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1  // Copyright (c) 2011 DMTF. All rights reserved.
2  // <change cr="CIMCoreCR00752.000" type="change">Update of
3  // descriptions based on Tech Edit review.</
4  // <change cr="ArchCR00066.004" type="add">Add UmlPackagePath
5  // qualifier values to CIM Schema.</change>
6  // <change cr="CIMCoreCR00859" type="change">Update the
7  // the class description and the properties descriptions and
8  // MappingStrings.</
9  // =====
10 // CIM_PrintService
11 // =====
12 [Version ( "2.29.0" ),
13  UMLPackagePath ( "CIM::Device::Printing" ),
14  Description (
15      "The Service that provides support for printing. The basic "
16      "assumption of the Printing Model is that a PrintService "
17      "accepts a PrintJob for processing, using its PrintSAP. The Job "
18      "is then placed on a PrintQueue (that is indicated by the "
19      "QueueForPrintService association). Printers take Jobs from "
20      "Queues (indicated by the PrinterServicingQueue association). "
21      "The ABNF for CIM references to PWG Standards and MIBs is in "
22      "the directory \'ftp://ftp.pwg.org/pub/pwg/general/process\' in "
23      "the file \'pwg-cim-references-format-20060309.txt\'. An "
24      "example for a MappingStrings reference to a PWG Standard is "
25      "\'PWG5101-1.PWG|Section 4 Media Color Names\'. An example for "
26      "a MappingStrings reference to a PWG MIB is "
27      "\'MIB.PWG|PWG-IMAGING-COUNTER-MIB.icMonitorCompletedJobs\'.") ]
28 class CIM_PrintService : CIM_Service {
29
30     [Description (
31         "An array of free-form strings that specifies the types "
32         "and sizes of paper that can be used by Jobs that are "
33         "submitted to this PrintService. This list can be "
34         "different than the paper types that are installed on the "
35         "Printer, because the PrintService can include support "
36         "for manually making other types available or only a "
37         "subset of paper types can be exported using this "
38         "PrintService. The values of the property SHOULD conform "
39         "to the requirements of the PWG Media Standardized Names "
40         "specification [PWG5101.1], which defines the normative "
41         "values for this property. See older Appendix B \'Media "
42         "Size Names\' and Appendix C \'Media Names\' of IETF "
43         "Printer MIB v2 [RFC3805] which list the values of "
44         "standardized media names defined in ISO DPA [ISO10175].") ],
45     MappingStrings { "PWG5101-1.PWG|Media Standardized Names",
46         "MIB.IETF|Printer-MIB.prtInputMediaName",
47         "RFC2911.IETF|Printer.media-supported",
48         "RFC2911.IETF|Section 4.2 Job Template Attributes",
49         "RFC2911.IETF|Section 4.2.11 media",
50         "RFC2911.IETF|APPENDIX C \'media\' keyword values" },
51     ModelCorrespondence { "CIM_Printer.PaperTypesAvailable",
52         "CIM_PrintJob.RequiredPaperType",
53         "CIM_PrintServiceSettings.Media" }]
54     string PaperTypesAvailable[];

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55
56 [Deprecated { "CIM_PrintService.MimeTypesSupported" },
57   Description (
58     "Note: The use of this property has been deprecated, due "
59     "to ambiguity. Instead use MimeTypesSupported. \n"
60     "Enumerated print languages are only available in the IETF "
61     "Printer MIB v1/v2 (RFC 1759/3805) and are not available in "
62     "open standard print protocols (i.e., no known mapping). \n"
63     "Deprecated description: \n"
64     "An array that indicates the print languages that are "
65     "supported by the PrintService. A PrintService can "
66     "support more languages than those available on the "
67     "underlying Printer through the use of filters. An "
68     "administrator can also choose to prevent some languages "
69     "from being exported by the PrintService. \n"
70     "Note: For legacy compatibility reasons, this property is NOT "
71     "exactly aligned (in order of values) with the authoritative "
72     "PrtInterpreterLangFamilyTC in the IANA Printer MIB, unlike "
73     "the newer property PrintInterpreter.LangType (which is "
74     "exactly aligned with the IANA Printer MIB)." ),
75   ValueMap { "1", "2", "3", "4", "5", "6", "7", "8", "9", "10",
76     "11", "12", "13", "14", "15", "16", "17", "18", "19",
77     "20", "21", "22", "23", "24", "25", "26", "27", "28",
78     "29", "30", "31", "32", "33", "34", "35", "36", "37",
79     "38", "39", "40", "41", "42", "43", "44", "45", "46",
80     "47", "48", "50", "51", "52", "53", "54", "55", "56",
81     "57", "58", "59", "60", "61", "62", "63", "64", "65",
82     "66", "67", "68", "69", ".." },
83   Values { "Other", "Unknown", "PCL", "HPGL", "PJL", "PS",
84     "PSPrinter", "IPDS", "PPDS", // 10
85     "EscapeP",
86     "Epson", "DDIF", "Interpress", "ISO6429", "Line Data",
87     "MODCA", "REGIS", "SCS", "SPDL",
88     // 20
89     "TEK4014", "PDS", "IGP", "CodeV",
90     "DSCDSE", "WPS", "LN03", "CCITT", "QUIC", "CPAP",
91     // 30
92     "DecPPL", "Simple Text", "NPAP", "DOC",
93     "imPress", "Pinwriter", "NPDL", "NEC201PL", "Automatic",
94     "Pages", // 40
95     "LIPS", "TIFF", "Diagnostic",
96     "CaPSL", "EXCL", "LCDS", "XES", "MIME", "TIPSI",
97     // 50
98     "Prescribe", "LinePrinter", "IDP", "XJCL",
99     "PDF", "RPDL", "IntermecIPL", "UBIFingerprint",
100    "UBIDirectProtocol", "Fujitsu", // 60
101    "PCLXL",
102    "ART", "CGM", "JPEG", "CALSL1", "CALSL2", "NIRS", "C4",
103    "XPS", "OpenXPS", "DMTF Reserved" },
104   ArrayType ( "Indexed" ),
105   MappingStrings {
106     "MIB.IETF|Printer-MIB.prtInterpreterLangFamily" },
107   ModelCorrespondence { "CIM_Printer.LanguagesSupported",
108     "CIM_PrintJob.Language" }}]

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109     uint16 LanguagesSupported[];
110
111     [Description (
112         "An array of input document formats (MIME types) that are "
113         "supported by the PrintService." ),
114     MappingStrings {
115         "RFC2911.IETF|Section 4.4.22 document-format-supported" },
116     ModelCorrespondence { "CIM_Printer.MimeTypesSupported",
117         "CIM_PrintJob.MimeTypes",
118         "CIM_PrintServiceSettings.DocumentFormat" }]
119     string MimeTypesSupported[];
120
121     [Deprecated { "No value" },
122     Description (
123         "Note: The use of this property has been deprecated, due "
124         "to ambiguity. Instead use PrintServiceCapabilities "
125         "properties (e.g., Finishings). \n"
126         "Deprecated description: \n"
127         "An array of integers that indicates the capabilities "
128         "that are supported by this service. Information such as "
129         "values 'Duplex Printing' or 'Transparency Printing' "
130         "is specified in this property." ),
131     ValueMap { "0", "1", "2", "3", "4", "5", "6", "7", "8", "9",
132         "10", "11", "12", "13", "14", "15", "16", "17", "18",
133         "19", "20", "21" },
134     Values { "Unknown", "Other", "Color Printing",
135         "Duplex Printing", "Copies", "Collation", "Stapling",
136         "Transparency Printing", "Punch", "Cover", "Bind",
137         "Black and White Printing", "One Sided",
138         "Two Sided Long Edge", "Two Sided Short Edge", "Portrait",
139         "Landscape", "Reverse Portrait", "Reverse Landscape",
140         "Quality High", "Quality Normal", "Quality Low" },
141     ArrayType ( "Indexed" ),
142     MappingStrings {
143         "MIB.IETF|Printer-MIB.prtInterpreterLangFamily",
144         "MIB.IETF|IANA-PRINTER-MIB.PrtInterpreterLangFamilyTC",
145         "RFC2911.IETF|Section 4.4.22 document-format-supported" },
146     ModelCorrespondence { "CIM_Printer.Capabilities",
147         "CIM_PrintJob.Finishing",
148         "CIM_PrintService.CapabilityDescriptions" }]
149     uint16 Capabilities[];
150
151     [Deprecated { "No value" },
152     Description (
153         "Note: The use of this property has been deprecated, due "
154         "to ambiguity. Instead use properties defined in the "
155         "PrintServiceCapabilities class. \n"
156         "Deprecated description: \n"
157         "An array of free-form strings that provides more "
158         "detailed explanations for any of the Printer features "
159         "that are indicated in the Capabilities array. Note, each "
160         "entry of this array is related to the entry in the "
161         "Capabilities array that is located at the same index." ),
162     ArrayType ( "Indexed" ),

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163         ModelCorrespondence { "CIM_PrintService.Capabilities" }]
164     string CapabilityDescriptions[];
165
166     [Deprecated { "No value" },
167     Description (
168         "Note: The use of this property has been deprecated, due "
169         "to ambiguity. \n"
170         "Print filter information is not available in open standard "
171         "print protocols (i.e., no known mapping). \n"
172         "Deprecated description: \n"
173         "Describes the filters that are available within this "
174         "Print Service. For example, a PrintService can convert a "
175         "Job that is submitted in one page description language "
176         "to another, so that it can be passed to an available "
177         "Printer." )]
178     string AvailableFilters[];
179
180     [Experimental, Description (
181         "The supported client authentication methods for this "
182         "instance of PrintService and any associated PrintJobs. \n"
183         "Complete standard values are in the IANA IPP Registry. \n"
184         "Standard values defined in IPP/1.1 (RFC 2911) include: \n"
185         "Value 'none' means client authentication method is to "
186         "allow anonymous access. \n"
187         "Value 'requesting-user-name' means client authentication "
188         "method is to verify the requesting user name. \n"
189         "Value 'basic' means client authentication method is to "
190         "use HTTP Basic (RFC 2617). \n"
191         "Value 'digest' means client authentication method is to "
192         "use HTTP Digest (RFC 2617). \n"
193         "Value 'certificate' means client authentication method "
194         "method is to verify the supplied certificate." ),
195     MappingStrings {
196         "RFC2911.IETF|Section 4.4.2 uri-authentication-supported" },
197     ModelCorrespondence {
198         "CIM_ServiceAccessURI.LabeledURI",
199         "CIM_PrintJob.JobURI" }]
200     string AuthenticationSupported[];
201
202     [Experimental, Description (
203         "The current charset for human-readable text output "
204         "from this instance of PrintService to network clients. \n"
205         "Values shall conform to section 4.1.2 Charset Parameter "
206         "in RFC 2046 and be contained in IANA Charset Registry, "
207         "e.g., 'utf-8' and 'us-ascii.'" ),
208     MappingStrings {
209         "RFC2911.IETF|Section 4.4.17 charset-configured" },
210     ModelCorrespondence {
211         "CIM_PrintServiceCapabilities.Charset" }]
212     string Charset;
213
214     [Required, Override ( "Description" ),
215     Description (
216         "The description of this specific instance of "

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217         "PrintService. \n"
218         "This text shall be generated as a factory default by the "
219         "manufacturer and may be changed out-of-band by the system "
220         "administrator." ),
221         MappingStrings {
222             "RFC2911.IETF|Section 4.4.6 printer-info" }]
223 string Description;
224
225     [Experimental, Description (
226         "The URI for the driver installer for this PrintService. "
227         "This URI may be generated as a factory default by the "
228         "manufacturer and may be changed out-of-band to a "
229         "site-specific URI by the system administrator." ),
230         MappingStrings {
231             "RFC2911.IETF|Section 4.4.8 printer-driver-installer" }]
232 string DriverInstallerURI;
233
234     [Required, Override ( "ElementName" ),
235         Description (
236             "The user-friendly name for this instance of PrintService. "
237             "In addition, the user-friendly name can be used as an "
238             "index property for a search or query. (Note: The name "
239             "does not have to be unique within a namespace.) This "
240             "name shall be generated as a factory default by the "
241             "manufacturer and may be changed out-of-band to a "
242             "site-specific name by the system administrator." ),
243         MappingStrings {
244             "RFC2911.IETF|Section 4.4.4 printer-name" }]
245 string ElementName;
246
247     [Experimental, Description (
248         "Specifies whether this instance of PrintService is "
249         "currently accepting incoming Jobs (i.e., Enabled) or is"
250         "currently rejecting incoming Jobs (i.e., Disabled)." ),
251         MappingStrings {
252             "RFC2911.IETF|Section 4.4.23 printer-is-accepting-jobs" },
253         ModelCorrespondence {
254             "CIM_PrintService.State",
255             "CIM_PrintService.StateMessage",
256             "CIM_PrintService.StateReasons",
257             "CIM_SoftwareElement.SoftwreElementState",
258             "CIM_EnabledLogicalElement.EnabledState" }]
259 boolean IsAcceptingJobs;
260
261     [Experimental, Description (
262         "Physical location of the imaging system that hosts this "
263         "instance of PrintService (i.e., location of the Printer "
264         "if this is an embedded PrintService)." ),
265         MappingStrings {
266             "RFC2911.IETF|Section 4.4.5 printer-location" },
267         ModelCorrespondence { "CIM_ElementLocation.PhysicalLocation" }]
268 string Location;
269
270     [Experimental, Description (

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271         "The make and model of the imaging system that hosts this "
272         "instance of PrintService (i.e., the make and model of the "
273         "Printer if this is an embedded PrintService)." ),
274     MappingStrings {
275         "RFC2911.IETF|Section 4.4.9 printer-make-and-model" },
276     ModelCorrespondence { "CIM_PhysicalElement.Model" }]
277 string MakeAndModel;
278
279     [Experimental, Description (
280         "A human-readable message to end users from the operator, "
281         "system administrator, or management software for this "
282         "instance of PrintService." ),
283     MappingStrings {
284         "RFC2911.IETF|Section 4.4.25" },
285     ModelCorrespondence {
286         "CIM_PrintService.NaturalLanguage" }]
287 string MessageFromOperator;
288
289     [Experimental, Description (
290         "The URI for more info about this type of PrintService "
291         "(rather than this specific instance of PrintService). \n"
292         "This URI shall be generated as a factory default by the "
293         "manufacturer and may be changed out-of-band to a "
294         "site-specific URI by the system administrator." ),
295     MappingStrings {
296         "RFC2911.IETF|Section 4.4.10" },
297     ModelCorrespondence {
298         "CIM_PrintService.MoreInfoURI" }]
299 string MoreInfoManufacturerURI;
300
301     [Experimental, Description (
302         "The URI for more info about this specific instance of "
303         "PrintService. \n"
304         "This URI shall be generated as a factory default by the "
305         "manufacturer and may be changed out-of-band to a "
306         "site-specific URI by the system administrator." ),
307     MappingStrings {
308         "RFC2911.IETF|Section 4.4.7 printer-more-info" },
309     ModelCorrespondence {
310         "CIM_PrintService.MoreInfoManufacturerURI" }]
311 string MoreInfoURI;
312
313     [Experimental, Description (
314         "Time in seconds for this instance of PrintService to wait "
315         "for additional Job operations (e.g., IPP Send-Document) "
316         "for an open Job before taking recovery actions (e.g., "
317         "closing and processing the Job or aborting the Job). \n"
318         "Value should be between 60 and 240 seconds." ),
319     Units ( "Seconds" ),
320     MappingStrings {
321         "RFC2911.IETF|Section 4.4.31 multiple-operation-time-out" },
322     PUnit ( "second" )]
323 uint32 MultipleOperationTimeout;
324

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325     [Experimental, Description (
326         "The natural language for human-readable text output "
327         "from this instance of PrintService to network clients. \n"
328         "Values shall conform to IETF Tags for Identifying "
329         "Languages (RFC 5646) or successor and shall be contained "
330         "in the IANA Language Subtag Registry (RFC 5645), "
331         "e.g., 'en-us' (US English) and 'fr' (French)." ),
332     MappingStrings {
333         "RFC2911.IETF|Section 4.4.19 natural-language-configured" },
334     ModelCorrespondence {
335         "CIM_PrintServiceCapabilities.NaturalLanguage" }]
336 string NaturalLanguage;
337
338     [Experimental, Description (
339         "The supported network security mechanisms for this "
340         "instance of PrintService and any associated PrintJobs. \n"
341         "Complete standard values are in the IANA IPP Registry. \n"
342         "Standard values defined in IPP/1.1 (RFC 2911) include: \n"
343         "Value 'none' means network security mechanism is not "
344         "used. \n"
345         "Value 'ssl3' means network security mechanism is to use "
346         "SSL3 (Netscape SSL). \n"
347         "Value 'tls' means network security mechanism is to use "
348         "TLS (RFC 2246 or successor)." ),
349     MappingStrings {
350         "RFC2911.IETF|Section 4.4.3 uri-security-supported" },
351     ModelCorrespondence {
352         "CIM_ServiceAccessURI.LabeledURI",
353         "CIM_PrintJob.JobURI" }]
354 string SecuritySupported[];
355
356     [Experimental, Description (
357         "The state of this instance of PrintService. \n"
358         "1 (Other) means the PrintService is in some non-standard "
359         "state. \n"
360         "2 (Unknown) means the PrintService state is unknown. \n"
361         "3 (Idle) means the PrintService is ready but idle. \n"
362         "4 (Processing) means the PrintService is processing one "
363         "or more Jobs. \n"
364         "5 (Stopped) means the PrintService cannot process any Jobs "
365         "and human intervention is required." ),
366     ValueMap {
367         "1", "2", "3", "4", "5", ".." },
368     Values {
369         "Other", "Unknown", "Idle", "Processing", "Stopped",
370         "DMTF Reserved" },
371     MappingStrings {
372         "RFC2911.IETF|Section 4.4.11 printer-state" },
373     ModelCorrespondence {
374         "CIM_PrintService.StateMessage",
375         "CIM_PrintService.StateReasons",
376         "CIM_PrintService.IsAcceptingJobs",
377         "CIM_SoftwareElement.SoftwareElementState",
378         "CIM_EnabledLogicalElement.EnabledState" }]

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379      uint16 State;
380
381      [Experimental, Description (
382          "The human-readable state message for this instance of "
383          "PrintService, e.g., 'Paused by operator at 12:04'." ),
384      MappingStrings {
385          "RFC2911.IETF|Section 4.4.13 printer-state-message" },
386      ModelCorrespondence {
387          "CIM_PrintService.State",
388          "CIM_PrintService.StateReasons",
389          "CIM_PrintService.IsAcceptingJobs",
390          "CIM_SoftwareElement.SoftwareElementState",
391          "CIM_EnabledLogicalElement.EnabledState" }]
392      string StateMessage;
393
394      [Experimental, Description (
395          "The state reasons (conditions) of this instance of "
396          "PrintService. \n"
397          "Complete standard values are in the IANA IPP Registry. \n"
398          "Additional vendor or site values may also be used. \n"
399          "Standard values defined in IPP/1.1 (RFC 2911) include: \n"
400          "Value 'none' means there are no current state reasons. \n"
401          "Value 'paused' means the PrintService has been paused. \n"
402          "Value 'toner-empty' means the Printer is out of toner." ),
403      MappingStrings {
404          "RFC2911.IETF|Section 4.4.12 printer-state-reasons" },
405      ModelCorrespondence {
406          "CIM_PrintService.State",
407          "CIM_PrintService.StateMessage",
408          "CIM_PrintService.IsAcceptingJobs",
409          "CIM_SoftwareElement.SoftwareElementState",
410          "CIM_EnabledLogicalElement.EnabledState" }]
411      string StateReasons[];
412
413      [Experimental, Description (
414          "Time in seconds since the last startup of this instance "
415          "of PrintService." ),
416      Units ( "Seconds" ),
417      MappingStrings {
418          "MIB.IETF|HOST-RESOURCES-MIB.hrSystemUptime",
419          "RFC2911.IETF|Section 4.4.29 printer-up-time" },
420      ModelCorrespondence {
421          "CIM_ApplicationSystem.StartupTime",
422          "CIM_OperatingSystem.LastBootUpTime" },
423      PUnit ( "second" )]
424      uint32 Uptime;
425
426
427  };
428

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