```
1    // Copyright (c) 2011 DMTF.  All rights reserved.
2    // ================================================================
3    //  CIM_PrintServiceCapabilities
4    // ================================================================
5       [Experimental, Version ( "2.29.0" ),
6        UMLPackagePath ( "CIM::Device::Printing" ),
7        Description (
8            "A single instance of Capabilities for any PrintService which "
9            "corresponds to xxx-supported attributes of an IPP Printer. \n"
10           "See: Section 2.1 Printer Object in IPP/1.1 (RFC 2911). \n"
11           "See: Section 4.2 Job Template Attributes in IPP/1.1. \n"
12           "See: Section 4.4 Printer Description Attributes in IPP/1.1. \n"
13           "Note: An instance of PrintServiceCapabilities shall be "
14           "associated with exactly one instance of PrintService via an "
15           "instance of the CIM_ElementCapabilities association." )]
16
17   class CIM_PrintServiceCapabilities : CIM_Capabilities {
18
19          [Description (
20              "The supported charsets for human-readable text output "
21              "from this instance of PrintService to network clients. \n"
22              "Values shall conform to section 4.1.2 Charset Parameter "
23              "in RFC 2046 and be contained in IANA Charset Registry, "
24              "e.g., 'utf-8' and 'us-ascii'." ),
25           MappingStrings {
26              "RFC2911.IETF|Section 4.4.18 charset-supported" },
27           ModelCorrespondence {
28              "CIM_PrintService.Charset" }]
29       string Charset[];
30
31          [Description (
32              "Specifies whether color printing is supported for the "
33              "associated PrintService." ),
34           MappingStrings {
35              "RFC2911.IETF|Section 4.4.26 color-supported" },
36           ModelCorrespondence {
37              "CIM_PrintServiceCapabilities.PagesPerMinuteColor" }]
38       boolean ColorSupported;
39
40          [Description (
41              "The supported compression for document data (but not "
42              "operations themselves) for the associated PrintService. \n"
43              "Value 'none' means no compression is supported. \n"
44              "Value 'deflate' means RFC 1951 (ZIP) is supported. \n"
45              "Value 'gzip' means RFC 1952 (GNU zip) is supported. \n"
46              "Value 'compress' means RFC 1977 (UNIX) is supported." ),
47           MappingStrings {
48              "RFC2911.IETF|Section 4.4.32 compression-supported" }]
49       string Compression[];
50
51          [Description (
52              "The supported range of copies values for any PrintJob "
53              "processed by the associated PrintService (X:Y), "
54              "e.g., '1:100' or '2:2' (double copies only)." ),
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55            MappingStrings {
56                "RFC2911.IETF|Section 4.2.5 copies" },
57            ModelCorrespondence {
58                "CIM_PrintServiceSettings.Copies",
59                "CIM_PrintJob.Copies" }]
60        string Copies;
61
62            [Description (
63                "The supported named finishings values for any PrintJob "
64                "processed by the associated PrintService. \n"
65                "That is, the set of named finishing operations supported, "
66                "e.g., 'staple' or 'bind'." ),
67            MappingStrings {
68                "RFC2911.IETF|Section 4.2.6 finishings" },
69            ModelCorrespondence {
70                "CIM_PrintServiceSettings.Finishings",
71                "CIM_PrintJob.Finishings" }]
72        string Finishings[];
73
74            [Description (
75                "The supported set of IPP protocol named operations "
76                "for the associated PrintService (if any), "
77                "e.g., Print-Job, Cancel-Job, etc." ),
78            MappingStrings {
79                "RFC2911.IETF|Section 4.4.15 operations-supported" },
80            ModelCorrespondence {
81                "CIM_AccountManagementCapabilities.OperationsSupported" }]
82        string IPPOperations[];
83
84            [Description (
85                "The supported set of IPP protocol major/minor versions "
86                "for the associated PrintService (if any), "
87                "e.g., '1.0' (RFC 2566), '1.1' (RFC 2911), and '2.0' "
88                "(PWG 5100.10)." ),
89            MappingStrings {
90                "RFC2911.IETF|Section 4.4.14 ipp-versions-supported" },
91            ModelCorrespondence {
92                "CIM_SoftwareElement.Version" }]
93        string IPPVersions[];
94
95            [Description (
96                "The supported named job hold until values for any "
97                "PrintJob processed by the associated PrintService. "
98                "That is, the named time periods when the PrintJob may be "
99                "scheduled, e.g., 'night' or 'weekend'. "
100               "The value 'no-hold' indicates immediate scheduling." ),
101           MappingStrings {
102               "RFC2911.IETF|Section 4.2.2 job-hold-until" },
103           ModelCorrespondence {
104               "CIM_PrintServiceSettings.JobHoldUntil",
105               "CIM_PrintJob.JobHoldUntil" }]
106       string JobHoldUntil[];
107
108           [Description (
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109                 "The supported range of priority values for any PrintJob "
110                 "processed by the associated PrintService (X:Y), "
111                 "e.g., '1:100' or '50:50' (single medium priority only). \n"
112                 "Note: Weighted scale is *opposite* to Job.Priority. \n"
113                 "The value 1 indicates the lowest possible priority. \n"
114                 "The value 100 indicates the highest possible priority." ),
115         MappingStrings {
116                 "RFC2911.IETF|Section 4.2.1 job-priority" },
117         ModelCorrespondence {
118                 "CIM_Job.Priority"
119                 "CIM_PrintServiceSettings.JobPriority",
120                 "CIM_PrintJob.JobPriority" }]
121     string JobPriority;
122
123         [Description (
124                 "The supported named start/end sheets for any PrintJob "
125                 "processed by the associated PrintService. \n"
126                 "The value 'none' indicates no job start/end sheets. \n"
127                 "The value 'standard' indicates one or more site specific "
128                 "standard job sheets." ),
129         MappingStrings {
130                 "RFC2911.IETF|Section 4.2.3 job-sheets" },
131         ModelCorrespondence {
132                 "CIM_PrintServiceSettings.JobSheets",
133                 "CIM_PrintJob.RequiredJobSheets" }]
134     string JobSheets[];
135
136         [Description (
137                 "The supported maximum output impressions for any PrintJob "
138                 "processed by the associated PrintService." ),
139         MappingStrings {
140                 "RFC2911.IETF|Section 4.4.34 job-impressions-supported" },
141         ModelCorrespondence {
142                 "CIM_PrintJob.ImpressionsCompleted" }]
143     uint32 MaxImpressions;
144
145         [Description (
146                 "The supported maximum document data size for any PrintJob "
147                 "processed by the associated PrintService, in "
148                 "units of KBytes." ),
149         Units ( "KiloBytes" ),
150         MappingStrings {
151                 "RFC2911.IETF|Section 4.4.33 job-k-octets-supported" },
152         ModelCorrespondence {
153                 "CIM_PrintQueue.MaxJobSize"
154                 "CIM_PrintJob.JobSize" },
155         PUnit ( "byte * 10^3" )]
156     uint32 MaxJobSize;
157
158         [Description (
159                 "The supported maximum output sheets for any PrintJob "
160                 "processed by the associated PrintService." ),
161         MappingStrings {
162                 "RFC2911.IETF|Section 4.4.35 job-media-sheets-supported" },
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163              ModelCorrespondence {
164                  "CIM_PrintJob.SheetsCompleted" }]
165          uint32 MaxSheets;
166
167              [Description (
168                  "The supported multiple document handling for any PrintJob "
169                  "processed by the associated PrintService. \n"
170                  "That is, the named policy for the handling of finishing,"
171                  "the placement of one or more input logical pages onto "
172                  "output impressions, and multiple copies in a PrintJob "
173                  "with two or more documents, e.g., 'single-document' "
174                  "or 'single-document-new-sheet'." ),
175              MappingStrings {
176                  "RFC2911.IETF|Section 4.2.4 multiple-document-handling" },
177              ModelCorrespondence {
178                  "CIM_PrintServiceCapabilities.MultipleDocumentJobs",
179                  "CIM_PrintServiceSettings.MultipleDocumentHandling",
180                  "CIM_PrintJob.MultipleDocumentHandling" }]
181          string MultipleDocumentHandling[];
182
183              [Description (
184                  "Specifies whether multiple documents in a single Job "
185                  "are supported for the associated PrintService (e.g., "
186                  "using IPP Send-Document operations)." ),
187              MappingStrings {
188                  "RFC2911.IETF|Section 4.4.16" },
189              ModelCorrespondence {
190                  "CIM_PrintServiceCapabilities.MultipleDocumentHandling",
191                  "CIM_PrintServiceSettings.MultipleDocumentHandling",
192                  "CIM_PrintJob.MultipleDocumentHandling" }]
193          boolean MultipleDocumentJobs;
194
195              [Description (
196                  "The supported natural languages for human-readable text "
197                  "output from this instance of PrintService to network "
198                  "clients. \n"
199                  "Values shall conform to IETF Tags for Identifying "
200                  "Languages (RFC 5646) or successor and shall be contained "
201                  "in the IANA Language Subtag Registry (RFC 5645), "
202                  "e.g., 'en-us' (US English) and 'fr' (French)." ),
203              MappingStrings {
204                  "RFC2911.IETF|Section 4.4.20" },
205              ModelCorrespondence {
206                  "CIM_PrintService.NaturalLanguage" }]
207          string NaturalLanguage[];
208
209              [Description (
210                  "The supported range of input logical pages per impression "
211                  "for a PrintJob processed by the associated PrintService "
212                  "(X:Y), e.g., '1:9' or '1:1' (one page per impression). \n"
213                  "Note: The translation, rotation, and scaling required for "
214                  "values of '2' or more are implementation dependent." ),
215              MappingStrings {
216                  "RFC2911.IETF|Section 4.2.9 number-up" },
```

```
217          ModelCorrespondence {
218              "CIM_PrintServiceSettings.NumberUp",
219              "CIM_PrintJob.NumberUp" }]
220      string NumberUp;
221
222          [Description (
223              "The supported orientation requested values for any "
224              "PrintJob processed by the associated PrintService. \n"
225              "Value 'portrait' means imaged across the short edge, "
226              "with no content rotation. \n"
227              "Value 'landscape' means imaged across the long edge, "
228              "with content rotated 90 degrees anticlockwise "
229              "from 'portrait'. \n"
230              "Value 'reverse-landscape' means imaged across the long "
231              "edge, with content rotated 90 degrees clockwise "
232              "from 'portrait'. \n"
233              "Value 'reverse-portrait' means imaged across the short "
234              "edge, with content rotated 180 degrees (opposite) "
235              "from 'portrait'." ),
236          MappingStrings {
237              "RFC2911.IETF|Section 4.2.10 orientation-requested" },
238          ModelCorrespondence {
239              "CIM_PrintServiceSettings.OrientationRequested",
240              "CIM_PrintJob.OrientationRequested" }]
241      string OrientationRequested[];
242
243          [Description (
244              "The supported named output bins for any PrintJob "
245              "processed by the associated PrintService, "
246              "e.g., 'top', 'left', 'side', etc." ),
247          MappingStrings {
248              "PWG5100-2.PWG|Section 2.1 output-bin" },
249          ModelCorrespondence {
250              "CIM_PrintServiceSettings.OutputBin",
251              "CIM_PrintJob.OutputBin" }]
252      string OutputBin[];
253
254          [Description (
255              "The supported output device name(s) for any Print Job "
256              "processed by the associated PrintService." ),
257          MappingStrings {
258              "PWG5100-7.PWG|Section 4.2.1.2 output-device-supported" },
259          ModelCorrespondence {
260              "CIM_Printer.ElementName",
261              "CIM_PrintJob.OutputDevice" }]
262      string OutputDevice[];
263
264          [Description (
265              "The supported pages per minute color for any PrintJob "
266              "processed by the associated PrintService. \n"
267              "Value of zero indicates that the PrintService takes 2 or "
268              "more minutes to process a single page." ),
269          MappingStrings {
270              "RFC2911.IETF|Section 4.4.36 pages-per-minute" }]
```

```
271          uint32 PagesPerMinute;
272
273             [Description (
274                 "The supported color pages per minute for any PrintJob "
275                 "processed by the associated PrintService. \n"
276                 "Value of zero indicates that the PrintService takes 2 or "
277                 "more minutes to process a single color page." ),
278              MappingStrings {
279                 "RFC2911.IETF|Section 4.4.37 pages-per-minute-color" },
280              ModelCorrespondence {
281                 "CIM_PrintServiceCapabilities.ColorSupported" }]
282          uint32 PagesPerMinuteColor;
283
284             [Description (
285                 "Support for input logical page ranges for any PrintJob "
286                 "processed by the associated PrintService. \n"
287                 "That is, support for the set of input logical pages to be "
288                 "included in the output." ),
289              MappingStrings {
290                 "RFC2911.IETF|Section 4.2.7 page-ranges" },
291              ModelCorrespondence {
292                 "CIM_PrintJob.PageRanges" }]
293          boolean PageRanges;
294
295             [Description (
296                 "Specifies whether PDL override is attempted for the "
297                 "associated PrintService. \n"
298                 "See section 15.2 of IPP/1.1 (RFC 2911) for details." ),
299              MappingStrings {
300                 "RFC2911.IETF|Section 4.4.28 pdl-override-supported" }]
301          boolean PDLOverrideAttempted;
302
303             [Description (
304                 "The supported print quality values for impressions for "
305                 "any PrintJob processed by the associated PrintService. \n"
306                 "Value 'draft' means lowest print quality. \n"
307                 "Value 'normal' means normal print quality. \n"
308                 "Value 'high' means highest print quality." ),
309              MappingStrings {
310                 "RFC2911.IETF|Section 4.2.13 print-quality" },
311              ModelCorrespondence {
312                 "CIM_PrintServiceSettings.PrintQuality",
313                 "CIM_PrintJob.PrintQuality" }]
314          string PrintQuality[];
315
316             [Description (
317                 "The supported document reference URI schemes for Jobs "
318                 "submitted to this instance of PrintService, e.g., 'ftp' "
319                 "in an IPP Print-URI operation). \n"
320                 "Values shall include 'ftp' if this capabilities property "
321                 "is implemented by the associated PrintService." ),
322              MappingStrings {
323                 "RFC2911.IETF|Section 4.4.27" }]
324          string ReferenceURISchemes[];
```

```
325
326             [Description (
327                 "The supported print resolutions for impressions for any "
328                 "PrintJob processed by the associated PrintService. \n"
329                 "That is, the horizontal by vertical resolution in pixels "
330                 "per inch for output impressions (sides of selected media) "
331                 "separated by a lowercase 'x', e.g., print resolutions "
332                 "of '300x300' and '600x1200'. \n"
333                 "Horizontal resolution is defined as resolution in the "
334                 "cross-feed direction, short-edge in portrait feed mode. \n"
335                 "Vertical resolution is defined as resolution in the feed "
336                 "direction, long-edge in portrait feed mode." ),
337             MappingStrings {
338                 "RFC2911.IETF|Section 4.2.12 printer-resolution" },
339             ModelCorrespondence {
340                 "CIM_PrintServiceSettings.Resolution",
341                 "CIM_PrintJob.HorizontalResolution",
342                 "CIM_PrintJob.VerticalResolution" }]
343         string Resolution[];
344
345             [Description (
346                 "The supported imposition modes for impressions for any "
347                 "PrintJob processed by the associated PrintService. \n"
348                 "That is, the policy for imposing input logical pages "
349                 "onto output impressions (sides of selected media). \n"
350                 "Value 'one-sided' means each successive input logical "
351                 "page onto the same side of consecutive sheets of media. \n"
352                 "Value 'two-sided-long-edge' means each consecutive pair "
353                 "of input logical pages onto front and back sides of "
354                 "consecutive sheets of media, with orientation for long "
355                 "edge binding \n"
356                 "Value 'two-sided-short-edge' means each consecutive pair "
357                 "of input logical pages onto front and back sides of "
358                 "consecutive sheets of media, with orientation for short "
359                 "edge binding." ),
360             MappingStrings {
361                 "RFC2911.IETF|Section 4.2.8 sides" },
362             ModelCorrespondence {
363                 "CIM_PrintServiceSettings.Sides",
364                 "CIM_PrintJob.Sides" }]
365         string Sides[];
366
367
368     };
369
```