Subj: Groups for Printer Job Monitoring and Spooling Job Monitoring objects/attributes
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1. Criteria for dividing objects/attributes into groups

This document is intended to help devise groups for the Printer Job Monitoring MIB/MIF and the Spooling Job Monitoring MIB/MIF.

The criteria for dividing information objects/attributes into groups includes:

1. Separate job vs. document, since document needs another index
2. Separate general vs. print-specific
3. Separate spooling vs. printer
4. Separate accounting
5. Separate media supported table
6. Separate multi-values objects/attributes into separate groups/tables

The grouping before the spooling vs. printer and accounting was as follows:

2. Legend

The following legend is used in the following tables in this document:

Column Heading	Description
Section	The section number in the ISO DPA standard that describes the attribute that corresponds to the object. A blank section number indicates an object that doesn't have a corresponding ISO DPA attribute. PSIS indicates that the attribute is specified by the X/Open Print Systems Interoperability Specification (PSIS) draft standard.
G/P	Indicates General (G) or print-specific (P) attribute. Some print-specific names are being changed to make the attribute apply to scan and FAX jobs as well.
MIB	Indicates which MIF/MIB the attribute/object is intended: **P**: printer job monitoring MIF/MIB **S**: spooling job monitoring MIF/MIB (future) S&P: appears in both the spooling and printer job monitoring MIB/MIF with different values **<blank>**: not proposed for either MIF/MIB
M/O	Proposed conformance for the job monitoring MIB: **M**: mandatory CM: conditional mandatory - mandatory if doing accounting **O**: optional **<blank>**: proposed *not* to be included in the either the printer or the spooling job monitoring MIB
MIB Datatype	Proposed datatype for the MIB object
Attribute	Name of the corresponding ISO DPA attribute
Ron	Ron Bergman's proposed names
page no	Page number of the ISO DPA attribute specification. A blank page number indicates that this object does not have a corresponding ISO DPA attribute

There are 3 objects on Ron Bergman's list that are not in my list, because they are per-printer object/attributes, not per-job (I believe): **jobsCurrentlyInProcess**, **jobLastActiveNumber**, **jobPrinterComment**,

3. Printer Job Monitoring *job* objects/attributes

The following table lists just the *job* objects/attributes that are being proposed to be in the *Printer* Job Monitoring MIB/MIF.

Section	G/P	MIB	M/O	MIB/MIF Datatype	Attribute	Ron's name	page no
	G	P	M	Ordinal16	GeneralCurrentLocalization		
9.2.1.2	G	P	M	A(255)	Job-identifier-on-device[printer]	jobIdentifierOnPrinter	104
9.2.1.3	G	P	O	A(255)	Job-identifier-on-client	jobIdentifierOnClient	104
9.2.1.5	G	P	M	T(255)	Job-name	jobName	105
9.2.1.6	G	P	O	T(255)	Job-originator	jobOriginator	106
9.2.1.7	G	P	M	T(255)	Job-owner		106
9.2.1.8	G	P	O	T(255)	Job-comment	jobComment	106
	G	P	M	PrtChannelType	job-source-channel-type (from rfc 1759)		
	G	P	M	CodedCharSet	Coded character set that the submitting client used to encode text attributes (IANA MIBenum character set values)		
9.2.2.1	G	P	O	Integer32	job-copies		108
9.2.2.1	G	P	O	index32[1]	output-bin		
9.2.8.1	G	P	M	DPAJobState	Current-job-state	jobCurrentState	124
9.2.8.2	G	P	M	bit-vector	Job-state-reasons		127
9.2.8.6	G	S&P	O	DateAndTime	Estimated-completion-time		129
9.2.8.7	G	S&P	O	DateAndTime	Submission-time		130
9.2.8.14	G	P	O	Counter32	Octets-completed	jobSizeInBytes	132
9.2.8.23	G	P	O	Cardinal32	Error-count		135
9.2.8.24	G	P	O	Cardinal32	Warning-count		135
9.2.8.25	G	P	O	Cardinal32	Processing-time	jobProcessingTime	135
9.2.8.27	G	P	O	Cardinal32	Number-of-documents		135

4. Printer Job Monitoring *document* objects/attributes

The following table lists only the *document* objects/attributes being proposed for the *Printer* Job Monitoring MIB/MIF. The Spooling Job Monitoring and other ISO DPA attributes are not shown (see next table). The document table is a single table for all jobs on the printer, so the each row is indexed by the **hrDeviceIndex** from the host resources MIB, the **job-identifie**r generated by the server when the server accepted the job, and the **document-sequence-number** (starts at 1 for each job).

Section	G/P	MIB	M/O	MIB/MIF Datatype	*Attribute*	Ron's name	page no

[1] The index for output-bin could be changed from index32 to index16, if a (1..65535) limit was put on prtOutputIndex in RFC 1579 as has been done with prtInputIndex.

9.3.1.1	G	P	O	T(255)	Document-name		139
9.3.2.13	P	P?			Finishing [future?]		153
9.3.2.15	P	P	O	enum	Output [method]		154
9.3.2.19	G	P	O	Int(1..2)	Sides to Print		163
9.3.2.22	G	P	O	Cardinal32	Copy-count		165
9.3.3.3	G	P	O	enum	Document-format		167
9.3.3.3	G	P	O	T(255)	Document-format-variants		167
9.3.3.3	G	P	O	T(255)	Document-format-version		167
9.3.4.16.1	G	P	O	Integer32	Octet-count		175
9.3.5.2	G	P	O	enum	Document-state		177

5. Printer Job Monitoring *accounting* objects/attributes

The following table lists only the *accounting* objects/attributes being proposed for the Printer Job Monitoring MIB/MIF. All of the objects/attributes are job level, except the last one which is per document.

Section	G/P	MIB	M/O	MIB/MIF Datatype	Attribute	Ron's names	page no
9.2.6.1	G	P	CM	T(255)	User-name		120
9.2.6.2	G	P	CM	O(255)	Accounting-information		120
9.2.8.9	G	P	CM	DateAndTime	Started-processing[printing]-time	jobStartTime	130
9.2.8.10	P	P	O	Counter32	Job-copies-completed		130
9.2.8.11	G	P	O	Counter32	Pages-completed	jobLogicalPageCount	130
9.2.8.12	G	P	CM	Counter32	Impressions-completed	jobImpressionCount	131
9.2.8.13	G	P	CM	Counter32	Media-sheets-completed		131
PSIS	P	P	O	index16	Media-consumed-type-name - table	jobPaperTraysSelected, jobFormSize	
PSIS	P	P	O	Counter32	Media-consumed-sheet-count - table	jobMediaSheetCount	
PSIS?	P	P	O	index16	Color-impressions-consumed-name - table		
PSIS?	P	P	O	Counter32	Color-impressions-consumed - table		
9.2.8.26	G	P	CM	DateAndTime	Completion-time	jobEndTime	135
9.3.5.3	P	P	O	Cardinal32	Copies-completed		178

6. Spooling Job Monitoring *job* objects/attributes

The following table lists all the *Spooling* Job Monitoring *job* objects/attributes.

Section	G/P	MIB	M/O	MIB/MIF Datatype	Attribute	Ron's names	page no
9.2.1.1	G	S	M	A(255)	Job-identifier		104
9.2.1.4	G	S	M	T(255)	Job-client-id		105
	G	S	M	Oid	Job-source-type		
	G	S	M	Oid	Job-destination-type		
	G	S	M	Boolean	Spooled-job		
	G	S	M	PrtChannelType	job-destination-channel-type (from rfc 1759)		
9.2.2.1	G	S	M	Ordinal32	number-of-job-sets		

9.2.4.5	G	S	M	DateAndTime DateAndTime	Job-process[print]-after		116
9.2.4.6	G	S	O	Int(1..100)	Job-priority		116
9.2.4.7	G	S	O	DateAndTime	Job-deadline-time		116
9.2.4.8	G	S	O	DateAndTime	Job-discard-time		117
9.2.4.9	G	S	M	DeltaTime	Job-retention-period		117
9.2.4.10	G	S	O	T(255)	Job-message-to-operator		117
9.2.5.1	G	S	M	T(255)	Device[Printer]-name-requested		118
9.2.8.3	G	S	M	DPAJobState	Previous-job-state		128
9.2.8.4	G	S	M	hrDeviceIndex	Devices-assigned		128
9.2.8.5	G	S	M	enum	Devices-state-of-devices-assigned		129
9.2.8.6	G	S&P	O	DateAndTime	Estimated-completion-time		129
9.2.8.7	G	S&P	O	DateAndTime	Submission-time		130
9.2.8.16	G	S	M	Cardinal32	Intervening-jobs		132
9.2.8.20	G	S	O	T(255)	Job-message-from-administrator		134
9.2.9.1	P	S	O	Cardinal32	Job-page-count		137

7. Spooling Job Monitoring *document* objects/attributes

The following table lists the *Spooling* Job Monitoring *document* objects/attributes.

Section	G/P	MIB	M/O	MIB/MIF Datatype	*Attribute*	Ron's names	page no
9.3.1.2	G	S	M	T(255)	Document-file-name		139
9.3.2.1	P	S	O	T(255)	Default-medium		140
9.3.2.2	P	S	O	index16	Default-input-tray		141
9.3.2.16.1	P	S	O	Cardinal32	Number-up		155
9.3.3.1	P	S	M	enum	Document-type		166

8. Spooling Job Monitoring *media-supported* objects/attributes

The following optoinal table contains the media supported by this spooling system.

Section	G/P	MIB	M/O	MIB Datatype	Attribute	Ron's names	page no
	G	P	O	A(255)	ASCII-name		
	G	P	O	T(255)	Name		
	G	P	O	T(255)	Description		
	G	P	O	enum	MediaSizeUnit (.0001 inches or micrometers)		
	G	P	O	Ordinal32	X-dimension		
	G	P	O	Ordinal32	Y-dimension		
	G	P	O	A(255)	Type		
	G	P	O	Cardinal32	Weight		
	G	P	O	A(255)	Color		