- 137 • OBJ-5 Define the set of new IPP documents described in the Current IPP WG Projects clause
138 above.
- 139 • OBJ-6 Define errata, updates, and extensions to existing IPP specifications and SNMP Imaging
140 MIBs as necessary.
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142 Milestones:

143 Charter Stage:

- 144 • CH-1 Interim draft of IPP WG Charter – Q4 2023 – DONE
- 145 • CH-2 Stable draft of IPP WG Charter – Q1/Q2 2024
- 146 • CH-3 PWG Approval of IPP WG Charter – Q2 2024

147 Definition Stage:

- 148 • EPX-1 Interim draft of IPP Enterprise Printing Extensions v2.0 – Q2 2019 – DONE
- 149 • EPX-2 Stable draft of IPP Enterprise Printing Extensions v2.0 – Q1 2024 – DONE
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- 151 • TRUSTNOONE-1 Initial draft of IPP Encrypted Jobs and Documents v1.0 – Q1 2018 – DONE
- 152 • TRUSTNOONE-2 Stable draft of IPP Encrypted Jobs and Documents v1.0 – Q4 2024
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- 154 • BASE-1 Initial draft of IPP2.x Fourth Edition (BASE) – Q1 2021 – DONE
- 155 • BASE-2 Prototype draft of IPP 2.x Fourth Edition (BASE) – Q1/Q2 2024
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- 157 • IPPEVE20-1 Initial draft of IPP Everywhere v2.0 – Q4 2021 – DONE
- 158 • IPPEVE20-2 Prototype draft of IPP Everywhere v2.0 – Q3 2023 – DONE
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- 160 • OAUTH-1 Initial draft of IPP OAuth Extensions v1.0 (OAUTH) – Q1 2023 – DONE
- 161 • OAUTH-2 Prototype draft of IPP OAuth Extensions v1.0 (OAUTH) – Q3 2023 – DONE
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- 163 • INFRA-1 Interim draft of IPP Shared Infrastructure Ext v1.1 (INFRA) – Q1/Q2 2024
- 164 • INFRA-2 Prototype draft of IPP Shared Infrastructure Ext v1.1 (INFRA) – Q1/Q2 2024
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- 166 • SYSTEM-1 Initial draft of IPP System Service v1.1 (SYSTEM) – Q1 2024 – DONE
- 167 • SYSTEM-2 Prototype draft of IPP System Service v1.1 (SYSTEM) – Q1/Q2 2024
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- 169 • IPPAUTH-1 Initial draft of IPP Authentication Methods v1.1 (IPPAUTH) – Q2/Q3 2024
- 170 • IPPAUTH-2 Prototype draft of IPP Authentication Methods v1.1 (IPPAUTH) – Q2/Q3 2024
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- 172 • IPPCLOUD-1 Initial draft of IPP Cloud Printing with IPP Everywhere v1.0 (IPPCLOUD) – Q2/Q3
173 2024
- 174 • IPPCLOUD-2 Prototype draft of IPP Cloud Printing with IPP Everywhere v1.0 (IPPCLOUD) –
175 Q2/Q3 2024