6
7 All,
8
9 I am personally not in favor of this alternative.
10
11 I not even altogether happy with the original proposal, so I would like to
12 suggest yet another alternative that I brought up in IPP phone conference on
13 Wednesday this week.
14
15 I think it would be architecturally more clean and consistent with our
16 overall printing model to create new objects for each of the major resources
17 that we want to consider, e.g. one for fonts, another one for media etc. and
18 have separate operations for each major type of resource. This brings three
19 advantages over the other proposals:
20
21 1) Separate objects and operations allows for better access control
22 filtering in application level firewalls and gateways.
23
24 2) It allows you to use relevant syntax for each type of resource rather
25 than have to try to come up more generic syntax which is neutral enough to
26 cover a number of different resource types.
27
28 3) It is easier to find out which features are indeed supported by a printer
29 by looking at the list of supported operations.
30
31 The visual functionality would be the same as in the other two proposals.
32
33 Carl-Uno
34
35 Carl-Uno Manros
36 Manager, Print Services
37 Xerox Architecture Center - Xerox Corporation
38 701 S. Aviation Blvd., El Segundo, CA, M/S: ESAE-231
39 Phone 310-333 8273, Fax 310-333 5514
40 Email: manros@cp10.es.xerox.com
41
42
43 -----Original Message-----
44 From: Hastings, Tom N [mailto:hastings@cp10.es.xerox.com]
45 Sent: Wednesday, November 29, 2000 12:40 AM
46 To: ipp (E-mail)
47 Subject: IPP> RES - Summary of original Resource object with sub-typing
48 for com parison
49
50
51 I've down-loaded an 8-page summary of the original Resource object proposal
52 written at the same level as the 8-page counter proposal (that uses '1setOf
53 collection' Printer attributes, instead of Resource objects). The Resource
54 object summary is available at:
55
56 ftp://ftp.pwg.org/pub/pwg/ipp/new_RES/resource-objects-summary-proposal-0011
57 27.doc

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58    ftp://ftp.pwg.org/pub/pwg/ipp/new_RES/resource-objects-summary-proposal-0011
59    27.pdf
60    ftp://ftp.pwg.org/pub/pwg/ipp/new_RES/resource-objects-summary-proposal-0011
61    27-rev.doc
62    ftp://ftp.pwg.org/pub/pwg/ipp/new_RES/resource-objects-summary-proposal-0011
63    27-rev.pdf
64
65    The -rev version shows the changes to the Counter proposal to make the
66    original Resource object proposal.  This allows readers to compare the two
67    proposals directly.  The two approaches are quite similar.  The Resource
68    object proposal copies the pattern of operations for the IPP/1.1 operations
69    on Job objects and the recent Notification operations on Subscription
70    objects. The '1setOf collection' Printer attribute proposal extends the
71    Get-Printer-Attributes operation for (filtered) query of '1setOf collection'
72    rows and adds new operations for operating on rows.  Here is a high level
73    comparison of the operations for the Resource object and the :
74
75    Resource object proposal          '1setOf collection' Printer Attribute
76    proposal
77    -----------------------
78    ---------------------------------------------
79
80    Get multiple resource instances using a simple filter:
81
82    Get-Resources                     Get-Printer-Attribute with:
83       "resource-type"                    "collection-attribute" operation
84    attribute
85       any resource attribute in      any column attribute in
86         Resource Attributes Group      (new) Printer Attributes Group
87
88    All the following operations specify which (single) Resource instance with
89    the following input attributes:
90       "resource-type"                    "collection-attribute" operation
91    attribute
92       "xxx-name" or "xxx-id"         Key Attribute in (new) Printer Attributes
93    Group
94
95    Get-Resource-Attributes           Get-Printer-Attributes
96
97    Create-Resource                   Add-Printer-Collection-Row
98
99    Delete-Resource                   Delete-Printer-Collection-Row
100
101   Set-Resource-Attributes           Modify-Printer-Collection-Row
102
103   Get-Resource-Data                 Get-Printer-Collection-Row-Data
104
105   Create-Resource                   Set-Printer-Collection-Row-Data
106
107   Renew-Resource                    requires a resource-specific operation,
108                                       e.g., Renew-Image operation with a lease
109   parameter
110
111   Here is the Summary of the Original Resource object proposal:
112   Use a polymorphic generic Resource object type with sub-typing to describe
113   fonts, media, paper trays, downloaded JPEGs, ICC Color Profiles, macros, ...
114   Some of these resources can be down-loaded into the Printer, some can be
```

115 installed by means outside the IPP protocol, and some can be properties or
116 characteristics of the Printer as it comes from the vendor or is configured
117 by the administrator when the Printer is installed. Some of these resources
118 can have associated opaque binary data, such as font data, while others
119 consist solely of attributes.
120 These Resource object attributes are retrieved using the (new)
121 Get-Resource-Attributes and Get-Resources operations which are modeled on
122 the IPP/1.1 Get-Job-Attributes and Get-Jobs operations and the
123 Get-Subscription-Attributes and Get-Subscriptions operations. Resource
124 objects that can be loaded are defined to have Resource Template attributes
125 (just like Job and Subscription objects), so that there are "xxx" Resource
126 attributes and "xxx-supported" Printer attributes.
127 The following new operations are defined for use with Resource objects:
128   *   Get-Resource-Attributes - returns the requested attributes
129 of the identified Resource object instance.
130   *   Get-Resources - return the requested attributes of the
131 Resource object instances based on a simple filter supplied by the client
132   *   Create-Resource - add a Resource object instance to a
133 Printer
134   *   Delete-Resource - delete a Resource object instance from the
135 Printer
136   *   (new) Set-Resource-Attributes - modify a Resource object
137 instance of a Printer
138   *   Get-Resource-Data - same as Get-Resource-Attributes, and in
139 addition get the object instance's associated opaque data.
140   *   Create-Resource - same operation sets the object instance's
141 associated opaque data.
142   *   Renew-Resource - update the lease time for the Resource
143 object instance for those Resource types that have leases.
144 For consistency all seven operations have an Operation Attributes Group and
145 a Resource Attributes Group in each request and response. The response
146 always includes the requested Resource object attributes. In addition to
147 the usual request operation attributes for a Printer operation, all six
148 operations MUST include:
149   "resource-type" (type2 keyword) - which indicates the type
150 of Resource, e.g., 'media', 'font', 'image', 'input-tray', 'output-bin',
151 etc.
152   Either "resource-name" (name(127)) or "resource-id"
153 (integer(1:MAX)) - identifies the resource object instance. The Printer
154 MUST support both.
155