

Charter of the PWG

IPP Workgroup

Status: PWG Approved

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<https://ftp.pwg.org/pub/pwg/ipp/charter/ch-ipp-charter-20210409.pdf>

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Problem Statement:

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).

Current IPP WG Projects:

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

(a) IPP Driverless Printing Extensions v2.0 (NODRIVER) – define a major revision of IPP Job and Printer Extensions – Set 3 {PWG5100.13-2012} as a basis for IPP Everywhere (PWG 5100.14);

(b) 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);

- 47 (c) IPP Production Printing Extensions v2.0 (PPX) – define a major revision of IPP Production Printing
48 Attributes – Set 1 (PWG 5100.3-2001) as a basis for a revision of IPP Version 2.0, 2.1, and 2.2 (PWG
49 5100.12-2015);
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51 (d) IPP Encrypted Jobs and Documents v1.0 (TRUSTNOONE) – define a specification for new encrypted
52 IPP message formats that provide IPP with end-to-end encryption of IPP Job Template attributes,
53 Document Template attributes, and Document data;
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55 (e) IPP Finishings v2.2 (FIN) – define a minor revision of IPP Finishings v2.1 (PWG 5100.1-2017) for
56 known errata;
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58 (f) IPP Version 2.0, 2.1, and 2.2 (IPP20) – define a major revision of IPP Version 2.0, 2.1, and 2.2 (PWG
59 5100.12-2015) based on the revisions of PWG 5100.13, PWG 5100.12, and PWG 5100.3 described above;
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61 (g) IPP Everywhere v2.0 (IPPEVE) – define a major revision of IPP Everywhere v1.1 (PWG 5100.14-
62 2020) based on the revision of PWG 5100.12 described above that requires TLS/1.2 or higher and defines
63 different classes of printers with required standard extensions, features, authentication, etc.
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65 **Ongoing IPP WG Tasks:**

66 Ongoing IPP WG tasks include the following:
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- 68 (a) IPP Maintenance – define errata updates as needed to existing IPP specifications, to address known
69 errata, add missing attributes or values, and avoid increasing any conformance requirements; also define
70 new registrations as needed for new or extended IPP operations, attributes, and/or values in existing IPP
71 specifications;
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73 (b) IANA IPP Registry Maintenance – add new operations, attributes, attribute values, etc. to IANA IPP
74 Registry as they are defined in new or updated IPP specifications or registered via IPP WG review;
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76 (c) SNMP Imaging MIB Maintenance – update SNMP Imaging MIBs – including IETF Job Monitoring
77 MIB (RFC 2707), IETF Printer MIB (RFC 3805), IETF Printer Finishing MIB (RFC 3806), PWG Imaging
78 System State and Counter MIB (PWG 5106.3), PWG Imaging System Power MIB (PWG 5106.5), PWG
79 Printer Port Monitor MIB (PWG 5107.1) – as necessary, to address known errata, add missing values, and
80 avoid increasing any conformance requirements.
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83 **Potential IPP WG Projects:**

84 Potential IPP WG projects include the following new or updated specifications:
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- 86 (a) IPP Transform Service v1.0 (XFORM) (wd-ippxform10-yyyymmdd) – define an IPP Transform service
87 based on existing PWG SM Transform Service drafts and PWG F2F discussions, to extend the set of
88 multifunction services supported by IPP;
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90 (b) IPP 3D Production Printing Extensions v1.0 (3DPPX) (wd-ipp3dppx-yyyymmdd) – define a new
91 specification that updates IPP 3D Printing Extensions v1.1 (PWG 5100.21-2019) for 3D production-level
92 features;
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94 (c) IPP 3D Scan Service v1.0 (3DSCAN) (wd-ipp3dscan-yyyymmdd) – define a new specification that
95 updates IPP 3D Printing Extensions v1.1 (PWG 5100.21-2019) for 3D scan features.
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97 (d) IPP Direct Printing (DIRECT) (wd-ippdirect-yyyymmdd) – define a new specification that addresses
98 support for IPP Direct to a discovered local printer, rather than a discovered cloud printer.
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100 (e) IPP Cloud Scan (INFRASCAN) (wd-ippinfrascan-yyyymmdd) – define a new specification that
101 addresses support for IPP Scan in the Cloud, that either updates IPP INFRA for scanning or defines a new
102 parallel specification.
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104 **Out-of-scope:**

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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, but the design of IPP projects MUST NOT preclude additional transport bindings.
- OOS-4 Definitions of new work on the following potential IPP projects: IPP Copy Service, IPP EmailIn Service, IPP EmailOut Service, IPP FaxIn 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 IPP specifications and SNMP Imaging MIBs as necessary.

Milestones:

Charter Stage:

- CH-1 Interim draft of IPP WG Charter – Q4 2020 – DONE
- CH-2 Stable draft of IPP WG Charter – Q1 2021 – DONE
- CH-3 PWG Approval of IPP WG Charter – Q2 2021

Definition Stage:

- NODRIVER-1 Interim draft of IPP Driverless Printing Extensions v2.0 – Q4 2019 – DONE
- NODRIVER-2 Prototype draft of IPP Driverless Printing Extensions v2.0 – Q2 2021
- EPX-1 Interim draft of IPP Enterprise Printing Extensions v2.0 – Q2 2019 – DONE
- EPX-2 Prototype draft of IPP Enterprise Printing Extensions v2.0 – Q1 2021
- PPX-1 Interim draft of IPP Production Printing Extensions v2.0 – Q2 2019 – DONE
- PPX-2 Stable draft of IPP Production Printing Extensions v2.0 – Q1 2021
- TRUSTNOONE-1 Initial draft of IPP Encrypted Jobs and Documents v1.0 – Q1 2018 – DONE
- TRUSTNOONE-2 Stable draft of IPP Encrypted Jobs and Documents v1.0 – Q3 2021
- FIN-1 Initial draft of IPP Finishings v2.2 – Q4 2020 – DONE

- 153 • FIN-2 Prototype draft of IPP Finishings v2.2 – Q1 2021
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- 155 • IPP20-1 Initial draft of IPP Version 2.0, 2.1, 2.2 – Q3 2021
- 156 • IPP20-2 Prototype draft of IPP Version 2.0, 2.1, 2.2 – Q2 2022
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- 158 • IPPEVE20-1 Initial draft of IPP Everywhere v2.0 – Q4 2021
- 159 • IPPEVE20-2 Prototype draft of IPP Everywhere v2.0 – Q2 2022