Item	Class	Attribute	Descriptor	M/V	Type (Syntax)	Value	DPA Ref.	NPA Command	NPA Category	QMS MIB	HP MIB	Comments
1	generic	object-class	identifies the object class to which the associated object belongs		object identifier	(dpa) generic, job, document, printer, server, medium, font, resource, transfer-method, delivery-method, auxiliary-sheet, finishing, output, imposition, scheduler (npa) interpreter, device-resources, npa-protocol-resources	9.1.6.1					
2	generic	descriptor	description of a DP-object in the form of human-readable text; not an unambiguus means of object identification		descriptor		9.1.6.2					
3	generic	simple-name	human readable string representing a name for the associated object; used for reporting to the client		simple name		9.1.6.3					
4	generic	state	current state of the object		object identifier	ready on-request unavailable busy unknown	9.1.6.4					Possibly suitable as basic printing MIB / MIF value datatype
5	generic	message	human readable string presented to the user when the object is reqested		message		9.1.6.5					
6	generic	availability	current availability of an object		object identifier	high normal none unknown	9.1.6.6					Possibly suitable as basic printing MIB / MIF value datatype

7	generic	list-of-managers	list of managers responsible for the maintenance and operation of the object (may be an individual, group, or a programmatic object; generally, a manager is a Principal)	Y	distinguished name		9.1.6.7					
8	generic	job-attributes-supported	job attributes recognized and supported by this object (standard, plus implementor-defined extensions)	Y	attribute value characteristics (see ISO10175, section 8.2.4.2)		9.1.6.8					
9	generic	document-attributes-supported	document attributes recognized and supported by this object (standard, plus implementor-defined extensions)	Y	attribute value characteristics (see ISO10175, section 8.2.4.2)		9.1.6.9					
10	generic	device-protocol-extension-idetntifier	identifies device extensions to standard interface protocol		octet	0x00 = no extensions		request device charactertistics	summary			
11	generic	device-speed-units	identifies the units used by the device for reporting speed characteristics		octet	impressions per minute, inches per second, feet per second, yards per second, millimeters per second, centimeters per second, decimeters per second, meters per second, characters per second, tens of characters per second, hundreds of characters per second, thousands of characters per second, lines per minute, tens of lines per minute, hundreds of lines per minute		request device characteristics	summary			Possibly suitable as basic printing MIB / MIF value datatype
12	generic	device-length-units	identifies units used by the device for reporting length values		octet	.001 inches, .01 inches, inches, .01 millimeters, .1 millimeters, millimeters, centimeters		request device characteristics	summary			Possibly suitable as basic printing MIB / MIF value datatype

13	generic	device-counter-units	identifies units used for reporting printer statistics		octet	pages, inches feet, yards, millimeters, centimeters, decimeters, meters, characters, tens of characters, hundreds of characters, lines, tens of lines, hundreds of lines, thousands of lines		request device characteristics	summary			Possibly suitable as basic printing MIB / MIF value datatype
14	job (information)	job-identifier	unique job identifier for this job on the server		printable string; 255 characters		9.2.1.1					
15	job (information)	printer-job-identifier	unique job identifier assigned by the printer for this job		octet string [2]			job control	start job operation / end job operation	qmsPtrJobsIndex		
16	job (information)	assigned-logical-unit	unique identifier for the logical unit assigned for processing this job		octet	(qms-mib) ultrascript, ibm-proprinter, diablo-630, ti-855, hp-gl, hp-pcl, hex-dump, ti-855-dp, ti-810, epson-fx, dec-ansi, ibm-ext-ascii, ln03, tektronix-4014, quic-2, impress, code-v, rl, ccitt, line-printer, hp-pcl, esp, wild-card		job control	start job operation / end job operation	qmsPtrJobs Emulation		
17	job (information)	job-name	human readable string for the print job		simple name		9.2.1.2			qmsPtrJobsTitle		
18	job (information)	job-originator	name of the human or programmatic originator of the print job		distinguished name		9.2.1.3					
19	job (information)	job-owner	name of the human owner of the print job		distinguished name		9.2.1.4			qmsPtrJobsOwner		

20	job (information)	job-comment	arbitrary human-readable text string associated with the print job		message		9.2.1.5			qmsPtrJobs Comment		
21	job (information)	job-start-message	human-readable message string forwarded to the operator in an implementation-dependent manner before job processing starts		message		9.2.1.6					
22	job (information)	job-end-message	human-readable message string forwarded to the operator in an implementation-dependent manner after job processing ends		message		9.2.1.7					
23	job (information)	job-client-id	human readable descriptor for the job; may be printed by the server on the job-start-sheet / job-end-sheet to identifiy the user’s printed output		text		9.2.1.8					
24	job (information)	job-non-compulsory-attributes	the set of attributes that the server shall consider as non-compulsory (ISO10175, sections 6.4.6 and 9.1.1)	Y	object identifier		9.2.1.9					
25	job (information)	initial-value-job	identity of an initial value job object in the server; initial values are default values that the server hsall supply when the job is submitted		job identifier		9.2.1.10					
26	job (information)	source-interface-channel	the interface over which this job was communicated to the printer		(qms-mib) INTEGER	(qms-mib) other rs-232 parallel appletalk optional-io				qmsPtrJobs Channel		

27	job (results handling)	results-profile	specification of a delivery method for hardcopy print output; specification of the address to which the results should be delivered; human readable descriptor representing the intended recipient of the results; the number of copies of the entire job to be delivered to each recipient	Y	ResultsProfile (constructed type)	delivery-method delivery-descriptor delivery-address job-copies collate	9.2.2.1					
28	job (results handling)	job-finishing	specifies a sequence of one or more finishing objects to be applied to each job-copy of the printed output		Finishing (constructed type)	(see finishing class)	9.2.2.2					
29	job (event handling)	notification-profile	specification of events about which the user and / or designate are to be notified; additionally specifies how event notifications are to be delivered	Y	EventHandling-Profile	event-identifiers delivery-method delivery-descriptor delivery-address	9.2.3.1					
30	job (event handling)	logging-profile	specification of events which are to be logged; additionally specifies how logs are to be delivered	Y	EventHandling-Profile (constructed type)	event-identifiers delivery-method delivery-descriptor delivery-address	9.2.3.2					
31	job (event handling)	job-abort-criteria	list of limit values which, when exceeded, force the abort of the print job; applies to downstream errors	Y	Criteria (constructed type)	(dpa) criterion-type criterion-threshold	9.2.3.3					
32	job (event handling)	job-warning-criteria	list of limit specifications which, when exceeded the first time, cause a warning to be created for the print job	Y	Criteria (constructed type)	(dpa) criterion-type criterion-threshold	9.2.3.4					
33	job (event handling)	document-abort-criteria	list of limit values which, when exceeded, force the abort of the printing of one document of a print job	Y	Criteria (constructed type)	(dpa) criterion-type criterion-threshold	9.2.3.5					

34	job (job scheduling)	job-start-wait	specifies whether the processing of the print job is to await operator action before commencing or not		boolean		9.2.4.1					
35	job (job scheduling)	job-end-wait	specifies whether the processing of the print job is await operator action before concluding or not		boolean		9.2.4.2					
36	job (job scheduling)	job-hold	specifies whether the print job is a candidate for scheduling for printing or not		boolean		9.2.4.3					
37	job (job scheduling)	job-password	provides a password that shall be entered before the print job commences		JobPassword	(dpa) octet string	9.2.4.4					
38	job (job scheduling)	job-print-after	specifies the calendar date and time of day after which the print job becomes a candidate to be scheduled for printing		generalized time		9.2.4.5					
39	job (job scheduling)	job-priority	specifies a priority for scheduling the print job		integer (1 .. 100)		9.2.4.6					
40	job (job scheduling)	job-deadline-time	specifies the calendar date and tiem of day by which the user desires the print job to be completed		generalized time		9.2.4.7					
41	job (job scheduling)	job-discard-time	specifies the calendar date at which the print job should be discarded, whether or not the job has printed		generalized time		9.2.4.8					
42	job (job scheduling)	job-retention-period	specifies the minimum period of time following the completion of job processing and printing that the server shall keep job attributes, document attributes, and document data		delta time syntax		9.2.4.9					

43	job (job scheduling)	job-message-to-operator	message from the user to the operator to indicate something about the processing of this print job; not necessarily related to job attributes		message		9.2.4.10					
44	job (job scheduling)	job-scheduling	indicates whether or not the user desires the server to schedule the job for printing before all of the Print requests for the job have been received by the server		object identifier	(dpa) after-complete before-complete either	9.2.4.11					
45	job (job scheduling)	job-validate	specifies whether the print job is to be processed normally, or whether it has been submitted for validation only		object identifier	(dpa) and-print submit-only	9.2.4.12					
46	job (printer selection)	printer-name-requested	specifies the printer to be used for printing the job		distinguished name		9.2.5.1					
47	job (printer selection)	printer-locations-requested	identifies the location of the printer to be used for printing the job	Y	text		9.2.5.2					
48	job (printer selection)	printer-models-requested	specifies the make and model of the printer to be used for printing the job	Y	text		9.2.5.3					
49	job (printer selection)	printer-types-requested	specifies the type of the printer to be used for printing the job	Y	object identifier		9.2.5.4					
50	job (printer selection)	printer-speed-range-requested	specifies a range of printer speeds which are acceptable for printing the job		integer range	(dpa) pages-per-minute	9.2.5.5					
51	job (printer selection)	printer-resolution-range-requested	specifies a range of printer resolutions which are acceptable for printing the job		integer range	(dpa) dots-per-inch	9.2.5.6					
52	job (access and accounting)	user-name	specifies the name of the user requesting access to print service operations		distinguished name		9.2.6.1					
53	job (access and accounting)	accounting-information	specifies information required by accounting services		octet string		9.2.6.2					

54	job (access and accounting)	maximum-job-info-retained	identifies the maximum number of completed job entries that are retained for inspection / accounting after completion		octet string [2]			request device characteristics	summary			
55	job (access and accounting)	processing-time	indicates processing time consumed for this job		delta time			job control	query jobs completed			Possible attribute for extension derived from NPA.
56	job (access and accounting)	sheets-used	indicates the number of sheets (identified by medium class attrbutes) use in processing this job	Y	seuqence of values, one for each input source, indicating the type of medium and quantity consumed; accomodation must be made for wastage that is non-billable (e.g. jams) which is not indicated in the NPA specification			job control	query jobs completed			Possible attribute for extension derived from NPA.
57	job (access and accounting)	impressions	indicates the number of impressions printed during execution of this job	Y	sequence of values for impressions produced using possibly multiple marking elements (there is typically only one element per physical printer); this anticipates a somewhat different design than the NPA approach which is based on impressesion per input source.			job control	query jobs completed			Possible attribute for extension derived from NPA.
58	job (access and accounting)	counter-units	indicates the the values associated with reporting counters associated with the processing elements used in this job	Y	sequence of structures indicating device-counter-unit type <key> and counter <value>			job control	query jobs completed			Possible attribute for extension derived from NPA.
59	job (security handling)	job-security-confidentiality-level	specifies the job's confidentiality level and the organization associated with the level		JobLevel (constructed type)	(dpa) organization-identifier level	9.2.7.1					

60	job (security handling)	job-security-confidentiality-category	specifies the job's set of confidentiality categories and the organization associated with these categories		Categories (constructed type)	(dpa) organization-identifier level	9.2.7.2					
61	job (security handling)	job-security-confidentiality-policy	specifies the security policy for confidentiality to be used to handle the job		object identifier		9.2.7.3					
62	job (security handling)	job-security-integrity-level	specifies the job's integrity level and the organization associated with the level		JobLevel (constructed type)	(dpa) organization-identifier level	9.2.7.4					
63	job (security handling)	job-security-integrity-category	specifies the job's set of integrity categories and the organization associated with the categories		Categories	(dpa) organization-identifier level	9.2.7.5					
64	job (security handling)	job-security-integrity-policy	specifies the security policy for integrity to be used to handle the job		object identifier		9.2.7.6					
65	job (security handling)	job-security-label	specifies the location(s) of the security label that shall be applied to each sheet of the hardcopy output of the job; the label shall identify the job's confidentiality level andcategories, and its integrity level and categories	Y	object identifier	(dpa) security-label-sheet-top security-label-no-sheet-top security-label-sheet-bottom security-label-no-sheet-bottom security-label-job-start-sheet security-label-job-end-sheet	9.2.7.7					

66	job (job status)	current-job-state	identifies the current state of the job		object identifier	(dpa) unknown, pre-processing, held, pending, processing, paused, interrupted, terminating, retained, cancelled (qms-mib) other, spooling, interpreting, rasterizing, printing, terminating, waiting, spooled, internal	9.2.8.1			qmsPtrJobsCur Status qmsPtrJobsStatus		
67	job (job status)	job-state-reasons	identifies the reason or reasons that the job is in the held, terminating, or retained state	Y	object identifier	(dpa) documents-needed job-hold-set job-print-after-specified required-resources-not-ready successful-completion completed-with-warnings completed-with-errors cancelled-by-user cancelled-by-operator aborted-by-system logfile-pending logfile-transferring	9.2.8.2					
68	job (job status)	previous-job-state	identifies the state of the job before the last change of job state		object identifier		9.2.8.3					
69	job (job status)	printers-assigned	identifies the physical printer or printers to which this job has been assigned, if any	Y	PrintersAssigned (constructed type)	(dpa) printer-name printer-state	9.2.8.4					
70	job (job status)	estimated-completion-time	indicates the estimated time by which the job will be completed		generalized time		9.2.8.5					
71	job (job status)	submission-time	indicates the time at which the latest Print request for this job was accepted by the server		generalized time		9.2.8.6					

72	job (job status)	modification- time	indicates the tiem at which this job was last modified		generalized time		9.2.8.7					
73	job (job status)	started- printing-time	indicates the time at which this job started printing		generalized time		9.2.8.8					
74	job (job status)	pages- completed	indicates the number of pages of the job that printer(s) have completed printing		cardinal		9.2.8.9			qmsPtrJobsCur Page qmsPtrJobsPage		
75	job (job status)	sheets- completed	indicates the number of sheets of the job that printer(s) have completed printing		cardinal					qmsPtrJobsCur Sheet qmsPtrJobsSheet		
76	job (job status)	octets- completed	indicates the number of octets of the job that the printer(s) have completed printing; the server shall not reset its value during the processing of multiple copies of documents or the job		cardinal		9.2.8.10					
77	job (job status)	intervening- jobs	indicates te number of other jobs to be printed before this job may be scheduled for pinting		cardinal		9.2.8.11					
78	job (job status)	print- checkpoint	indicates the job-copies, document-copies, pages, and octets completed for the document or documents on the specified printer(s) and the local context information at which the last checkpoint was taken	Y	PrintCheckpoint (constructed type)	(dpa) printer-name job-copies-completed copies-completed pages-completed octets-completed context-info	9.2.8.12					
79	job (job status)	new-job- identifier	provides the name of the server to which this job has been reassigned, along with the new local-identifier		NewJobIdentifier (constructed type)	(dpa) server-name local-identifier	9.2.8.13					
80	job (job status)	on-request- resources- required	identifies the resources required to complete the job, but which are not currently available	Y	object identifier		9.2.8.14					

81	job (job status)	job-mesage-from-administrator	provides a message from an operator, system administrator, or inetelligent		message		9.2.8.15					
82	job (job status)	last-job-events	a list of all the most recent job events that have occured	Y	object identifier		9.2.8.16					
83	job (job status)	name-of-last-accessor	indicates the name of the last user or program to submit or modify the job		distinguished name		9.2.8.17					
84	job (job status)	error-count	provides the number of error events occurring while processing the job		cardinal		9.2.8.18					
85	job (job status)	warning-count	provides the number of warning events occurring while processing the job		cardinal		9.2.8.19					
86	job (job status)	processing-time	indicates how long an individul job has been processing		delta time		(.2.8.20					
87	job (job status)	completion-time	indicates the time at which this job completed		generalized time		9.2.8.21					
88	job (job status)	number-of-documents	indicates teh nubmer of documents in the job		cardinal		9.2.8.22					
89	job (job status)	job-submission-complete	indicates whether all documents of the print job have been submitted		boolean		9.2.8.23					
90	job (job status)	ignored-attributes	for each non-compulsory attribute type or value ignored, the sever shall set (and return) a value in ignored-attributes		IgnoredAttribute (constructed type)	(dpa) document-number attribute-id attributes-values	9.2.8.24					
91	document	default-medium	identifies a medium that the server shall use as the medium default for the pages of the document that require a medium specification		name or OID syntax		9.3.1.1					

92	document	default-input-tray	identifies an input-tray that the server shall use as the input-tray default for the pages of the document that require a specification		object identifier		9.3.1.2					Note: The hp-mib defines a management object named “Input-Tray1-Default”, the editor does not believe that the HP object is intended for the same purpose as the similarly named DPA attribute; the HP object is mappned under entry 186
93	document	default-font	identifies a font that the server shall use as the font default for the pages of the document that require a specification		FontReference		9.3.1.3					
94	document	default-resources	identifies resources, other than fonts, that the server shall use a s the resources default for the pages of the document that require a specification	Y	name or oid		9.3.1.4					
95	document	default-character-set	identifies a coded character set that the server shall use as the coded character-set default for the pages of the document that require a coded character set specification		object identifier		9.3.1.5					
96	document	default-character-repertoire	identifies a character repertoire that the server shall use as the character repertoire default for the pgaes of the documetn that require a specification		object identifier		9.3.1.6					

97	document	defualt- character- maping	identifies a character mapping that the server shall use as the character mapping defulat for the pages of the document that require a specification		object identifier		9.3.1.7					
98	document	medium- substitution	specifies a list of pairs of medium identifiers; each pair identifies a document medium, followed by the mediu to be substituted for it	Y	Medium- Substitution (constructed type)	(dpa) original-medium substitution-medium	9.3.1.8					
99	document	font- substitution	specifies a list of pairs of font references; each of these pairs identifies a document font, followed by a font to be substituted for it.	Y	FontSubstitution (constructed type)	(dpa) original-font substitution-font	9.3.1.9					
100	document	finishing	identifies and / or specifies a sequence of one or more finishing objects to be applied to each document copy of the printed output		Finishing		9.3.1.10					
101	document	output	identifies the output processing for the meida on which the document is to be printed	Y	object identifer		9.3.1.11					
102	document	output-bins	specifies the output receptacles for the media on which the document is to be printed		OutputBin (constructed type)	(dpa) bin-top bin-middle bin-bottom bin-side bin-left bin-right bin-face-up bin-face-down bin-large bin-private	9.3.1.12					
103	document	imposition	identifies and / or specifies a sequence of one or ore imposition objects to be applied to each document copy of the printed output		Imposition (constructed type)	(dpa) imposition-object imposition-attribute	9.3.1.13					

104	document	print-quality	specifies the desired output qulaity of the printed document		object identifier	(dpa) draft normal high	9.3.1.14						
105	document	medium-fidelity	specifies how closely the avialable meida shall adhere to the requested media	Y	object identifier	(dpa) size colour tooth grain weight ara	9.3.1.15						
106	document	sides	specifies the number of printable surfaces of the medium to be imaged		integer	1 2	9.3.1.16						
107	document	page-select	specifies one or more sequences of pages to be printed, specified by ordinal page number, by aphanumeric string, and / or tag of a group of pages	Y	PageSelect	(dpa) beginning-page ending-page	9.3.1.17						
108	document	page-media-select	indicates that specified pages shall be printed on identified media	Y	PageMediaSelect	(dpa) page-range medium-id	9.3.1.18						
109	document	copy-count	specifies the number of copies of the documents, or of the selected pages of the document, to be printed		cardinal		9.3.1.19						
110	document	start-sheet	identifies a start sheet template to be used by the print server to generate a printed sheet which shall come before the printed sheets of this document, indicating the start of the document		name or oid		9.3.1.20						
111	document	separator-sheet	identifies a separator sheet template to be used by the print server to generate a printed sheet which shall come before the printed sheets of thsi document		name or oid		9.3.1.21						

112	document	end-sheet	identifies an end sheet template to be used by teh print server to generate a printed sheet shwich shall come after the printed sheets of this document		name or oid		9.3.1.22					
113	document	reset-printer	specifies that the interpreter and / or printer be reset after processing this document (in a multiple document job)		boolean		9.3.1.23					
114	document (description)	document-type	indicates that the document being passed byh the current print abstract operation is either a printable document, a font, or a resource		object identifier	(dpa) printable font resource	9.3.2.1					
115	document (description)	transfer-method	identifies the method by which the document is trasferred to or acquired by the print server		object identifier		9.3.2.2					
116	document (description)	document-format	identifies the overall print format used for the document		object identifier		9.3.2.3					
117	document (description)	document-content	specifies a transfer method-specific reference for the document to be transferred		DocumentContent	(dpa) included-document referenced-document	9.3.2.4					
118	document (description)	non-compulsory-attributes	identifies the attribute type of those document attributes that the server shall consider as non-compulsory		object identifier		9.3.2.5					
119	document (char-acteristics)	document-descriptor	supplies a human readable string for the document; allows the client to indicate the source of the document in human-readable form		Descriptor (constructed type)		9.3.3.1					
120	document (char-acteristics)	document-authors	specifies a human-readable name for the authors of the document	Y	text		9.3.3.2					

121	document (char-acteristics)	document-comment	specifies an arbitrary human-readable message associated with the document		message		9.3.3.3					
122	document (char-acteristics)	document-revision-date	specifies the date and time the document was created or modified		generalized time		9.3.3.4					
123	document (char-acteristics)	document-format-variants	augments the document-format attribute to provide disambiguating information indicating a specific variant of the document format (such as a functional subset)	Y	object identifier		9.3.3.5					
124	document (char-acteristics)	document-format-version	identifies a specific version of the document format		simple name		9.3.3.6					
125	document (char-acteristics)	assured-reproduction-area	specifies the most significant area reqred to image the document content		Area (constructed type)		9.3.3.7					
126	document (char-acteristics)	page-size	identifies the page size of the pages the document was formatted for; the size may be identified as one of the specific sizes, or ma be specified in millimetres		PageSize (constructed type)	(dpa) page-size-id page-dimensions	9.3.3.8					
127	document (char-acteristics)	content-orientation	identifies the most significant orientation of the content of the document		object identifier	(dpa) portrait landscape mixed reverse-portrait reverse-landscape	9.3.3.9					
128	document (char-acteristics)	page-order	indicates the order of the pages in the document; spcifically, with respect to the order in which they are ordinarily viewd by the reader		object identifier	(dpa) forward reverse signature	9.3.3.10					
129	document (char-acteristics)	page-independent	indicates whether or not the document format is page independent		boolean		9.3.3.11					
130	document (char-acteristics)	media-used	identifies the media specified in the document	Y	name or oid		9.3.3.12					

131	document (char-acteristics)	input-trays-used	identifies the input-trays specified in the document	Y	object identifier		9.3.3.13					
132	document (char-acteristics)	fonts-used	identifies the font resources specified in the document	Y	FontReference (constructed type)		9.3.3.14					
133	document (char-acteristics)	resources-used	specifies resources, other than fonts, that may be reference by the document; each resource may be passed explicitly in the print job accessed elsewhere in the distributed system by use of the document's resource-context attribute	Y	name or oid		9.3.3.15					
134	document (char-acteristics)	resource-context	specifies a sequence of one or more contexts to be specified with the document; each context is in the form of the most significant part of a distinguished name		ResourceContext (constructed type)		9.3.3.16					
135	document (char-acteristics)	character-sets-used	identifies the coded character sets specified in the document	Y	object identifier		9.3.3.17					
136	document (char-acteristics)	character-repertoires-used	identifies the characer repertoires used in the document	Y	object identifier		9.3.3.18					
137	document (char-acteristics)	character-mappings-used	identifies the mappings specified in the document to associate each character in a coded character with a glyph identifier	Y	object identifier		9.3.3.19					
138	document (system hints)	octet-count	specifies the size of the document in octets		cardinal		9.3.3.20.1					
139	document (system hints)	page-count	specifies the size of the document in pages		cardinal		9.3.3.20.2					
140	document (system hints)	glyph-count	specifies the number of glyph instances used in production of the document		cardinal		9.3.3.20.3					

141	document (system hints)	font-count	specifies the number of different fonts used in the document		cardinal		9.3.3.20.4					
142	document (system hints)	font-change-count	specifies the number of font changes in the document		cardinal		9.3.3.20.5					
143	document (system hints)	maximum-fonts-per-page	specifies the maximum number of different fonts used on a page of the document		cardinal		9.3.3.20.6					
144	document (system hints)	percent-graphics	indicates the percentage of the octets in the document that comprise graphic data		percent		9.3.3.20.7					
145	document (system hints)	percent-images	indicates the percentage of the octets in the document that comprise image data		percent		9.3.3.20.8					
146	document (char-acteristics)	presentation-directions-contained	indicates the presentation direction(s) f text contained in the document	Y	Presentation-Direction (constructe type)	(dpa) toRight-toBottom toLeft-toBottom bidirect-toBottom toRight-toTop toLeft-toTop bidirect-toTop to-Bottom-toRight toBottom-toLeft toTop-toLeft toTop-toRight	9.3.3.21					
147	document (status)	document-sequence-number	specifies the number of this document in relation to the set of documents in this job		positive integer		9.3.4.1					
148	document (status)	document-state	identifies the current state of the document		object identifier	(dpa) transfer-pending pending processing completed	9.3.4.2					
149	document (status)	copies-completed	indicates the number of complete copies of this document that have been completed		cardinal		9.3.4.3					
150	document (status)	file-reference	specifies a fiel reference in a file store, or a transfer-method-specific reference		FileReference		9.3.4.4					

151	printer	printer-name	unique identity of this instance of the printing device		(dpa) distinguished name (qms-mib) DisplayString (SIZE (0 .. 255))		9.4.1			qmsPtrSysName Printer	Name	(qms-mib) A text string indicating the current printer name)
152	printer	printer-name-alias	specifies one or more alternate names for a printer	Y	distinguished name		9.4.2					
153	printer	printer-locations	identifies the location of this printer	Y	text		9.4.3				Location	
154	printer	(dpa) printer-model (npa) product-name	identifies the make and model of the printer		text		9.4.4	request device characteristics	summary		Model-Name	Note the related NPA length-of-product-name attribute is not identified here explicitly since it is unique to structuring the NPA message; the length value is not semantically significant in terms of the abstract information model.
155	printer	product-revision	indicates the revision level of the printer (manufacturer-specific)		octet			request devivce characteristics	summary		Model-Version	Revision should be incorporated as an extension to DPA as well as in a Printing MIB
156	printer	serial-number	indicates the serial number of the device		printable string			request device characteristics	summary		Serial-Number	Serial number should be incorporated as an extension to DPA as well as in a Printing MIB

157	printer	(dpa) printer-types (npa) marking-technology	identifies the type of printer; more than one value may be specified if the printer satisfies more than one type specification Note: The syntax for this attribute is derived from DPA, but incorporates the separate marking technologies and color capabilities attributes specified in NPA.	Y	(dpa) attribute value characteristics (npa) octet (marking) octet (colour)	Colour Imaging (dpa) black-and-white, grey-scale, highlight, colour (npa) monochrome, spot-color, 3-primary-color, 4-primary-color Marking Technology (dpa) line, laser, microfiche-imager, plotter, ink-jet, dot-matrix, daisy-wheel, typesetter, imagesetter (npa) electrophotographic, impact-moving-head-dot-matrix, impact-moving-head-formed, impact-band, aqueous-ink-jet, solid-ink-jet, pen, thermal-transfer, thermal-sensitive, thermal-diffusion, electrotatic, photographic, ion-deposition, e-beam	9.4.5	request device characteristics	summary		Color	While it is functionally equivalent to report colur capabilities and marking technology as a single attribute in DPA (i.e. printer-types), these should probably be handled as separate attributes for the purposes of a Printing MIB along the lines of the original NPA approach.
158	printer	device-imaging-levels-supported	identifies the number of color or monochrome levels supported by the imaging device		sequence of octets [2]			request device characteristics	summary			
159	printer	printer-realization	indicates whether the associated printer has been designated as a physical or logical printer, or both		realization	(dpa) physical logical physical-and-logical	9.4.6					

160	printer	(dpa / npa) maximum-printer-speed	specifies the maximum speed of the printer		(dpa) integer (npa) octet	(dpa) value in pages-per-minute (npa) value in device-speed-units	9.4.7	request device characteristics	summary		Speed	Prefer the NPA separately parametrized speed unit semantics for Printing MIB definition.
161	printer/	horizontal-logical-units-per-length-unit	specifies the maximum addressable horizontal marking resolution		octet string [2]	(npa) device-length-units		request device characteristics	summary		Resolution-Horiz, Resolution-Horiz-Default	Horizontal should be defined in terms of the DPA Reference Coordinate system
162	printer	vertical-logical-units-per-length-unit	specifies the maximum addressable vertical marking resolution		octet string [2]	(npa) device-length-units		request device characteristics	summary		Resolution-Vert, Resolution-Vert-Default	Vertical should be defined in terms of the DPA Reference Coordinate system
163	printer	printer-resolutions (see also horizontal-logical-units-per-length-unit, and vertical-logical-units-per-lenght-unit)	specifies the maximum resolution of the printer; multiple values may be specified if multiple discreet resolutions are supported	Y	cardinal	(dpa) dots-per-inch	9.4.8					Prefer the NPA approach allowing separate vertical and horizontal addressability specifications (HLUper length unit and VLU per length unit); addressability is a better measure than resolution (e.g. effective resolution versus addressability) and separate axis values are important. Prefer to fix NPA terminology for logical units and to specify horizontal / vertical in terms of DPA Reference Coordinate System.
164	printer	printer-state	identifies the current state of the printer		(dpa) object identifier (qms mib) DisplayString (SIZE (0 .. 255))	(dpa) unknown idle printing needs-attention paused shutdown job-start-wait job-end-wait job-password-wait needs-key-operator connecting-to-printer timed-out	9.4.9			qmsPtrSysStatus	Ready Device-State	(qms-mib) A text string indicating the current printer status) (hp-mib) A management object which represents the ready state of this printer; in theory, ready is one of a number of printer-states

165	printer	printer-associated-printers	identifies the logical / physical printers associated with this physical / logical printer	Y	distinguished name		9.4.10					
166	printer	printer-initial-value-job	identifies the logical / physical printers ready to be used on this physical / logical printer	Y	distinguished name		9.4.11					
167	printer	printer-initial-value-job	identifies an initial value job object in the server for this printer; an initial value job object contains all fhe job attributes implemented by the server with values that are the initial values, i.e. the default values that ther serer supplies when the job is submitted		job identifier		9.4.12					
168	printer	printer-final-value-job	idetnfies a final value job object in the server for this physical printer		job identifier		9.4.13					
169	printer	media-supported (npa) maximum-size-of form-in-feed-direction (npa) maximum-size-of form-across-feed-direction (npa) form-description-string	identifies the media supported by this printer	Y	(dpa) attribute value characteristics (npa) maximum size: octet string [2] (npa) description: printable string	(npa) value is specified in device-logical-units (resolution units)	9.4.14	requst device characteristics	input characteristics	qmsPtrBinPaper		In the case of this attribute, the DPA specification uses stadardized medium identifier values that include as part of their definition x and y dimension values. The dimensions specified by the largest supported medium should yield results equivalent to the NPA intent. Additionally, the DPA return value includes a Descriptor field that is functionally equivalent to the NPA description attribute.

170	printer	(dpa) media-ready (npa) current-size-of-form-in-feed-direction (npa) current-size-of-form-across-feed-direction	identifies the media currently ready to be used on this printer	Y	(dpa) name or oid syntax (npa) octet string [2]	(npa) value is specified in device-logical-units (resolution units)	9.4.15	request device characteristics	input characteristics	qmsPtrBinPaper	Media	Note that DPA specifications are based on the Reference Coordinate System, which is device-independent.
171	printer	unprintable-top-margin	identifies the top unprintable area for the identified input source		octet string [2]	value is in device-logical-units		requst device characteristics	input characteristics			The top and left unprintable margin attributes should be defined relative to the DPA device-independent Reference Coordinate System for use in a Printing MIB
172	printer	unprintable-left-margin	identifies the left unprintable area for the identified input source		octet string [2]	value is in device-logical-units		requst device characteristics	input characeristics			The top and left unprintable margin attributes should be defined relative to the DPA device-independent Reference Coordinate System for use in a Printing MIB
173	printer	medium-fidelities-supported	identifies the medium fidelities supported by this printer	Y	attribute value characteristics		9.4.16					
174	printer	fonts-supported	identifies the font resources supported by this printer	Y	FontReference		9.4.17					
175	printer	fonts-ready	identifies the font resources currently ready to be used on this printer	Y	FontReference (constructed type)		9.4.18					
176	printer	resources-supported	identifies the resources supported by this printer	Y	attribute value characteristics		9.4.19					
177	printer	resources-ready	identifies the resources currently ready to be used on this printer	Y	name of oid		9.4.20					

178	printer	printer-resource-context	allows a sequence of one or more contexts to be associated with a printer; a context is a seuqence of relative-distinguished-names which may be used as a pathname to a group of resources		ResourceContext (constructed type)		9.4.21							
179	printer	(dpa) job-finishings-supported (npa) output-features-supported	identifies the job-level finishing objects supported by this printer	Y	(dpa) attribute value characteristics (npa) octet string [2]	(dpa) <see finishing class> (npa) required values: stapling-available binding-available punching-available	9.4.22	request device characteristics	output characteristics					
180	printer	job-finishings-ready	identifies the job-level finishing objects ready to be used on this printer	Y	name or oid		9.4.23							
181	printer	(dpa) finishings-supported (npa) output-features-supported	identifies the per-document finishing objects supported by this printer	Y	(dpa) attribute value characeristics (npa) octet string [2]	(dpa) <see finishing class> (npa) required values: stapling-available binding-available punching-available	9.4.24	request device characteristics	output characteristics					
182	printer	finishings-ready	identifies the per-document finishing objects ready to be used on this printer	Y	name or oid		9.4.25							
183	printer	(dpa) outputs-supported (npa) output-description (npa) output-features-supported	identifies the output methods supported by this printer	Y	(dpa) attribute value characteristics (npa) description printable string (npa) features: octet string [2]	(dpa) <see output class> (npa) required values: face-up offset-capability security-access bursting-available collation-available face-down	9.4.26	request device characteristics	output characteristics					Note that the NPA desription attribute is subsumed by the Descriptor field of the DPA attribute value characteristcs return value.
184	printer	outputs-ready	identfies the output methods currently ready to be used on this printer	Y	object identifier		9.4.27							

185	printer	(dpa) input-trays-supported (npa) input-identification (npa) input-description	identifies the input-trays supported by this printer	Y	attribute value characteristics		9.4.28	request device characeristics	input characteristcis	qmsPtrBinIndex qmsPtrBinId (maps to DPA numbered value) qmsPtrBinName (maps to DPA named value) qmsPtrBinType = input	Input-Tray1, Input-Tray2	The NPA input description attribute is subsumed in the Descriptor element of the DPA-defined return value (and operational intent) for the input-trays-supported attribute.
186	printer	(dpa) input-trays-ready (npa) input-identification	identifies the input trays currently ready to be used on this printer	Y	(dpa) object identifier (npa) octet		9.4.29	request device characteristics	input characteristics	qmsPtrBinIndex qmsPtrBinId (maps to DPA numbered value) qmsPtrBinName (maps to DPA named value) qmsPtrBinType = input	Input-Tray1-Default	Note that the NPA and DPA value types need to be aligned; prefer DPA approach in order to support consistent, device-independent identification.
187	printer	number-of-inputs-supported	identifies the number of currently inspectable input sources		octet			request device characteristics	summary	qmsPtrBinNumber		This attribute is probably not required in a Printing MIB since clients may use the GetNext operator to inspect a sequence of input sources (similar to DPA); this attribute is specific to NPA.
188	printer	maximum-input-capacity	identifies the maximum capacity of the identified input source		octet string [4]	value in device-counter-units		request device characteristics	input characteristics			
189	printer	input-feed-type	identifies the type of feeding mechanism associated with the input source; note that this may apply a complex constraint on media which may be associated with this input.		octet	sheet-feed-auto, sheet-feed-manual continuous-roll continuous-fan-fold		request device characteristics	input characteristics			

190	printer	(dpa) output-bins-supported (npa) output-identification	identifies named or numbered output bins supported by this printer	Y	(dpa) OutputBin (npa) octet	(dpa) numbered named	9.4.30	request device characteristcis	output characteristics	qmsPtrBinIndex qmsPtrBinId (maps to DPA numbered value) qmsPtrBinName (maps to DPA named value) qmsPtrBinType = output	Output-Bin	
191	printer	(dpa) output-bins-ready (npa) output-identification	identifies the named or numbered output bins currently ready to be used on this printer	Y	(dpa) OutputBin (npa) octet	(dpa) numbered named	9.4.31	request device characteristics	output characteristics	qmsPtrBinIndex qmsPtrBinId (maps to DPA numbered value) qmsPtrBinName (maps to DPA named value) qmsPtrBinType = output	Output-Bin-Default	
192	printer	maximum-capcity-of-output-position	identifies the maximum capcity of the identified output-position		octet string [4]	value is in device-capacity-units		request device characteristics	output characteristics			
193	printer	number-of-outputs-supported	identifies the number of currently inspectable output locations		octet			request device characteristics	summary			This attribute is probably not required in a Printing MIB since clients may use the GetNext operator to inspect a sequence of output locations (similar to DPA); this attribute is specific to NPA.
194	printer	print-qualities-supported	identifies the print qualities supported by this printer	Y	attribute value characteristics		9.4.32					
195	printer	print-qualities-ready	identifies the print qualities ready to be used on this printer	Y	object identifier		9.4.33					
196	printer	start-sheets-supported	identifies the job sheets supported by this printer	Y	attribute value characteristics		9.4.34.1					
197	printer	start-sheets-ready	identifies the job sheets ready to be used on this printer	Y	name or oid		9.4.34.2					
198	printer	separator-sheets-supported	identifes the separator sheets supported by this printer	Y	attribute value characeristics		9.4.35.1					

199	printer	separator-sheets-ready	identifes the separator sheets ready to be used on this printer	Y	name or oid		9.4.35.2					
200	printer	end-sheets-supported	identifies the end sheets supported by this printer	Y	attribute value characeristics		9.4.36.1					
201	printer	end-sheets-ready	identifies the end sheets ready to be used on this printer	Y	name or oid		9.4.36.2					
202	printer	character-sets-supported	identifies the character set encodings supported by this printer	Y	attribute value characeristics		9.4.37					
203	printer	character-sets-ready	identifies the character set encoding ready to be used on this printer	Y	object identifier		9.4.38					
204	printer	character-repertoires-supported	identifies the character repertoires suported by this printer	Y	attribute value characteristics		9.4.39					
205	printer	characer-repertoires-ready	identifies the character repertoires ready to be used on this printer	Y	object identifier		9.4.40					
206	printer	character-mappings-supported	identifies the character mappings suported by this printer; a character mapping associates each character in a coded character set with a glyph identifier	Y	attribute value characteristics		9.4.41					
207	printer	characer-mappings-ready	identifies the character mappings ready to be used on this printer	Y	object identifier		9.4.42					
208	printer	start-message-supported	identifies whether the job-start-message attribute is supported by this printer		boolean		9.4.43					
209	printer	end-message-supported	identifies whether the job-end-message attribute is supported by this printer		boolean		9.4.44					

210	printer	(dpa) sides-supported (npa) duplex-capable	indicates the values of the sides attribute supported by this printer	Y	(dpa) Sides (npa) octet	(dpa) 1, 2 (npa) short-edge-binding-duplex, long-edge-binding-duplex	9.4.45	request device charateristics	summary		Duplex	Notice that DPA makes a distinction between formatting (duplex), double-sided printings (sides), and uses a Reference Coordinate System and media / tray mecahnism to orient sheets. It is preferable to carry-forward the DPA distinctions in this case since they enable more precise control for applications.
211	printer	sides-ready	indicates the values of the sides attribute that are ready to be used on this printer	Y	Sides	(dpa) 1, 2	9.4.46				Duplex-Default	Note: all hp-mib default entries are mapped to DPA xxx-ready attributes; this is a policy choice based on interpretation and may be incorrect.
212	printer	page-select-supported	indicates the types of page identifier supported by this printer, either nominal numeric or alphanumeric string, or both	Y	PageIdType	(dpa) numeric, alphanumeric, tag	9.4.47					
213	printer	maximum-copies-supported	indicates the maximum number of copies of a documetn that can be rendered by this printer in a single print job		integer		9.4.48					
214	printer	document-formats-supported	identifies the document formats currently supported by this printer	Y	attribute value characeristics		9.4.49					
215	printer	document-format-variants-supported	identifies the particular document-format-variants / versions supported for each of the indicated document formats supported by this printer	Y	DocFmtVariant-Chars	(dpa) document-format document-format-variants document-format-version	9.4.50					

216	printer	(dpa) aras-supported (npa) extent-of-printable-area-in-feed-direction (npa) extent-of-printable-area-across-feed-direction	identifies the assured reproduction areas currently supported by this printer	Y	(dpa) Area (constructed type) (npa) octet string [2]	(npa) values in device-logical-units	9.4.51	request device characteristics	input characteristics		Orientation, Orientation-Default	Note that DPA specifications are based on the Reference Coordinate System, which is device-independent and preferable as a basis for a Printing MIB (hp-mib) The HP proposed MIB defines "Orientation" as "This object contains the current print orientation for the printer." The object "Orientation-Default" is defined as "This object contains the default paper orientation." Together, these definitions seemd to be subsumed in the general information model establshed by NPA and DPA.
217	printer	(dpa) page-sizes-supported (npa) maximum-size-of form-in-feed-direction (npa) maximum-size-of form-across-feed-direction (npa) form-description-string	identifies and specifies the page sizes supported by the imposition processor or simple text formatter of the printing system	Y	PageSizeSupport-ed	(dpa) page-size-id page-size-dimensions	9.4.52	request device characteristics	input characteristics			
218	printer	orientations-supported	identifies the content orientations currently supported by this printer	Y	attribute value characteristics		9.4.53					

219	printer	presentation-directions-supported	indicates the text presentation direction(s) supported by the printer	Y	PresentationDirection (constructed type)		9.4.54					
220	printer	page-orders-supported	specifies the page orders supported by this printer	Y	attribute value characteristics		9.4.55					
221	printer	associated-server	inidcates the name of the server with which this printer is currently associated		distinguished name		9.4.56					
222	printer	sheet-count	indicates the number of sheets consumed during the operation of this printer; reset policy is implementation-dependent		(dpa) cardinal (qms-mib) INTEGER		9.4.57			qmsPtrJobsStat Sheets		QMS MIB defines the reset policy as being bounded by a hard reset of the device “power-cycle”
223	printer	page-count	the total number of pages printed for all jobs processed by the printer since the last power cycle		(qms-mib) INTEGER					qmsPtrJobStat Pages	Page-Count	
224	printer	printer-needs-attention-time	specifies how long the printer has been waiting for attention		delta time		9.4.58					
225	printer	printer-needs-key-operator-attention-time	specifies how long a printer has been waiting for attention by a key operator		delta time		9.4.59					
226	printer (security)	printer-confidentiality-level-range	specifies the printer’s minimum and maximum confidentiality levels	Y	LevelRange	(dpa) organization-identifier level-minimum level-maximum	9.4.60.1					
227	printer (security)	printer-confidentiality-category-sets	specifies the printer’s minimum and maximum sets of confidentiality categories	Y	CategorySet	(dpa) organization-identifier category-minimum category-maximum	9.4.60.2					
228	printer (security)	printer-confidentiality-policy	spceifies the security policy for confidentiality		object identifier		9.4.60.3					
229	printer (security)	printer-integrity-level-range	specifies the printer’s minimum and maximum integrity levels	Y	LevelRange	organization-identifier level-minimum level-maximum	9.4.60.4					
230	printer (security)	printer-integrity-category-sets	specifies the printer’s minmum and maximum set of integrity categories	Y	CategorySet	organization-identifier category-minimum category-maximum	9.4.60.5					
231	printer (security)	printer-integrity-policy	specifies the securityh policy for integrity		object identifier		9.4.60.6					

232	printer (security)	printer-security-label-policy	specifies the location(s) of the security label that shall be applied to each sheet of the job	Y	object identifier		9.4.60.7					
233	printer	impositions-supported	identifies the imposition objects supported by this printer	Y	attribute value characteristics		9.4.61					
234	printer	impositions-ready	identifies the imposition objects ready to be used on this printer	Y	name or oid		9.4.62					
235	printer (impositions)	plexes-supported	identifies the plexes supported by this printer	Y	attribute value characteristics		9.4.63.1					
236	printer (impositions)	plexes-ready	identifies the plexes ready to be used on this printer	Y	object identier		9.4.63.2					
237	printer (impositions)	numbers-up-supported	identifies the numbers-up supported by this printer	Y	cardinal		9.4.63.3					
238	printer (impositions)	x-image-shift-range-supported	identifies the x-image-shift range supported by this printer	Y	real range		9.4.63.4					
239	printer (impositions)	x-image-shift-range-ready	identifies the x-image-shift-range ready to be used on this printer	Y	real range		9.4.63.5					
240	printer (impositions)	y-image-shift-range-supported	identifies the y-image-shift range supported by this printer	Y	real range		9.4.63.6					
241	printer (impositions)	y-image-shift-range-ready	identifies the y-image-shift-range ready to be used on this printer	Y	real range		9.4.63.7					
242	printer (impositions)	logical-page-origins-supported	identifies the logical page origins supported by this printer	Y	attribute value characteristics		9.4.63.8					
243	printer (impositions)	logical-page-origins-ready	identifies the logical page origins ready to be used on this printer	Y	object identifier		9.4.63.9					
244	printer (impositions)	logical-page-x-offset-ranges-supported	identifies the logical page x-offset ranges supported by this printer	Y	real range		9.4.63.10					
245	printer (impositions)	logical-page-x-offset-ranges-ready	identifes the logical page x-offset ranges ready to be used on this printer	Y	real range		9.4.63.11					

246	printer (impositions)	logical-page-y-offset-ranges-supported	identifies the logical page y-offset ranges supported by this printer	Y	real range		9.4.63.12					
247	printer (impositions)	logical-page-y-offset-ranges-ready	identifes the logical page y-offset ranges ready to be used on this printer	Y	real range		9.4.63.13					
248	printer (impositions)	logical-page-scaling-range-supported	identifes the logical page scaling range supported by this printer	Y	real range		9.4.63.14					
249	printer (impositions)	logical-page-scaling-range-ready	identifies the logical page scaling range ready to be used on this printer	Y	real range		9.4.63.15					
250	printer	scheulding-algorithms-supported	identifies the scheduling algorithms supported by this printer	Y	attribute value characteristics		9.4.64					
251	printer	scheulding-algorithms-ready	identifies the scheulding algorithm ready to be used on this printer	Y	object identiifier		9.4.65					
252	printer	printer-timeout-period	identifies the period of time in seconds for which the server shall wait in order to get a response from this printer before putting this printer into the timed-out state		delta time		9.4.66					
253	printer	printer-notification-profile	specifies the notification profile for this printer; the specified events are sent to the indicated recipient(s) using the indicated delivery methods specified by the Event Handling Profile type	Y	EventHandling-Profile		9.4.67					
254	server	server-name	unique identity of the server		distinguished name		9.5.1					
255	server	server-name-aliases	identifies one or more alternate names for the server	Y	distinguished name		9.5.2					
256	server	server-address	indicates the address of this server		octet string		9.5.3					
257	server	server-state	indicates the state of this server		object identifier		9.5.4					

258	server	object-classes-supported	identifies the object classes supported by this server	Y	attribute value characteristics		9.5.5					
259	server	physical-printers-supported	identifies the physical printers supported by this server	Y	distinguished name		9.5.6					
260	server	physical-printers-ready	identifies the physical printers ready to be used through this server	Y	distinguished name		9.5.7					
261	server	logical-printers-supported	identifies the logical printers supported by this server	Y	distinguished name		9.5.8					
262	server	logical-printers-ready	identifies the logical printers ready to be used through this server	Y	distinguished name		9.5.9					
263	server	(dpa) translators-supported	identifies the translators supported by this server	Y	(dpa) TranslatorType	from to	9.5.10					
264	server	(npa) number-of-interpreters-supported	identifies the number of translators supported by this server		(npa) octet			request device characteristics	summary			NPA requires this attribute in order for clients to know how many interpreters to query, it is probably not required in a Printing MIB since inspection of interpreter objects can be undertaken using the GetNext operation (and the client stops when there are no more interpreters objects to inspect).
265	server	translators-ready	identifies the translators ready to be used on this server	Y	TranslatorType	from to	9.5.11				Pdl-Default	(hp-mib) Under the DPA model, this may be a suitable mapping for the HP object
266	server	delivery-methods-supported	identifes the delivery methods suported by this server	Y	attribute value characteristics		9.5.12					
267	server	delivery-methods-ready	identifies the delivery methods ready to be used through this server	Y	object identifier		9.5.13					
268	server	job-validates-supported	identifes the job-validate values supported by this server	Y	attribute value characteristics		9.5.14					
269	server	events-supported	identifies the event types and classes supported by this server	Y	attribute value characertistics		9.5.15					

270	server	multiple-documents-supported	indicates whether the server is capable of processing and printing multiple documents per job		boolean		9.5.16					
271	server	modify-document-supported	indicates whether the server is capable of modifying the print request parameters for individual documents within a multiple document job		boolean		9.5.17					
272	server	cancel-document-supported	indicates whether the server is capable of cancelling the print of individual documents within a mulitple document job		boolean		9.5.18					
273	server	transfer-methods-supported	identifies the transfer methods supported by this server	Y	attribute value characteristics		9.5.19					
274	server	extended-problems-supported	identifes the extended problems supported by this server; extended problems are implementation-specific	Y	attribute value characteristics		9.5.20					
275	server	conformance-levels-supported	identifies the conformance levels suppoted by this server	Y	attribute value characteristics		9.5.21					
276	server	server-resource-context	allows a sequence of one or more contexts to be associated with the server		ResourceContext (constructed type)		9.5.22					
277	server	job-states-supported	identifies the job states supported by this server	Y	attribute value characteristics		9.5.23					
278	server	job-state-reasons-supported	identifies the job state reasons supported by this server	Y	attribute value characteristics		9.5.24					
279	server	document-states-supported	identifies the document states supported by this server	Y	attribute value characteristics		9.5.25					
280	server	printer-states-supported	identifies the printer states supported by this server	Y	attribute value characteristics		9.5.26					

281	medium	medium-identifier	identifies a particular medium		name or oid		9.6.1					
282	medium	associated-media	identifies the physical / logical media associated with this logical physical medium	Y	name or oid		9.6.2					
283	medium	medium-realization	idicates whether theis medium object represents a logical or a physical medium		Realization	logical physical logical-and-physical	9.6.3					
284	medium	(dpa) medium-type (npa) form-characteristic	identifes the dominant characteristic of the medium (form)		object identifier	(common) transparency envelope (dpa) stationery continuous-long continuous-short tab-stock multi-part-form labels (npa) paper	9.6.4	request device characteristics	input characteristics			
285	medium	(dpa) medium-size (npa) form-size	identifies the size of this medium (form) by means of standardzied object identifier value		object identifier	<iso, jis, A and B series identifiers>	9.6.5	request device characteristics	input characteristics			
286	medium	(dpa) medium-dimensions	indicates the x-dimension and the y-dimension of the medium, in millimeters, as measured in the Reference Coordinate System		(dpa) Medium-Dimension (constructed type)		9.6.6	request device characteristics	input characteristics			
287	medium	medium-colour	identifies the colour of this medium		name or oid	(dpa) white pink yellow buff goldenrod blue green transparent	9.6.7					
288	medium	medium-tooth	indicates the tooth (surface finish in terms of roughness) of this medium		simple name		9.6.8					
289	medium	medium-grain	indicates the grain of this medium		simple name		9.6.9					
290	medium	medium-sides	indicates the number of imagable surfaces associated with this medium		Sides	1 2	9.6.10					

291	medium	meidum-weight	indicates the weight of this medium grams-per-square-meter		cardinal		9.6.11					
292	medium	(dpa) medium-assured-reproduction-area	indicates the assured reproduction area of this medium		(dpa) Area	(dpa) units in millimeters	9.6.12					
293	medium	medium-form-parts	indicates the number of parts supported by the form associated with this medium		positive integer		9.6.13					
294	medium	medium-holes-count	indicates the nubmer of holes (if any) pre-punched in this medium		cardinal		9.6.14					
295	medium	medium-holes-edge	indiates against which edge pre-punched holes are located on this medium		Edge (constructed type)		9.6.15					
296	medium	medium-holes-axis-offset	indicates the distance of the axis which bisects the pre-punched holes is from the identified edge (millimeters)		real		9.6.16					
297	medium	medium-holes-locations	indicates the positions of the holes along the holes axis; specifies as a seuqnece of linear distances from teh RCS coordinate axis intersected by the holes axis (millimeters)	Y	real		9.6.17					
298	medium	medium-holes-diameter	indicates the diameter of all prepunched holes in the sheet		real		9.6.18					
299	font	font-identifier	identifies a font object that has been installed in the server, printer, or which is accessible through and identified context		FontReference (constructed type; ref. ISO9541)		9.7					
300	resource	resource-name	specifies a name for the resource object		name or oid		9.8.1					
301	resource	resource-type	identifies the type of the resource object		name or oid	(dpa) overlay	9.8.2					

302	transfer method	transfer-method-identifier	identifies the document transfer method		object identifier	(dpa) with-request referenced-data-transfer ftam-by-client ftam-by-server	9.9.1					
303	transfer method	transfer-method-type	identifies the type of the transfer method		object identifier	(dpa) push pull immediate	9.9.2					
304	transfer method	document-referece-type	identifies the type of the document reference required by this transfer method		object identifier	(dpa) immediate DOR	9.9.3					
305	delivery method	delivery-method-identifier	uniquely identifies the delivery method		object identifier	(dpa) pick-up secure pick-up inter-office mail postal mail notification service electronic mail file none	9.10.1					
306	auxialliary sheet	auxilliary-sheet-identifier	uniquely identifies the job sheet		name or oid	(dpa) none brief full blank	9.11.1					
307	auxilliary sheet	auxilliary-sheet-medium	identifies the meidum that the server shall use when this object is selected		name or oid		9.11.2					
308	finishing	finishing-identifier	identifies the finishing object that contains it; permits the object to be identified by either an object identifier or a simple name		name or oid	(dpa) staple staple-top-left staple-bottom-left staple-top-right staple-bottom-right saddle-stitch edge-stitch punch cover bind none	9.12.1					
309	finishing	finishing-associated-finishings	identifies the physical / logical finishing objects associated with this logical / physical finishing object	Y	name or oid		9.12.2					
310	finishing	finishing-realization	indicates whether this object represents a logical or physical finishing object, or both		Realization	logical physical logical-and-physical	9.12.3					

311	finishing	finishing-specification	specifies the semantics of the identifies finishing object; finishing semantics are defined by either (1) a sequence of finsihing operations, or (2) as a simple name or oid		Finishing	(dpa) message finishing-spec stitching-spec binding-spec trimming-spec die-curring-spec punching-spec perforating-spec slitting-spec insert-spec cover-spec folding-spec	9.12.4					
312	output	output-identifier	uniquely identifies the output-method		object identifier	(dpa) page-collate no-page-collate decollate no-decollate burst no-burst	9.13.1					
313	imposition	imposition-identifier	identifies the imposition object		name or oid		9.14.1					
314	imposition	imposition-associated-impositions	identifies the physical / logical imposition objects associated with this logical / physical imposition object	Y	name or oid		9.14.2					
315	imposition	imposition-realization	indicates whether this object represents a logical or physical imposition object, or both		Realization	logical physical logical-and-physical	9.14.3					
316	imposition	imposition-specification	specifies addtional attributes that may be included in imposition object instances to control the detail parameters of a particular imposition function		Imposition-Sequence	(dpa) simple-2-up simple-4-up none	9.14.4					
317	imposition (specification attributes)	plex	indicates whether the page images of the output documetn are conditioned for (eventual) 1-sided or 2-sided printing, and also specifies whether the relative orientation between consecutive page-images is to be altered		object identifier	(dpa) simplex duplex tumble	9.14.5.1					

318	imposition (specification attributes)	number-up	specifies the number of source page-images that are to be imposed upon a single instance of the selected medium		cardinal		9.14.5.2					
319	imposition (specification attributes)	x-image-shift	specifies the value (in millimeters) for controlling the shift applied to page images with respect to the media on which they are to be rendered; the shift shall be parallel to the x-axis of the Reference Coordinate System		real		9.4.15.3					
320	imposition (specification attributes)	y-image-shift	specifies the value (in millimeters) for controlling the shift applied to page images with respect to the media on which they are to be rendered; the shift shall be parallel to the y-axis of the Reference Coordinate System		real		9.4.15.4					
321	imposition (specification attributes)	logical-page-origin	specifies the group of transformations that may be applied jointly to consecutive sequences of page images in order to achieve some desired imposition effect in an output document; used most commonly to produce n-up impositions		object identifier	(dpa) lower-left lower-right upper-right upper-left	9.14.15.5					

322	imposition (specification attributes)	logical-page-x-offset	specifies a sequence of offset values, one for each logical page to be placed on a single result surface; each value specifies the distance (in millimeters) that the corresponding logical page is to be shifted parallel to the x-axis of its respective logical page coordinate system	Y	real		9.14.5.6					
323	imposition (specification attributes)	logical-page-y-offset	specifies a sequence of offset values, one for each logical page to be placed on a single result surface; each value specifies the distance (in millimeters) that the corresponding logical page is to be shifted parallel to the y-axis of its respective logical page coordinate system	Y	real		9.14.5.7					
324	imposition (specification attributes)	logical-page-scaling	specifies the scale factors to be applied to transform the respective source-pages to their corresponding logical-page sizeS	Y	real		9.14.5.8					
325	scheduler	scheduler-identifier	identifies the selected scheduling algorithm		object identifier	(dpa) fifo shortest-job-first	9.15.1					
326	device-resources	number-of-device-options	identifies the number of options installed in the device (according to the NPA standard, examples include memory cards, mass storage devices, etc.)		octet			request device characteristics	summary			This value does not seem particularly useful for the purposes of a Printing MIB, since clients will inspect a similar class of device objects using the GetNext operator.
327	device-resources	option-description	identifies the indicated option (which is any type of device option aside from an input device or an output device)		printable string			request device characteristics	option characteristics			

328	device-resources	total-installed-memory	identifies the total amount of physical RAM (does not imply how much is actually available for particular functions)		octet string [5]			request device characteristics	summary		Ram-Size	Align this value to the IETF Host Resources MIB for consistency.
329	npa-protocol-resources	npa-maximum-receive-packet-size	identifies the maximum size of a data packet that can be received by the device using the NPA protocol; only applicable for data-link layer calculations		octet string [2]			request device characteristics	summary			Device data link-specific, may be conflicting with other protocol-specific management attributes; specific to use of the NPA protocol over P1284.
330	npa-protocol-resources	npa-maximum-outstanding-commands	indicates the number of outstanding commands that can be handled by the device while it is in the command processing state		octet string [2]			request device characteristics	summary			Device data link-specific, may be conflicting with other protocol-specific management attributes; specific to use of the NPA protocol over P1284.
331	npa-protocol-resources	npa-standard-block-error-checking	indicates the standard block error checking algorithms supported by the device		octet	check-sum CRC-16 CRC-CCITT CRC-32		request device characteristics	summary			Device data link-specific, may be conflicting with other protocol-specific management attributes; specific to use of the NPA protocol over P1284.
332	npa-protocol-resources	npa-message-language	indicates the language that will be used for all message sent to the host by the printer; note, hosts may map these character sets based on additional locale / language parameters supported by the host and required by other protocols		octet	English German French Canadian-French Spanish Italian danish Norwegian Dutch Japanese Korean Traditional Chinese Simplified Chinese Swedish						

333	interpreter	logical-unit-number	indicates the identity of the indicated interpreter		(npa) octet (qms-mib) INTEGER			request interpreter characteristics	summary	qmsPtrIfIndex		DPA does not identify interpreters, processing is based on supported document formats and translators which can perform format transformations alone or in combination. Standardizing this value in a MIB should require the value to be specified as an Object Identifier to assure uniqueness.
334	interpreter	features-summary	indicates the features of the selected interpreter		octet (bit-coded)	interpreter save state switching, interpreter can run simultaneously, interpreter can report resident font information, interpreter can report font card information, interpreter can report downloaded font information, unknown, known		request interpreter characteristics	summary			Font information in DPA will be reported using the printer and server class attributes font objects; DPA should report save state switching; MIB content should use DPA for most information but should include save state capability in a separate interpreter class.
335	interpreter	maximum-free-interpreter-memory	indicates the maximum amount of free memory available to this interpreter at the instant in time that the query result is posted		octet string [5]			request interpreter characteristics	summary			For MIB standardization, consider specifying the value as a Cardinal.
336	interpreter	number-of-fonts	indicates the number of currently available to the interpreter		octet string [2]			request interpreter characteristics	summary			Not reported through DPA, not apparently useful in and of itself (possibly as an input to an upstream accounting process?); not recommended as MIB content.

337	interpreter	number-of-input-sources	indicates the number of input sources availabe to this interpreter		octet			request interpreter characteristics	summary			DPA reports input information through both the printer and server classes. If it is desirable to report this same information through the interpreter class, the DPA attributes (inputs-ready, inputs-supported) would make a more functional model for this attribute.
338	interpreter	number-of-output-bins	indicates the number of output sources available to this interpreter		octet			request interpreter characteristics	summary			DPA reports output information through both the printer and server classes. If it is desirable to report this same information through the interpreter class, the DPA attributes (outputs-ready, outputs-supported) would make a more functional model for this attribute.
339	interpreter	horizontal-print-resolution	indicates the horizontal marking resolution		octet string [2]			request interpreter characteristics	summary			If this atttribute must be reported through the interpreter class, the printer class printer-resolutions attribute should be used as the model (amended with noted improvements from the NPA resolution attributes). Gvien that resolution is a property of the physical marking engine (and its associated imager software plus and image processing componenets), it is dubious that it should be reported in this class.

340	interpreter	vertical-print-resolution	indicates the vertical marking resolution		octet string [2]			request interpreter characteristics	summary			<see above for related notes regarding horizontal-print-resolution>
341	interpreter	interpreter-name	indicates the identity of this interpreter		(npa) printable string (qms-mib) DisplayString (SIZE (0 .. 255))			request interpreter characteristics	summary	qmsPtrIfName	Pcl, PostScript	If formalized in a MIB, this value should be of the DPA type Name-Or-OID in order to offer the option of using an Object Identifer or a name string. (qms-mib) the name of the interface
342	interpreter	font-name	specifies the name of the indicated font		printable string			request interpreter characteristics	font details			DPA reports Font References through the server and printer classes. If this attribute must be reported through the interpreter class, the DPA font-identifier attribute (9.7) would be a stronger basis for the indicated MIB attribute.
343	interpreter	font-storage-location	indicates the location where the font is stored within the printer		octet (bit-coded)	resident, only-removable-font-card, disk-or-flash-memory RAM, font-cartridge-slot-1 (highest priority) font-cartridge-slot-2 font-cartridge-slot-3 font-cartridge-slot-4 font-cartridge-slot-5 font-cartridge-slot-6 (lowest priority) SIMM-module		request interpreter characteristics	font details			This attribute could be used to further qualify the DPA xxx-resource-context attributes for all affected classes. This requires selecting identifiers for the NPA bit-coded fields. This information should also be reported through the priner and server classes for DPA.

344	interpreter	<input attributes: input-id, maximum-size-x, maximum-size-y, top-margin, printable-area, left-margin>						request interpreter characteristics	input characteristics			In general, see the printer class for mappings of all equivalent attributes to DPA structures; it seems dubious to report these values in the interpreter class as well (it should be possible to assert that the equivalent information is supplied by the printer class).
345	interpreter	<output attributes: output-id, number-of-positions>						request interpreter characteristics	output characteristics			In general, see the printer class for mappings of all equivalent attributes to DPA structures; it seems dubious to report these values in the interpreter class as well (it should be possible to assert that the equivalent information is supplied by the printer class).
346	interpreter	emulation identifier	indicates the identity of this interpreter's emulation		(qms-mib) INTEGER	(qms-mib) ultrascript, ibm-proprinter diablo-630, ti-855, ti-810, epson-fx, dec-ansi, ibm-ext-ascii, ln03, tektronix-4014, quic-2, impress, code-v, r1, ccitt, line-printer, hp-pcl-5, esp, not-supported, wild-card				qmsPtrIfDefEmu	Pcl, Postscript	(qms-mib) the identity of a printer emulation

347	control	reset	management object; represents a reset switch for this printer; a write to the object with any value will cause the printer to reset								Reset	Access to this object should be tied-in with an explicit authorization policy; while the policy is necessarily local to an installation, the ability to query whether a policy exists may be a useful management attribute to support in conjunction with this control
348	control	on-off-line	management object; represents the printer's online / offline switch								On-Off-Line	Access to this object should be tied-in with an explicit authorization policy; while the policy is necessarily local to an installation, the ability to query whether a policy exists may be a useful management attribute to support in conjunction with this control

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