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11   Internet Printing Protocol/1.0 & 1.1: "output-bin" attribute extension

13

14   Status of this Memo

28   **Abstract**

29   This document specifies defines an extension to the IPP/1.0 [RFC2566] & IPP/1.1 [ipp-mod]
30   Model and Semantics specification for the OPTIONAL "output-bin" Job Template attribute for
31   use with the Internet Printing Protocol/1.0 (IPP) [ipp-mod, ipp-pro]. This attribute permits
32   allows the client to specify in which output bin a job is to be placed and to query the Printer's
33   default and supported output bins.

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1   Add new "output-bin" Job Template attributes

1.1   Problem

Many printers have multiple output bins, that the job submission protocol permits the submitter to select in which to put the entire job.

1.2   Suggested solution

Add a single-valued "output-bin" Job Template attribute that captures existing practice. Allow integer values, so that the number of output bins is not constrained. Do not specify internal mechanisms, such as collators. Do specify an externally accessible stacker, since current devices allow a user to select a stacker. Do not make it the attribute multi-valued. Add the corresponding Job Template Printer attributes: "output-bin-default" and "output-bin-supported".

Note: If it is desired to allow the job submitter to select several output bin mail boxes that can be identified by number or recipient's name, propose a separate multi-valued attribute. Since the destination may also be electronic and have a method associated with it, also allow the uri attribute syntax. Probably call this other whose attribute "output-destination" with an attribute syntax is (1setOf keyword | name). Have it use the same keywords as the mailbox in of (1setOf uri | name). Or possibly the output-destination should be a parameter on the URL? If both "output-bin" and "output-destination" are specified, the job is both printed and sent to the specified destination. This note is provided so that the "output-bin" attribute will not suffer "scope creep" during the review and be changed into "output-destination". Printers have been allowing something like the "output-bin" specification for many years. Supporting something like "output-destination" is just starting to appear now.

1.3   Proposed text

```
+==================+====================+====================+
| Job Attribute    |Printer: Default Value|  Printer: Supported |
|                  |     Attribute      |  Values Attribute  |
+==================+====================+====================+
| output-bin       | output-bin-default | output-bin-supported |
| (type3(type2 keyword |  | (type3(type2 keyword |     | (1setOf
type3 keyword|
(                  |
   |  name(MAX)    |      | name(MAX)) |          |    type2 keyword  | |
   |  integer(1:MAX) |    | integer(1:MAX) |       |   name(MAX)  |    |
   |  name(MAX))     |    | name(MAX))     |     | | 1setOf name(MAX) |
|                    |          | integer(1:MAX))) |
+==================+====================+====================+
```

84

85 **output-bin (type3 keyword | name(MAX))(type2 keyword | name(MAX) | integer(1:MAX))**

86 This Job Template attribute identifies the printerdevice output bin to which the job is to be delivered.
87 There are standard values whose attribute syntax is 'keyword', but there are no standard values whose
88 attribute syntax is 'name' or 'integer'. Output bins whose attribute syntax is 'name', if any, are assigned
89 by local administrators (by means outside the scope of IPP/1.0 and IPP/1.1). Output bins whose
90 attribute syntax is 'integer', if any, are assigned by a printer vendor or local administrator to identify a
91 number of similar output bins which are better differentiated by number than by one of the descriptive
92 names defined in the following keyword list.

93 Each output bin may have implementation-dependent properties. Output bins identified by 'integer' or
94 'name' values MAY possess any of the properties of the output bins identified by the following
95 keywords, depending on implementation. However, each output bin MUST be identified by only one
96 value of any attribute syntax type. Otherwise, clients might be mis-led as to the capabilities of the
97 device when querying the associated Printer object's "output-bin-supported" attribute.

98 Note: Output bin types, such as sorter(s) or collator(s), have not been included in the values of this
99 attribute, since implementations that employ such internal or external bins, determine which to use by
100 the values of other job attributes, such as "finishings", and "copies".

101 When validating a job in a create (or Validate-Job) operation, which subset of the output bins are
102 allowed as a destination for a job MAY depend on the user submitting that job, the user's authentication,
103 and possibly other job attributes, such as "finishings" and "copies". When returning the values of the
104 associated "output-bin-supported" attribute, the values returned MAY depend on the user issuing the
105 Get-Printer-Attributes operation. For example, some implementations MAY omit the 'my-mailbox'
106 value for users who do not have a defined mailbox for this IPP Printer object, while others MAY always
107 return 'my-mailbox' to all users even if only supported for certain users.

108 If this IPP Printer object is associated with multiple devices (fan-out) (see [ipp-mod] section 2.1), the
109 value of its "output-bin-supported" attribute is the union of the values supported with duplicates
110 removed.

111 Standard keyword values are:

112   'top':   The output-bin which, when facing the printer, is best identified as the "top" bin with
113   respect to the printer and the other output bins supported by the printer.that, when facing
114   the device, is best identified as the "top" bin with respect to the device.

115   'middle'   The output-bin which, when facing the printer, is best identified as the "middle" bin with
116   respect to the printer and the other output bins supported by the printer.

117   'bottom'   The output-bin which, when facing the printer, is best identified as the "bottom" bin with
118   respect to the printer and the other output bins supported by the printer.

119   'side'   The output-bin which, when facing the printer, is best identified as the "side" bin with
120   respect to the printer and the other output bins supported by the printer.

121 'left'   The output-bin which, when facing the printer, is best identified as the "left" bin with
122   respect to the printer and the other output bins supported by the printer.

123 'right'   The output-bin which, when facing the printer, is best identified as the "right" bin with
124   respect to the printer and the other output bins supported by the printer.

125 'center'   The output-bin which, when facing the printer, is best identified as the "center" bin with
126   respect to the printer and the other output bins supported by the printer.

127 'rear':   The output-bin which, when facing the printer, is best identified as the "rear" bin with
128   respect to the printer and the other output bins supported by the printer.

129 'face-up'   An output-bin in which sheets shall be placed face up in the bin. If the document is
130   printed two-sided, the front-side is face-up.

131 'face-down'   An output-bin in which sheets shall be placed face down in the bin. If the
132   document is printed two-sided, the front-side is face-down.

133 'large'   The output-bin with the largest capacity (in terms of number of sheets).

134 'private'   The output-bin which is identified with the value of the "job-originating-user-name"
135   attribute assigned by the IPP Printer object, if it is printable, else the value of the client-
136   supplied "requesting-user-name" is used, if any.

137 'collator'   The collating device, in which individual document copies are placed in sequential slots.
138   This device is sometimes called a sorter.

139 'stacker-N':   The stacking device which is identified with values of the form: 'stacker-1',
140   'stacker-2', 'stacker-3', … . The correspondence between the 'stacker-N' keyword and the
141   actual stacker in the device is implementation-dependent, as is the number of stackers. If
142   this group of values is supported, at least the 'stacker-1' value MUST be supported.

143 'mailbox-N':   The output-bin or slot of a collating device (sometimes called a sorter) which is
144   identified with values of the form: 'mailbox-1', 'mailbox-2', 'mailbox-3', …. The
145   correspondence between the 'mailbox-N' keyword and the actual output-bin or sorter slot
146   in the device is implementation-dependent.

147 An administrator MAY define additional values.that, when facing the device, is best identified as the
148   "middle" bin with respect to the device.

149 'bottom'   The output-bin that, when facing the device, is best identified as the "bottom" bin with
150   respect to the device.

151 'side'   The output-bin that, when facing the device, is best identified as the "side" bin with
152   respect to the device.

153 'left'   The output-bin that, when facing the device, is best identified as the "left" bin with
154   respect to the device.

155 'right'   The output-bin that, when facing the device, is best identified as the "right" bin with
156   respect to the device.

157 'center'   The output-bin that, when facing the device, is best identified as the "center" bin with
158   respect to the device.

159 'rear':   The output-bin that, when facing the device, is best identified as the "rear" bin with
160   respect to the device.

161 'face-up'   The output-bin that is best identified as the "face-up" bin with respect to the device. The
162   selection of this output bin does not cause output to be made face-up; rather this output
163   bin is given this name because a sheet with printing on one-side arrives in the output bin
164   in the face-up position.

165 'face-down' The output-bin that is best identified as the "face-down" bin with respect to the device.
166   The selection of this output bin does not cause output to be made face-down; rather this
167   output bin is given this name because a sheet with printing on one-side arrives in the
168   output bin in the face-down position.

169 'large-capacity'   The output-bin that is best identified as the "large-capacity" bin (in terms of the
170   number of sheets) with respect to the device.

171 'stacker-N':   The output-bin that is best identified as the stacker with values 'stacker-1',
172   'stacker-2', ... A stacker is typically used to collate sheets within a single document (not
173   to be confused with collated copies in which document copies are collated within a job -
174   see the description of the 'separate-documents-collated-copies' value of the "multiple-
175   document-handling" attribute in [ipp-mod] section 4.2.4). The correspondence between
176   the 'stacker-N' keyword and the actual stacker in the device is implementation-dependent,
177   as is the number of stackers ~~up to a maximum of five (5)~~. If this group of values is
178   supported, at least the 'stacker-1' value MUST be supported, unless the system
179   administrator has assigned names or integer values.

180   For client implementations that require distinct keywords for each possible value, say, for
181   localization purposes, it is recommended for interoperability with other vendor's Printer
182   implementations that 'stacker-1' to 'stacker-10' keywords be represented.

183   ~~NOTE: Five (5) distinct stacker values are registered so that implementations~~
184   ~~NEED NOT parse the syntax of the values. If more values are needed,~~
185   ~~they will be able to be added as IPP extensions through the use of IPP~~
186   ~~Registration Proposals (see [ipp-mod] section 12).~~

187 'mailbox-N':   The output-bin that is best identified as a mailbox with values 'mailbox-1',
188   'mailbox-2', 'mailbox-3', ... Each mailbox is typically used to collect jobs for an
189   individual or group. Whether the mailbox has doors and/or locks or is open, depends on
190   implementation. The correspondence between the 'mailbox-N' keyword and the actual
191   output-bin in the device is implementation-dependent, as is the number of mailboxes. A
192   system administrator MAY be able to assign a name to each mailbox in order to make
193   selection of a mailbox easier for the user. If this group of values is supported, at least the
194   'mailbox-1' value MUST be supported, unless the system administrator has assigned
195   names or integer values to mailboxes.

196   For client implementations that require distinct keywords for each possible value, say, for
197   localization purposes, it is recommended for interoperability with other vendor's Printer
198   implementations that 'mailbox-1' to 'mailbox-25' keywords be represented.

199   ~~NOTE: Twenty-five (25) distinct mailbox values are registered so that~~
200   ~~implementations NEED NOT parse the syntax of the values. If more~~

201 ~~values are needed, they will be able to be added as IPP extensions~~
202 ~~through the use of IPP Registration Proposals (see [ipp-mod] section~~
203 ~~12).~~

204 'my-mailbox':   The output-bin that is best identified as functioning like a private "mailbox" with
205   respect to the device. An output-bin functions like a private mailbox if a printer selects
206   the actual output bin using additional implementation-dependent criteria, such as the
207   "authenticated user" (see [ipp-mod] section 8.3) that depends on the user submitting the
208   job. Whether the mailbox has doors and/or locks or is open, depends on implementation,
209   as is the number of mailboxes.

2   IANA Considerations

212 This registration proposal will be forwarded to IANA for publication after approval by the IETF IPP
213 WG as outlined in the procedures in RFC 2566] and [ipp-mod].

3   Internationalization Considerations

215 Normally a client will provide localization of the keywords values of this attribute to the language of the
216 user. The numeric form may be simpler for a client to localize.

4   Security Considerations

218 The 'my-mailbox' attribute requires some form of Client Authorization to be really secure. See [ipp-
219 mod] section 8.

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247   **6   Change History**

248   **6.1   Changes made to the December 14, 1998 version to make the May 21, 1999 version**

249   The following changes were made to the December 14, 1998 version to make the May 21, 1999 version:

250   1. Added the 'integer' attribute syntax to reflect existing practice.

251   2. Removed 'collator' on the grounds that the client doesn't specify such a internal mechanism.

252   3. Recommended 10 stacker and 25 mailbox keywords for client implementations that require distinct
253   keywords for, say, localization.

254   4. Replaced the 'private' with 'my-mailbox' and clarified the Client Authentication required.

255   5. Added the other sections required to be an Internet-Draft.

256   **7   Appendix A: Full Copyright Statement**

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