

# Comments on Printer Port Monitor MIB 1.0, Candidate Standard 5107.1-2005

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The following observations are prompted by having observed some implementations. On reviewing the document, I discovered that some of what appeared to be inappropriate values could be justified by the standard. I suggest that some information, particularly in Section 4.2, could be lead to misunderstanding. There are also a few other areas that may be confusing.

## Relationships to other MIBs

I believe that the values of certain MIB elements must be the same as elements in other MIBs, provided that these other MIBs are supported. It is understood that the intent was to encourage PPM MIB implementation even if no other MIBs are supported, while still ensuring reasonable coherence between the PPM MIB, the Printer MIB and the HR MIB, when these other MIBs are supported. The "relationships to other MIBs" section therefore hedges its statements or relationships with the conformance term "MAY" suggesting that the use of common values was optional where the PPM MIB definition itself should be read to indicated that the use of common values was mandatory, conditional upon the other MIB being supported. The PPM MIB Definition descriptions giving this conditionally mandatory requirement are themselves subject to misinterpretation by typically defining the value of the PPM object as "zero if not specified". This presumably means that the value must correspond to the value of the cited object in the reference MIB (or at least the cited object in that MIB) is not supported, in which case the value of the PPM object must be "zero".

Specific cases are:

1. 4.2.1 Relationship to IANA Printer MIB

The PPM MIB defines the 'ppmPortProtocolType' object, which MAY contain a value from 'PrtChannelTypeTC' in the IANA Printer MIB ....

30 The ppmPortProtocolType description is:

31 "The protocol type of this printer port, specified as a value  
32 from 'PrtChannelTypeTC' in the IANA Printer MIB (e.g.,  
33 'chLPDServer(8) ' for LPR (RFC 1179) or 'chPort9100(11) ' for  
34 Raw), or zero if not specified...

35 Systems that implement any version of the IETF Printer MIB  
36 (RFC 1759/3805) SHOULD use the same value of protocol type  
37 for this port in the 'prtChannelTable', so monitoring  
38 applications MAY search for more channel information and  
39 status."

40

41 2. 4.2.3 Relationship to IETF Host Resources MIB

42 The PPM MIB defines the 'ppmPrinterHrDeviceIndex' object, which MAY  
43 contain a value of 'hrDeviceIndex' in the IETF Host Resources MIB  
44 [RFC1514] [RFC2790],

45 The MIB Definition description states:

46 "The value of 'hrDeviceIndex' in the IETF Host Resources MIB (RFC  
47 1514/2790), or zero if not specified.

48

49 3. 4.2.4 Relationship to IETF Printer MIB prtGeneralPrinterName

50 This is a little different. There seems confusion between section 4 and the MIB Definition  
51 on what the "MAY" applies to. The conditionally mandatory relation to the printer MIB  
52 V2 is here alluded to by saying that the "object corresponds to" the Printer MIB v2  
53 object.

54 The PPM MIB defines the 'ppmPrinterName' object, which MAY contain a user-  
55 friendly printer name in the locale in 'ppmGeneralNaturalLanguage'. This  
56 object corresponds to the 'prtGeneralPrinterName' object defined in IETF  
57 Printer MIB v2 [RFC3805]

58 MIB read:

59 "A user friendly name for this printer that may be used to  
60 facilitate user selection of a printer supported by a network  
61 system, in the locale specified by  
62 'ppmGeneralNaturalLanguage'. This printer name may contain  
63 non-ASCII characters that are NOT allowed in a URI (RFC 3986)  
64 without percent-encoding.

65 Systems that implement the IETF Printer MIB v1 (RFC 1759)  
66 SHOULD implement this object as an augmentation to the Printer  
67 MIB v1.

68 Systems that implement the IETF Printer MIB v2 (RFC 3805)  
69 MUST ensure that the value of this object is identical to the  
70 value of 'prtGeneralPrinterName' for each printer.

71

#### 72 4. 4.2.4 Relationship to IETF Printer MIB prtChannellInformation

73 The relationship here is apparent.

74 The PPM MIB defines the 'ppmPortName' object, which MAY contain a  
75 user-friendly port name in the locale in 'ppmGeneralNaturalLanguage'. This  
76 object MAY correspond to the 'prtChannellInformation' object defined in IETF  
77 Printer MIB v2 [RFC3805].

78 But the MIB reads:

79 The value of this object SHOULD be set by an out-of-band method  
80 (e.g., local console) during installation (by the vendor or site  
81 administrator) and SHOULD NOT be subsequently modified, so that  
82 the value can be used as a static key for access to the port.

83 Mention of prtChannellInformation is only in the "Reference". So the relationship is  
84 unclear.

85

#### 86 5. 4.2.4 Relationship to Host Resources MIB hrDeviceIndex

87 The PPM MIB defines the 'ppmPrinterHrDeviceIndex' object, which MAY contain a  
88 value of 'hrDeviceIndex' in the IETF Host Resources MIB [RFC1514]  
89 [RFC2790], for access to the IETF [RFC1759] [RFC3805]

90 ('hrDeviceIndex' is the high-order index of all tables in the IETF Printer  
91 MIB).

92 The MIB description reads as follows:

93 "The value of 'hrDeviceIndex' in the IETF Host Resources MIB  
94 (RFC 1514/2790), or zero if not specified.

95 5. 4.2.4 Relationship to Printer MIB prtChannelIndex

96 The PPM MIB defines the 'ppmPortPrtChannelIndex' object, which MAY  
97 contain a value of 'prtChannelIndex' in the IETF Printer MIB [RFC1759]  
98 [RFC3805], to be used for status queries in the IETF Printer MIB for each port.

99 The MIB description says:

100 "The value of 'prtChannelIndex' in IETF Printer MIB  
101 (RFC 1759/3805) that corresponds to this printer port, or  
102 zero if not specified.

103

104 6. 4.2.5 Relationship to IETF Interfaces Group MIB

105 The PPM MIB defines the 'ppmPortPrtChannelIndex' object, which MAY  
106 contain a value of 'prtChannelIndex' in the IETF Printer MIB [RFC1759]  
107 [RFC3805] and may be used to find a value of 'prtChannelIndex' for  
108 physical interface status queries for each port.

109 The MIB description says:

110 "The value of 'prtChannelIndex' in IETF Printer MIB (RFC  
111 1759/3805) that corresponds to this printer port, or zero if  
112 not specified.

## 113 **Other Issues**

114 1. 4.2.3 Relationship to IETF Host Resources MIB

115 The PPM MIB defines the 'ppmPrinterSnmpStatusQueryEnabled' object,  
116 to enable or disable SNMP status queries by port monitor applications.

117 This suggests that the MIB allows the value of this object to be set. I suggest

118       The PPM MIB defines the 'ppmPrinterSnmpStatusQueryEnabled' object,  
119       which indicates whether SNMP status queries by port monitor applications  
120       are enabled or disabled.

121       2. ppmGeneralNumberOfPorts

122 This is defined as:

123               "The number of printer ports supported on this network system,  
124               i.e., the number of entries in the 'ppmPortTable' below, or  
125               zero if no printer ports are currently configured."

126 This implies that ALL ports must be listed. Generally, I have seen  
127 just a few select ports listed. The same comment applies to  
128 ppmPrinterNumberOfPorts.

129

## 130 Questions

131       1. ppmPortServiceNameOrURI

132 All protocols, but IPP in particular allow a variety of URI forms, and port variations;  
133 e.g,

134                               http://192.168.1.102/ipp  
135                               http://DNSNAME.hsd1.ma.comcast.net./ipp  
136                               ipp://192.168.1.102/ipp  
137                               ipp://DNSNAME.hsd1.ma.comcast.net./ipp  
138                               http://192.168.1.102/631  
139                               http://DNSNAME.hsd1.ma.comcast.net./631  
140                               ipp://192.168.1.102/631  
141                               ipp://DNSNAME.hsd1.ma.comcast.net./631  
142                               http://192.168.1.102/80  
143                               http://DNSNAME.hsd1.ma.comcast.net./80  
144                               ipp://192.168.1.102/80  
145                               ipp://DNSNAME.hsd1.ma.comcast.net./80

146       Which should be handled as separate PPM ports? What variations should be  
147       included under ppmPortServiceNameOrURI?

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149       2. Similar question, but with respect to IPP (or WSD) over https. Should this be listed  
150       as a separate PPM port?

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153 21 January, 2008 Bill Wagner