1   INTERNET-DRAFT
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8

9   Internet Printing Protocol/1.1: "finishings" 'fold', 'trim', and 'bale' attribute values extension

11

Status of this Memo

22   **Abstract**

23   This document specifies the additional enum values 'fold', 'trim', and 'bale' for the IPP/1.1 "finishings" Job
24   Template attribute for use with the Internet Printing Protocol/1.1 (IPP) [ipp-mod, ipp-pro]. This attribute
25   permits the client to specify additional finishing options, including values that include a specification of a
26   coordinate system for the placement of finishings operation with respect to the corners and edges of portrait
27   and landscape documents.

28   The full set of IPP documents includes:

29   Design Goals for an Internet Printing Protocol [RFC2567]
30   Rationale for the Structure and Model and Protocol for the Internet Printing Protocol [RFC2568]
31   Internet Printing Protocol/1.1: Model and Semantics [ipp-mod]
32   Internet Printing Protocol/1.1: Encoding and Transport [ipp-pro]
33   Internet Printing Protocol/1.1: Implementer's Guide [ipp-iig]
34   Mapping between LPD and IPP Protocols [RFC2569]
35

36   The "Design Goals for an Internet Printing Protocol" document takes a broad look at distributed printing
37   functionality, and it enumerates real-life scenarios that help to clarify the features that need to be included
38   in a printing protocol for the Internet. It identifies requirements for three types of users: end users,
39   operators, and administrators. It calls out a subset of end user requirements that are satisfied in IPP/1.0. A
40   few OPTIONAL operator operations have been added to IPP/1.1.

41   The "Rationale for the Structure and Model and Protocol for the Internet Printing Protocol" document
42   describes IPP from a high level view, defines a roadmap for the various documents that form the suite of
43   IPP specification documents, and gives background and rationale for the IETF working group's major
44   decisions.

45   The "Internet Printing Protocol/1.1: Encoding and Transport" document is a formal mapping of the abstract
46   operations and attributes defined in the model document onto HTTP/1.1 [RFC2616]. It defines the
47   encoding rules for a new Internet MIME media type called "application/ipp". This document also defines
48   the rules for transporting over HTTP a message body whose Content-Type is "application/ipp". This
49   document defines a new scheme named 'ipp' for identifying IPP printers and jobs.

50   The "Internet Printing Protocol/1.1: Implementer's Guide" document gives insight and advice to
51   implementers of IPP clients and IPP objects. It is intended to help them understand IPP/1.1 and some of
52   the considerations that may assist them in the design of their client and/or IPP object implementations. For
53   example, a typical order of processing requests is given, including error checking. Motivation for some of
54   the specification decisions is also included.

55   The "Mapping between LPD and IPP Protocols" document gives some advice to implementers of gateways
56   between IPP and LPD (Line Printer Daemon) implementations.

57

58

59   TABLE OF CONTENTS

70

71

1   Additional values for the "finishings" Job Template attribute

1.1   Problem

74 Need additional enum values for finishing to specify which of four corners to put a single staple, which of
75 four edges to put two staples, and generic values for the following: fold, trim, bale, saddle stitch and edge
76 stitch.

1.2   Suggested solution

78 This solution has been proposed at two previous meetings with comments returned and incorporated. The
79 suggestion is to add additional enum values to the "finishings" Job Template attributes (also applies to
80 "finishings-default" and "finishings-supported" attributes).

81 Coordination with the Finisher MIB has been done. There appears to be no direct way to use the same
82 enum values, since the Finisher MIB divides up finishing into separate enum values by type. So all the
83 stapling is done as a separate enum. Also all the punching is done as a separate enum.

84 The coordinate system scheme has been selected to agree with the Finisher MIB which in turn follows the
85 ISO DPA approach of using a coordinate system as if the document were portrait. The approach for
86 coordinate system being relative to the intended reading direction depends on the device being able to
87 understand the orientation embedded in the PDL, which is too problematic for many PDLs. The approach
88 for the coordinate system of being relative to the media feed direction is to dependent on the way the device
89 is currently set up, i.e., pulling short edge first vs. long edge first, and can vary between different output-
90 bins in the same device.

91 Additional (new) keyword symbolic names of these enum values are:
92   fold
93   trim
94   bale

95

96 Although not a part of this specification, more specific values for saddle-stitch and fold could be considered
97 once adequate definitions have been developed. Some examples are:

98   saddle-stitch-single-long
99   saddle-stitch-single-short
100   saddle-stitch-dual-long
101   saddle-stitch-dual-short
102   fold-in-half-long
103   fold-in-half-short
104   fold-in-thirds-long
105   fold-in-thirds-short
106   fold-z-long

107   fold-z-short

108

1.3   Proposed Text

110   Add the following paragraphs indicated with revision marks to the description of the "finishings" Job
111   Template attribute, section 4.2.6, so that the entire section would be:

112   **4.2.6 finishings (1setOf type2 enum)**

113   This attribute identifies the finishing operations that the Printer uses for each copy of each printed
114   document in the Job. For Jobs with multiple documents, the "multiple-document-handling" attribute
115   determines what constitutes a "copy" for purposes of finishing.

116   Standard enum values are:

117	Value	Symbolic Name and Description
118		
119	'3'	'none': Perform no finishing
120	'4'	'staple': Bind the document(s) with one or more staples. The exact number and placement of
121		the staples is site-defined.
122	'5'	'punch': This value indicates that holes are required in the finished document. The exact
123		number and placement of the holes is site-defined The punch specification MAY be
124		satisfied (in a site- and implementation-specific manner) either by drilling/punching,
125		or by substituting pre-drilled media.
126	'6'	'cover': This value is specified when it is desired to select a non-printed (or pre-printed)
127		cover for the document. This does not supplant the specification of a printed cover
128		(on cover stock medium) by the document itself.
129	'7'	'bind': This value indicates that a binding is to be applied to the document; the type and
130		placement of the binding is site-defined.
131	'8'	'saddle-stitch': Bind the document(s) with one or more staples (wire stitches) along the
132		middle fold. The exact number and placement of the staples and the middle fold is
133		implementation and/or site-defined.
134	'9'	'edge-stitch': Bind the document(s) with one or more staples (wire stitches) along one edge.
135		The exact number and placement of the staples is implementation and/or site-
136		defined.
137	'10'	'fold': Fold the document(s) with one or more folds. The exact number and orientations of
138		the folds is implementation and/or site-defined.
139	'11'	'trim': Trim the document(s) on one or more edges. The exact number of edges and the
140		amount to be trimmed is implementation and/or site-defined.
141	'12'	'bale': Bale the document(s). The type of baling is implementation and/or site-defined.
142	'13'-'19'	reserved for future generic finishing enum values.

143   The following values are more specific stapling and stitching values; they indicate a corner or an edge as if
144   the document were a portrait document (see section 1.3.1):

145   '20'   'staple-top-left': Bind the document(s) with one or more staples in the top left corner.

146   '21'   'staple-bottom-left': Bind the document(s) with one or more staples in the bottom left
147   corner.
148   '22'   'staple-top-right': Bind the document(s) with one or more staples in the top right corner.
149   '23'   'staple-bottom-right': Bind the document(s) with one or more staples in the bottom right
150   corner.
151   '24'   'edge-stitch-left': Bind the document(s) with one or more staples (wire stitches) along the
152   left edge. The exact number and placement of the staples is implementation and/or
153   site-defined.
154   '25'   'edge-stitch-top': Bind the document(s) with one or more staples (wire stitches) along the
155   top edge. The exact number and placement of the staples is implementation and/or
156   site-defined.
157   '26'   'edge-stitch-right': Bind the document(s) with one or more staples (wire stitches) along the
158   right edge. The exact number and placement of the staples is implementation and/or
159   site-defined.
160   '27'   'edge-stitch-bottom': Bind the document(s) with one or more staples (wire stitches) along
161   the bottom edge. The exact number and placement of the staples is implementation
162   and/or site-defined.
163   '28'   'staple-dual-left': Bind the document(s) with two staples (wire stitches) along the left edge.
164   '29'   'staple-dual-top': Bind the document(s) with two staples (wire stitches) along the top edge.
165   '30'   'staple-dual-right': Bind the document(s) with two staples (wire stitches) along the right
166   edge.
167   '31'   'staple-dual-bottom': Bind the document(s) with two staples (wire stitches) along the bottom
168   edge.
169   '32'-'79'   reserved for future specific stapling, stitching and folding enum values.

170   1.1.1 1.3.1   **Coordinate system for enum values**

171   The values, for which the symbolic name contains "top", "bottom", "left" and "right", are specified with
172   respect to the document as if the document were a portrait document. If the document is actually a
173   landscape or a reverse-landscape document, the client supplies the appropriate transformed value. This
174   applies to values such as 'staple-xxx' and 'edge-stitch-xxx'. For example, to position a staple in the upper
175   left hand corner of a landscape document when held for reading, the client supplies the 'staple-bottom-left'
176   value (since landscape is defined as a +90 degree rotation from portrait, i.e., anti-clockwise). On the other
177   hand, to position a staple in the upper left hand corner of a reverse-landscape document when held for
178   reading, the client supplies the 'staple-top-right' value (since reverse-landscape is defined as a -90 degree
179   rotation from portrait, i.e., clockwise).

180   The angle (vertical, horizontal, angled) of each staple with respect to the document depends on the
181   implementation which may in turn depend on the value of the attribute.

182   Note: The effect of this attribute on jobs with multiple documents is controlled by the "multiple-document-
183   handling" job attribute (section 4.2.4) and the relationship of this attribute and the other attributes that
184   control document processing is described in section 16.3.

185   If the client supplies a value of 'none' along with any other combination of values, it is the same as if only
186   that other combination of values had been supplied (that is the 'none' value has no effect).

187 **2   IANA Considerations**

188 These "finishings" type2 enum attribute values will be published by IANA according to the procedures in
189 RFC 2566 [rfc2566] section 6.1 with the following URL:

190   ftp.isi.edu/iana/assignments/ipp/attribute-values/finishings/fold-trim-bale.txt

191 **3   Internationalization Considerations**

192 Normally a client will provide localization of the enum values of this attribute to the language of the user.

193 **4   Security Considerations**

194 This extension poses no additional security threats or burdens than those in IPP/1.0 [RFC2566, RFC2565]
195 and IPP/1.1 [ipp-mod, ipp-pro]. However, implementations MAY support different access control to
196 various finishing features, depending on the identity of the job submitting user.

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