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White Paper

The Printer Working Group

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## IPP Presets (PRESET)

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Status: Interim

4 Abstract: This document is a whitepaper that describes IPP Presets, a mechanism that  
5 enables a set of job template attribute values to be set as a set, to provide IPP print  
6 solutions with a way to support a variety of user experience optimizations.

7 This document is a White Paper. For a definition of a "White Paper", see:  
8 <http://ftp.pwg.org/pub/pwg/general/pwg-process30.pdf>

9 This document is available electronically at:

10 <https://ftp.pwg.org/pub/pwg/ipp/whitepaper/tb-ipp-preset-20170609.odt>  
11 <https://ftp.pwg.org/pub/pwg/ipp/whitepaper/tb-ipp-preset-20170609.pdf>

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13 Title: IPP Presets (*PRESET*)

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## 48 **1 Introduction**

49 This whitepaper defines a system of new IPP attributes that allow a Printer to describe a  
50 set of one or more “presets”, which are a set of job template attributes and attribute values  
51 that are applied together as a group. Each preset set has a named label and may also  
52 have an associated “trigger”, allowing the preset to be applied in response to some initial  
53 user selection.

## 54 **2 Terminology**

### 55 **2.1 Protocol Roles Terminology**

56 This document defines the following protocol roles in order to specify unambiguous  
57 conformance requirements:

58 *Client*: Initiator of outgoing IPP session requests and sender of outgoing IPP operation  
59 requests (Hypertext Transfer Protocol -- HTTP/1.1 [RFC7230] User Agent).

60 *Printer*: Listener for incoming IPP session requests and receiver of incoming IPP operation  
61 requests (Hypertext Transfer Protocol -- HTTP/1.1 [RFC7230] Server) that represents one  
62 or more Physical Devices or a Logical Device.

### 63 **2.2 Other Terms Used in This Document**

64 *User*: A person or automata using a Client to communicate with a Printer.

### 65 **2.3 Acronyms and Organizations**

66 *IANA*: Internet Assigned Numbers Authority, <http://www.iana.org/>

67 *IETF*: Internet Engineering Task Force, <http://www.ietf.org/>

68 *ISO*: International Organization for Standardization, <http://www.iso.org/>

69 *PWG*: Printer Working Group, <http://www.pwg.org/>

## 70 **3 Rationale for IPP Presets**

71 There are circumstances where a number of settings are chosen as a set to achieve some  
72 common printing objective or workflow scenario. For example, the act of selecting a 4"x6"  
73 media size implies the desire to print photos. If doing so could trigger the automatic  
74 selection of an associated group of settings (change media type to glossy photo, setting  
75 the print quality to 'best'), that could have a positive user experience benefit. Sometimes  
76 these groups of settings are referred to as "presets".

77 Most vendor / model-specific drivers and driver system implement support for such  
78 associations, but they do this by including logic in the driver itself. For driverless / omni-  
79 driver systems such as IPP Everywhere, some settings collections could be constructed on  
80 the Client system, but some could originate from the Printer. IPP needs to be extended to  
81 provide attributes to convey these from the Printer to a Client to support Printer-originated  
82 "presets", to support the use cases below.

83 There is currently no way for the Printer to supply explicit preset information to the Client.  
84 Preset information can be configured by admin, operator, or vendor. A crude facility could  
85 be provided using Validate-Job and the "job-preferred-attributes" in the response, but that  
86 requires additional Client / Printer operations that are undesirable. This should be  
87 manageable locally to the Client once the settings bundles have been provided to it by the  
88 Printer.

89 It is desirable that individual settings changed by the application of a preset are still able to  
90 be configurable by the User.

### 91 **3.1 Use Cases**

92 Provide use cases for the document in subsections using the casual use case format.

#### 93 **3.1.1 Explicit Preset Selection**

94 Bert has found a good recipe for gazpacho on the Web, and wants to print the recipe to put  
95 it into his recipe binder. He clicks on the "Print" button in the web page. When the print  
96 dialog is presented, he selects the settings preset labeled "Recipe for binder" in his print  
97 dialog, that selects "2 pages per sheet" and disables two-sided printing all at once. He  
98 prints the recipe, cuts it to size, and puts it into his recipe binder.

#### 99 **3.1.2 Implicit Preset Selection**

100 Kelli is in the process of printing a photo. In the print dialog, she switches the selected  
101 media from A4 to 4"x6". The Printer has indicated that the 4"x6" media size is associated  
102 with a glossy photo media type, single-sided printing, and 'best' print quality. The Client  
103 updates the print dialog and the job ticket automatically to include those changes. Kelli is

104 pleased that these choices were made automatically by her system, saving her time and  
105 effort.

## 106 **3.2 Exceptions**

107 There are no exceptions.

## 108 **3.3 Out of Scope**

109 The following are considered out of scope for this document:

- 110 1. User presentation of these options
- 111 2. Changes to the core IPP specifications

## 112 **3.4 Design Requirements**


113 The design requirements for this document are:

- 114 1. Define new IPP attributes to specify groups of attributes and attribute values that  
115 will be applied as a group when either a particular attribute value is chosen.
- 116 2. Support the specification of a “trigger” attribute value in the group, to support  
117 implicit group selection.
- 118 3. Support the specification of a “label” or “label key” in the group, to support  
119 explicit group selection via a name presented to the user, that might be  
120 localized.
- 121 4. Register all attributes and operations with IANA

## 122 **4 Technical Solutions/Approaches**

123 This specification defines the following: an IPP attribute that creates an association  
124 between a set of Job Template attribute names and values (a “preset”); define ancillary  
125 member attributes to uniquely identify each preset set and allow a Client to support explicit  
126 named selection of a set; and also define a mechanism that a Client can use to cause an  
127 implicit selection of a preset set.

### 128 **4.1 “job-presets-supported” (1setOf collection)**

129 The “job-presets-supported” attribute provides a set of collections, where each collection  
130 consists of a “preset-key (keyword | name(MAX))” attribute and a group of attribute names  
131 and values,  be applied all at once by the Client. Each “preset-key” MUST be unique  
132 within a “job-presets-supported” attribute, so that a particular preset can be unambiguously  
133 referenced by that “preset-key”. A localized string label for “preset-key” suitable for User  
134 presentation SHOULD be made available by the Printer. A Client can acquire the label by

135 using the value of “preset-key” as the lookup key in the strings catalog provided at the URL  
136 specified by “printer-strings-uri” [PWG5100.13].

137 The attribute names and values MUST be supported by the Printer and be listed in its  
138 Printer Description attributes. The set of attribute values MUST NOT be in conflict with one  
139 another as described by a constraint in “job-constraints-supported”.

140 A Printer MUST support the “job-presets-supported” attribute if it supports the “job-triggers-  
141 supported” attribute.

## 142 **4.2 “job-triggers-supported” (1setOf collection)**

143 The “job-triggers-supported” attribute provides a set of collections, where each collection  
144 contains a “preset-key (keyword | name(MAX))” member attribute, along with an attribute  
145 name and value. Client, upon detecting that that attribute has acquired that particular  
146 value, may respond by selecting the settings in the preset in “job-presets-supported” that  
147 has the matching “preset-key” value.

148 A Printer MAY support the “job-triggers-supported” attribute if it supports the “job-presets-  
149 supported” attribute.

## 150 **5 Internationalization Considerations**

151 For interoperability and basic support for multiple languages, implementations use the  
152 Universal Character Set (UCS) Transformation Format -- 8 bit (UTF-8) [RFC3629]  
153 encoding of Unicode [UNICODE] [ISO10646] and the Unicode Format for Network  
154 Interchange [RFC5198].

## 155 **6 Security Considerations**

156 There are no security considerations specific to this system other than those already  
157 defined in IPP/1.1 [RFC8011] and IPP/2.0[PWG5100.12].

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197 Ira McDonald – High North  
198 Mike Sweet – Apple Inc.



199 **9 Change History**

200 **9.1 June 9, 2017**

201 Updated and refactored following May 11 IPP WG teleconference

- 202 • Expanded use case descriptions
- 203 • Refactored IPP attribute definitions

204 **9.2 April 18, 2017**

205 Initial revision.