

Charter of the PWG

IPP Working Group (WG) Projects

IPP Everywhere and IPP Multifunction

Status: PWG Approved

Copyright © 2012 Printer Working Group

<ftp://ftp.pwg.org/pub/pwg/ipp/charter/ch-ippeverywhere-charter-20120422.pdf>

IPP WG Co-Chairs:

Paul Tykodi (TCS), Ira McDonald (High North)

IPP WG Secretary:

Michael Sweet (Apple/CUPS)

IPP WG Document Editors:

Ira McDonald (High North), Michael Sweet (Apple/CUPS)

Problem Statement:

New mobile devices (e.g., cellphones, PDAs, netbooks, tablets, etc.) do not follow the traditional use models for printing services. For mobile devices, discovery of available printers and their capabilities is both more difficult than for traditional desktop systems and more important (because of dynamically changing network attachment points).

Printer vendors and software vendors have defined and deployed many different document formats (page description languages) and also dialects of those document formats, increasing the traditional desktop system need for model-specific printer drivers. While there are millions of model-specific printer drivers now available for traditional desktop systems, this printer driver model is clearly not practical for mobile devices.

Multifunction devices supporting network scan, fax, and other imaging services are now common and have similar discovery, driver, and document format issues. Extending the IPP printing model to support these multifunction imaging services and leverage the existing widespread IPP support in multifunction devices is an important goal.

The goals of the IPP Everywhere and IPP Multifunction projects are to develop the following new specifications:

(a) IPP Job and Printer Extensions – Set 3 (JPS3) (wd-ippjobprinterext3v10-yyyymmdd) – define new IPP Job and Printer operations and attributes to support generic PDL drivers and mobile printing, that includes an IANA IPP registration for all new operations and attributes;

(b) IPP over HTTPS Transport Binding and ‘ipps’ URI Scheme (IETF draft-mcdonald-ipps-uri-scheme-xx.txt) – define an IETF ‘ipps’ URI scheme for IPP over HTTPS, designed to always **start TLS first before** the HTTP session layer;

(c) Lightweight Directory Access Protocol (LDAP): Schema for Printer Services (IETF draft-mcdonald-ldap-printer-schema-xx.txt) – define an IETF update to RFC 3712, adding new discovery attributes (e.g., geolocation) needed for IPP Everywhere and IPP Multifunction, that includes an updated corresponding SLP Printer Schema and IANA registration form in a normative appendix;

47 (d) PWG Raster Format (wd-ippraster10-yyyymmdd) – define a PWG raster document format based on
48 CUPS Raster v2, optimized for streaming and ease of generation and consumption, that includes an IANA
49 MIME type registration appendix;
50

51 (e) IPP Everywhere (wd-ippeve10-yyyymmdd) – define one or more IPP Everywhere printing conformance
52 levels, based on the IPP/2.0 conformance level defined in PWG IPP Version 2.0 Second Edition, that are
53 composed of references to the new IPP printing specs defined above, other IETF and PWG specs, and other
54 public standards documents;
55

56 (f) IPP Scan Service (wd-ippscan10-yyyymmdd) – define an IPP Scan service extending IPP/1.1 (RFC
57 2911), designed to be coherent with the PWG MFD Scan Service, that includes an IANA IPP registration
58 for all new operations and attributes;
59

60 (g) IPP System Control Service (wd-ippsystem10-yyyymmdd) – define an IPP System Control service
61 extending IPP Job and Printer Administrative Operations (RFC 3998), designed to be coherent with the
62 PWG MFD System Control Service, that includes an IANA IPP registration for all new operations and
63 attributes;
64

65 (h) IPP FaxIn Service (wd-ippfaxin10-yyyymmdd) – define an IPP FaxIn service extending IPP/1.1 (RFC
66 2911), designed to be coherent with the previous work of the PWG IPP Fax project and the PWG MFD
67 FaxIn Service, that includes an IANA IPP registration for all new operations and attributes;
68

69 (i) IPP FaxOut Service (wd-ippfaxout10-yyyymmdd) – define an IPP FaxOut service extending IPP/1.1
70 (RFC 2911), designed to be coherent with the previous work of the PWG IPP Fax project and the PWG
71 MFD FaxOut Service, that includes an IANA IPP registration for all new operations and attributes;
72

73 (j) IPP Copy Service (wd-ippcopy10-yyyymmdd) – define an IPP Copy service extending IPP/1.1 (RFC
74 2911), designed to be coherent with the PWG MFD Copy Service, that includes an IANA IPP registration
75 for all new operations and attributes;
76

77 (k) IPP Transform Service (wd-ipptransform10-yyyymmdd) – define an IPP Transform service extending
78 IPP/1.1 (RFC 2911), designed to be coherent with the PWG MFD Transform Service, that includes an
79 IANA IPP registration for all new operations and attributes;
80

81 (l) IPP Multifunction (wd-ippmfd10-yyyymmdd) – define one or more IPP Multifunction conformance
82 levels extending IPP Everywhere, designed to be coherent with the PWG MFD Model, that are composed
83 of references to the new IPP multifunction specs defined above, other IETF and PWG specs, and other
84 public standards documents;
85

86 (m) PWG Media Standardized Names 2.0 (MSN2) (wd-pwgmsn20-yyyymmdd) – define an updated PWG
87 Media Standardized Names specification, designed to be coherent with the PWG MFD Model, that
88 includes an IANA IPP registration for all updated attributes and values; and
89

90 (n) IPP Shared Infrastructure Extensions (wd-ippsix10-yyyymmdd) – define new IPP operations and
91 attributes to support the use of IPP in shared infrastructure environments, designed based on abstract
92 operations defined in the Cloud Print Requirements and Model developed in the Cloud Imaging WG, that
93 includes an IANA IPP registration for all new operations and attributes.
94

95 **Out-of-scope:**

- 96 • OOS-1 New device discovery protocols MUST NOT be defined in the IPP Everywhere and IPP
97 Multifunction projects, although new profiles or subsets of existing device discovery protocols are
98 appropriate and may be necessary.
- 99 • OOS-2 New device management protocols (except for IPP System Control Service above) MUST NOT be
100 defined in the IPP Everywhere and IPP Multifunction projects, although new profiles or subsets of existing
101 device management protocols are appropriate and may be necessary.

- 102 • OOS-3 New IPP or non-IPP transport protocols (except for IPP over HTTPS above) MUST NOT be
103 defined in the IPP Everywhere and IPP Multifunction projects, although the design of IPP Everywhere and
104 IPP Multifunction MUST NOT preclude future transport extensions.
105

106 Objectives:

- 107 • OBJ-1 Use the existing IPP/2.0 conformance level as the basis of IPP Everywhere and IPP Multifunction
108 for clients and network printers.
- 109 • OBJ-2 Select a small set of REQUIRED device discovery protocols for IPP Everywhere and IPP
110 Multifunction for network printers.
- 111 • OBJ-3 Select a small set of REQUIRED document formats for IPP Everywhere and IPP Multifunction for
112 network printers, choosing existing document formats when possible (i.e., trying to avoid (re)defining
113 document formats).
- 114 • OBJ-4 Optimize for small memory and resource footprints for IPP Everywhere and IPP Multifunction
115 clients and network printers.
- 116 • OBJ-5 Design to allow for future extensions for other protocol bindings (e.g., Web Services) for IPP
117 Everywhere and IPP Multifunction.
- 118 • OBJ-6 Design to allow the use of vendor-neutral generic print drivers (e.g., one per document format) by
119 IPP Everywhere and IPP Multifunction clients.
- 120 • OBJ-7 Define a new 'ipps' URI scheme to support IPP over HTTPS for IPP Everywhere and IPP
121 Multifunction.
- 122 • OBJ-8 Define support (e.g., IPP Printer attributes and/or operations) for access to industry standard SNMP
123 MIBs (e.g., prtMarkerSuppliesTable in RFC 3805) needed for IPP Everywhere and IPP Multifunction.
- 124 • OBJ-9 Define new IPP Multifunction services for System Control, Copy, FaxIn, FaxOut, Scan, and
125 Transform, designed to be coherent with the PWG MFD Model.
- 126 • OBJ-10 Define an updated PWG Media Standardized Names 2.0 (MSN2) specification, designed to be
127 coherent with the PWG MFD Model.
- 128 • OBJ-11 Define new IPP Shared Infrastructure Extensions, designed based on abstract operations defined in
129 the Cloud Print Requirements and Model developed in the Cloud Imaging WG.
130

131 Milestones:

132 Charter Stage:

- 133 • CH-1 Initial working draft of IPP Everywhere Charter – February 2010 – DONE
134 • CH-2 Stable working draft of IPP Everywhere Charter – April 2010 – DONE
135 • CH-3 PWG Approval via Formal Vote of IPP Everywhere Charter – July 2010 – DONE
136 • CH-4 Stable working draft of IPP Everywhere Charter w/ IPP JPS3 – September 2010 – DONE
137 • CH-5 PWG Approval via PWG SC of IPP Everywhere Charter w/ IPP JPS3 – September 2010
138 • CH-6 Stable working draft of IPP Everywhere Charter w/ IPP over HTTPS, LDAP Printer, PWG
139 Raster Format, IPP Scan, IPP System Control, and IPP FaxIn/Out – February 2011 – DONE
140 • CH-7 PWG Approval via PWG SC of IPP Everywhere Charter w/ IPP over HTTPS, LDAP Printer,
141 PWG Raster Format, IPP Scan, IPP System Control, and IPP FaxIn/Out – March 2011 – DONE
142 • CH-8 Initial working draft of IPP EVE/MFD Charter – March 2012 – DONE
143 • CH-9 Stable working draft of IPP EVE/MFD Charter – April 2012 – DONE
144 • CH-10 PWG Approval via PWG SC of IPP EVE/MFD Charter – April 2012

145 Definition Stage:

- 146 • JPS3-1 Initial working draft of IPP JPS3 – Q1 2011 – DONE
147 • URI-1 Initial working draft of IPP over HTTPS and 'ipps' URI Scheme – Q3 2010 – DONE
148 • RAS-1 Initial working draft of PWG Raster Format – Q4 2010 – DONE
149

- 150 • EVE-1 Initial working draft of IPP Everywhere – Q2 2011 – DONE
- 151 • SCAN-1 Initial working draft of IPP Scan – Q2 2011 – DONE
- 152 • FAXOUT-1 Initial working draft of IPP FaxOut – Q3 2011 – DONE
- 153 • MSN-1 Initial working draft of PWG Media Standardized Names 2.0 – Q3 2011
- 154 • RAS-2 Prototype working draft of PWG Raster Format – Q4 2011 – DONE
- 155 • LDAP-1 Initial working draft of updated LDAP Printer Schema – Q4 2011 – DONE
- 156 • JPS3-2 Prototype working draft of IPP JPS3 – Q1 2012 – DONE
- 157 • EVE-2 Prototype working draft of IPP Everywhere – Q1 2012 – DONE
- 158 • URI-2 IESG Last Call of IPP over HTTPS and ‘ipps’ URI Scheme – Q2 2012
- 159 • SIX-1 Initial working draft of IPP SIX – Q2 2012
- 160 • MSN-2 Prototype working draft of PWG Media Standardized Names 2.0 – Q3 2012
- 161 • LDAP-2 IESG Last Call of LDAP Printer Schema – Q3 2012
- 162 • MFD-1 Initial working draft of IPP Multifunction – Q3 2012
- 163 • SYS-1 Initial working draft of IPP System Control – Q3 2012
- 164 • FAXOUT-2 Prototype working draft of IPP FaxOut – Q3 2012
- 165 • FAXIN-1 Initial working draft of IPP FaxIn – Q4 2012
- 166 • SCAN-2 Prototype working draft of IPP Scan – Q4 2012
- 167 • SIX-2 Prototype working draft of IPP SIX – Q4 2012
- 168 • TFM-1 Initial working draft of IPP Transform – Q4 2012
- 169 • COPY-1 Initial working draft of IPP Copy – Q1 2013
- 170 • SYS-2 Prototype working draft of IPP System Control – Q1 2013
- 171 • FAXIN-2 Prototype working draft of IPP FaxIn – Q1 2013
- 172 • TFM-2 Prototype working draft of IPP Transform – Q2 2013
- 173 • COPY-2 Prototype working draft of IPP Copy – Q3 2013
- 174 • MFD-2 Prototype working draft of IPP Multifunction – Q3 2013

175 **Implementation Stage:**

- 176 • INTEROP-1 Interoperability testing of IPP Everywhere implementations – Q3 2012
- 177 • INTEROP-2 Interoperability testing of IPP Multifunction implementations – Q1 2014