Printer Management Objects: Interface Classes

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Scope

This specification defines a class or set of printer interface objects and their values to be used by printer management applications.

Assumptions

- The standard or required classes can be reasonably implemented by printer vendors for most printers.
- The optional classes are provided as a standard but are not required.

Printer Interface Class

The printer interface class provides management applications with information characterizing the interfaces to the printer and the interface status. The definition supports multiple interfaces defined in a table.

Basic Printer Interface Class Specification

ptrInterfaceTable OBJECT-TYPE
SYNTAX SEQUENCE OF PtrInterface
ACCESS not-accessible
STATUS manditory
DESCRIPTION
"A table of interfaces to the printer."

ptrInterface OBJECT-TYPE
SYNTAX PtrInterface
ACCESS not-accessable
STATUS manditory
DESCRIPTION
"A interface entry into the table of interfaces to the printer."
INDEX { ptrInterfaceID }

PtrInterface ::=
SEQUENCE {
ptrInterfaceID
INTEGER,
ptrInterfaceType
INTEGER,
ptrInterfaceStatus
INTEGER,
ptrInterfaceDescr
DisplayString
}

ptrInterfaceID OBJECT-TYPE
SYNTAX INTEGER
ACCESS read-only
STATUS manditory
DESCRIPTION
"A unique identifier which corresponds to the printer interface. The value for each interface must remain constant at least from one re-initialization cycle to the next re-initialization cycle."

--How do we handle "hot pluggable" interfaces?

ptrInterfaceType OBJECT-TYPE
SYNTAX INTEGER {
other (1)
rs-232 (2),
ieee1284 (3),
parallel (4)
localtalk(5),
network (6),
scsi (7),
coax(8),
twinax(9),
fax(10),
}
ACCESS read-only
STATUS manditory
DESCRIPTION
"The type of hardware interface."

ptrInterfaceStatus OBJECT-TYPE
SYNTAX INTEGER {
unknown (1),
active (2),
idle (3),
off (4),
on (5),
warning (6)
down (7),
testing (8)
}
ACCESS read-only
STATUS manditory
DESCRIPTION
"The current operational state of the interface. The table below defines the enumerations:

unknown (1)	status unknown
active (2)	data is being sent or received on the interface
idle (3)	no data is being sent or received on the interface
off (4)	the interface is off
on (5)	the interface is on [all other state imply on except off (4) and unknown (1)]
warning (6)	the interface had a non-critical error
down (7)	the interface is inoperable
testing (8)	the interface is in a test or initialization state"

ptrInterfaceDescr OBJECT-TYPE
SYNTAX DisplayString (SIZE (0..255))
ACCESS read-only
STATUS manditory
DESCRIPTION
"A textual description of the interface, including manufacturer, revision, optional/fixed, and capabilites (i.e. protocols supported, speed)."

--Do we want to specify specific format for this DisplayString object? That is, specific
--keys and values separated by commas and semicolons (e.g., key, value; key, value)

Optional Printer Interface Class Specification

--Does it make sense to incorporate the following?
-----parallel-printer-like hardware devices MIB (RFC 1318)
-----RS-232-like hardware devices MIB (RFC 1317)
-----character stream devices MIB (RFC 1316)
-----DMTF/DMI FAX MIF?

--Do we want to tie an interpreter class to a interface somehow?

interfaceIEEE1284DeviceID OBJECT-TYPE
SYNTAX DisplayString (SIZE (0..255))
ACCESS read-only
STATUS optional
DESCRIPTION
"A textual description of the printer retrieved from the IEEE1284 interface. The textual description follows the IEEE1284 proposed standard which includes information about the printer, manufacuture, model, and capabilities."

Printer Interface Control

interfaceEnable OBJECT-TYPE
SYNTAX INTEGER {
off(0),
on(1),
reset(2)
}
ACCESS read-write
STATUS optional
DESCRIPTION
"This object can be set from a properly authorized management console to enable, disable, or reset the printer interface."

Printer Interface Notifications

ptrInterfaceAltert NOTIFICATION-TYPE
VARIABLES {ptrInterfaceStatus }
DESCRIPTION
"This trap reports the current state of the printer interface."