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11 Internet Printing Protocol/1.0 & 1.1: "output-bin" attribute extension  
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24

## 25 **Abstract**

26 This document defines an extension to the IPP/1.0 [RFC2566] & IPP/1.1 [ipp-mod] Model and  
27 Semantics specification for the OPTIONAL "output-bin" Job Template attribute. This attribute  
28 allows the client to specify in which output bin a job is to be placed and to query the Printer's  
29 default and supported output bins.

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46 **1 Add new "output-bin" Job Template attributes**

47 **1.1 Problem**

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

50 **1.2 Suggested solution**

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

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

66 **1.3 Proposed text**

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

77

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

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

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

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

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

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

104 Standard keyword values are:

105	'top':	The output-bin that, when facing the device, is best identified as the "top" bin with
106		respect to the device.
107	'middle'	The output-bin that, when facing the device, is best identified as the "middle" bin with
108		respect to the device.
109	'bottom'	The output-bin that, when facing the device, is best identified as the "bottom" bin with
110		respect to the device.
111	'side'	The output-bin that, when facing the device, is best identified as the "side" bin with
112		respect to the device.
113	'left'	The output-bin that, when facing the device, is best identified as the "left" bin with
114		respect to the device.

- 115 'right' The output-bin that, when facing the device, is best identified as the "right" bin with  
116 respect to the device.
- 117 'center' The output-bin that, when facing the device, is best identified as the "center" bin with  
118 respect to the device.
- 119 'rear': The output-bin that, when facing the device, is best identified as the "rear" bin with  
120 respect to the device.
- 121 'face-up' The output-bin that is best identified as the "face-up" bin with respect to the device. The  
122 selection of this output bin does not cause output to be made face-up; rather this output  
123 bin is given this name because a sheet with printing on one-side arrives in the output bin  
124 in the face-up position.
- 125 'face-down' The output-bin that is best identified as the "face-down" bin with respect to the device.  
126 The selection of this output bin does not cause output to be made face-down; rather this  
127 output bin is given this name because a sheet with printing on one-side arrives in the  
128 output bin in the face-down position.
- 129 'large-capacity' The output-bin that is best identified as the "large-capacity" bin (in terms of the  
130 number of sheets) with respect to the device.
- 131 'stacker-*N*': The output-bin that is best identified as the stacker with values 'stacker-1',  
132 'stacker-2', .... A stacker is typically used to collate sheets within a single document (not  
133 to be confused with collated copies in which document copies are collated within a job -  
134 see the description of the 'separate-documents-collated-copies' value of the "multiple-  
135 document-handling" attribute in [ipp-mod] section 4.2.4). The correspondence between  
136 the 'stacker-*N*' keyword and the actual stacker in the device is implementation-dependent,  
137 as is the number of stackers. If this group of values is supported, at least the 'stacker-1'  
138 value MUST be supported, unless the system administrator has assigned names or integer  
139 values.
- 140 For client implementations that require distinct keywords for each possible value, say, for  
141 localization purposes, it is recommended for interoperability with other vendor's Printer  
142 implementations that 'stacker-1' to 'stacker-10' keywords be represented.
- 143 'mailbox-*N*': The output-bin that is best identified as a mailbox with values 'mailbox-1',  
144 'mailbox-2', 'mailbox-3', .... Each mailbox is typically used to collect jobs for an  
145 individual or group. Whether the mailbox has doors and/or locks or is open, depends on  
146 implementation. The correspondence between the 'mailbox-*N*' keyword and the actual  
147 output-bin in the device is implementation-dependent, as is the number of mailboxes. A  
148 system administrator MAY be able to assign a name to each mailbox in order to make  
149 selection of a mailbox easier for the user. If this group of values is supported, at least the  
150 'mailbox-1' value MUST be supported, unless the system administrator has assigned  
151 names or integer values to mailboxes.
- 152 For client implementations that require distinct keywords for each possible value, say, for  
153 localization purposes, it is recommended for interoperability with other vendor's Printer  
154 implementations that 'mailbox-1' to 'mailbox-25' keywords be represented.

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

161

## 162 **2 IANA Considerations**

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

## 165 **3 Internationalization Considerations**

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

## 168 **4 Security Considerations**

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

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## 198 **6 Change History**

### 199 **6.1 Changes made to the December 14, 1998 version to make the May 21, 1999 version**

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

- 201 1. Added the 'integer' attribute syntax to reflect existing practice.
- 202 2. Removed 'collator' on the grounds that the client doesn't specify such a internal mechanism.
- 203 3. Recommended 10 stacker and 25 mailbox keywords for client implementations that require distinct  
204 keywords for, say, localization.
- 205 4. Replaced the 'private' with 'my-mailbox' and clarified the Client Authentication required.
- 206 5. Added the other sections required to be an Internet-Draft.

## 207 **7 Appendix A: Full Copyright Statement**

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