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~~C. Manros~~
~~Xerox Corporation~~
T. Hastings
Xerox Corporation
D. Fullman
Xerox Corporation
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11 Internet Printing Protocol/1.1: "finishings" 'fold', 'trim', and 'bale' attribute values extension
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24 **Abstract**

25 This document specifies the additional enum values 'fold', 'trim', and 'bale' for the IPP/1.10 "finishings" Job
26 Template attribute for use with the Internet Printing Protocol/1.10 (IPP) [ipp-mod, ipp-pro]. This attribute
27 permits the client to specify additional finishing options, including values that include a specification of a
28 coordinate system for the placement of finishing operation with respect to the corners and edges of portrait
29 and landscape documents.

30 The full set of IPP documents includes:

31 Design Goals for an Internet Printing Protocol [RFC2567]

32 Rationale for the Structure and Model and Protocol for the Internet Printing Protocol [RFC2568]

33 Internet Printing Protocol/1.1: Model and Semantics [ipp-mod]

34 Internet Printing Protocol/1.1: Encoding and Transport [ipp-pro]

35 Internet Printing Protocol/1.1: Implementer's Guide [ipp-iig]

36 Mapping between LPD and IPP Protocols [RFC2569]

37

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

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

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

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

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

59

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74 1 Additional values for the "finishings" Job Template attribute

75 1.1 Problem

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

79 1.2 Suggested solution

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

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

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

93 Additional (new) keyword symbolic names of these enum values are:

94 fold
95 trim
96 bale

97

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

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

109 fold-z-short
110

111 **1.3 Proposed Text**

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

114 **4.2.6 finishings (1setOf type2 enum)**

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

118 Standard enum values are:

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

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

147 '20' 'staple-top-left': Bind the document(s) with one or more staples in the top left corner.

- 148 '21' 'staple-bottom-left': Bind the document(s) with one or more staples in the bottom left
149 corner.
- 150 '22' 'staple-top-right': Bind the document(s) with one or more staples in the top right corner.
- 151 '23' 'staple-bottom-right': Bind the document(s) with one or more staples in the bottom right
152 corner.
- 153 '24' 'edge-stitch-left': Bind the document(s) with one or more staples (wire stitches) along the
154 left edge. The exact number and placement of the staples is implementation and/or
155 site-defined.
- 156 '25' 'edge-stitch-top': Bind the document(s) with one or more staples (wire stitches) along the
157 top edge. The exact number and placement of the staples is implementation and/or
158 site-defined.
- 159 '26' 'edge-stitch-right': Bind the document(s) with one or more staples (wire stitches) along the
160 right edge. The exact number and placement of the staples is implementation and/or
161 site-defined.
- 162 '27' 'edge-stitch-bottom': Bind the document(s) with one or more staples (wire stitches) along
163 the bottom edge. The exact number and placement of the staples is implementation
164 and/or site-defined.
- 165 '28' 'staple-dual-left': Bind the document(s) with two staples (wire stitches) along the left edge.
- 166 '29' 'staple-dual-top': Bind the document(s) with two staples (wire stitches) along the top edge.
- 167 '30' 'staple-dual-right': Bind the document(s) with two staples (wire stitches) along the right
168 edge.
- 169 '31' 'staple-dual-bottom': Bind the document(s) with two staples (wire stitches) along the bottom
170 edge.
- 171 '32'-'79' reserved for future specific stapling, stitching and folding enum values.

172 1.3.1 Coordinate system for enum values

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

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

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

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

189 **2 IANA Considerations**

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

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

193 **3 Internationalization Considerations**

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

195 **4 Security Considerations**

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

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226 6 Author's Addresses

227 Tom Hastings
228 Xerox Corporation
229 737 Hawaii St. ESAE 231
230 El Segundo, CA 90245
231
232 Phone: 310-333-6413
233 Fax: 310-333-5514
234 e-mail: hastings@cp10.es.xerox.com

235
236 Don Fullman
237 Xerox Corporation
238 737 Hawaii St. ESAE 231
239 El Segundo, CA 90245
240
241 Phone: 310-333-8342
242 Fax: 310-333-5514
243 e-mail: dfullman@cp10.es.xerox.com

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