Network Working Group
Request for Comments: 2325
Category: Informational

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1 April 1998

# Definitions of Managed Objects for Drip-Type Heated Beverage Hardware Devices using SMIv2

## Status of this Memo



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## 1. Introduction

This memo defines an extension to the Management Information Base (MIB) for use with network management protocols in the Internet community. In particular, it defines objects for the management of coffee-brewing and maintenance devices.

## 2. The SNMPv2 Network Management Framework

The SNMPv2 Network Management Framework consists of four major components. They are:

- RFC 1442 [1] which defines the SMI, the mechanisms used for describing and naming objects for the purpose of management.

- STD 17, RFC 1213 [2] defines MIB-II, the core set of managed objects for the Internet suite of protocols.
- RFC 1445 [3] which defines the administrative and other architectural aspects of the framework.
- RFC 1448 [4] which defines the protocol used for network access to managed objects.

The Framework permits new objects to be defined for the purpose of experimentation and evaluation.

## 2.1. Object Definitions

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. Objects in the MIB are defined using the subset of Abstract Syntax Notation One (ASN.1) defined in the SMI. In particular, each object object type is named by an OBJECT IDENTIFIER, an administratively assigned name. The object type together with an object instance serves to uniquely identify a specific instantiation of the object. For human convenience, we often use a textual string, termed the descriptor, to refer to the object type.

# 3. Overview

The COFFEE POT MIB applies to managed devices that brew, store, and deliver heated coffee beverages. The COFFEE POT MIB is mandatory for all systems that have such a hardware port supporting services managed through some other MIB.

The MIB contains objects that relate to physical connections, configuration, storage levels, availabilty, quality of service, and availability.

## 3.1. Relationship to Interface MIB

The COFFEE-POT-MIB is one of many MIBs designed for layered use as described in the Interface MIB [5]. In most implementations where it is present, it will be in the lowest interface sublayer, that is, the COFFEE-POT-MIB represents the physical layer, providing service to higher layers such as the Character MIB [6].

Although it is unlikely that a coffee port will actually be used as a network interface, which is the intent of the Interface MIB, the COFFEE-POT-MIB is closely connected to the Character MIB, which can share hardware interfaces with network operation, and relate to the RS-232 MIB [7].

The Interface MIB's ifTestTable and ifRcvAddressTable are not relevant to the COFFEE-POT-MIB.

The COFFEE-POT-MIB is relevant for ifType values sip(31), and perhaps others.

The COFFEE-POT-MIB requires the conformance groups ifGeneralGroup, and ifFixedLengthGroup.

Usefulness of error counters in this MIB depends on the octet counters in ifFixedLengthGroup.

## 4. Definitions

```
COFFEE-POT-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE,
    TimeStamp, TimeInterval,
    Counter32, Integer32
        FROM SNMPv2-SMI
    InterfaceIndex
        FROM IF-MIB
    transmission
        FROM RFC1213-MIB
    MODULE-COMPLIANCE, OBJECT-GROUP
        FROM SNMPv2-CONF;

coffee MODULE-IDENTITY
     LAST-UPDATED "9803231700Z"
     ORGANIZATION "Networked Appliance Management Working Group"

     CONTACT-INFO
            "        Michael Slavitch
                     Loran Technologies,
                     955 Green Valley Crescent
                     Ottawa, Ontario Canada K2A 0B6

                Tel: 613-723-7505
                Fax: 613-723-7209
             E-mail: slavitch@loran.com"
     DESCRIPTION
            "The MIB Module for coffee vending devices."
    ::= { transmission 132 }

potName OBJECT-TYPE
     SYNTAX     DisplayString (SIZE (0..255))
     MAX-ACCESS read-only
```

```
        STATUS current
        DESCRIPTION
                "The vendor description of the pot under management"
        ::= { coffee 1 }


   potCapacity OBJECT-TYPE
        SYNTAX Integer32
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
           "The number of units of beverage supported by this device
            (regardless of its current state) ."
       ::= { coffee 2 }


   potType OBJECT-TYPE
        SYNTAX     INTEGER {
           automatic-drip(1),
           percolator(2),
           french-press(3),
           espresso(4),
           }
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The brew type of the coffee pot."
        ::= { coffee 3 }

   potLocation OBJECT-TYPE {
        SYNTAX     DisplayString (SIZE (0..255))
        MAX-ACCESS read-write
        STATUS current
        DESCRIPTION
                "The physical location of the pot in question"
        ::= { coffee 4 }


   potMonitor            OBJECT IDENTIFIER ::= { coffee 6 }


   potOperStatus
        SYNTAX     Integer {
                        off(1),
                        brewing(2),
                        holding(3),
                        other(4),
                        waiting(5)
```

```
                        }
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
                "The operating status of the pot in question. Note
                 that this is a read-only feature. Current hardware
                 prevents us from changing the port state via SNMP."
        ::= { potMonitor 1 }

    potLevel OBJECT-TYPE
        SYNTAX     Integer32
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
                "The number of units of coffee under management. The
                 units of level are defined in potMetric below."
        ::= { potMonitor 2 }

    potMetric  OBJECT-TYPE
        SYNTAX     Integer {
                    espresso(1),
                    demi-tasse(2),
                    cup(3),
                    mug(4),
                    bucket(5)
                    }
        MAX-ACCESS read-only
        STATUS current
        DESCRIPTION
                "The vendor description of the pot under management"
        ::= { potMonitor 3 }


   potStartTime OBJECT-TYPE
       SYNTAX     Integer64
       MAX-ACCESS read-write
       STATUS     current
       DESCRIPTION
               "The time in seconds since Jan 1 1970 to start the pot
                if and only if potOperStatus is waiting(5)"
       ::= { potMonitor 4 }


    lastStartTime OBJECT-TYPE
       SYNTAX     TimeInterval
       MAX-ACCESS read-only
       STATUS     current
       DESCRIPTION
```

```
            "The amount of time, in TimeTicks, since the coffee
            making process was initiated."
      ::= { potMonitor 5 }


    potTemperature OBJECT-TYPE
       SYNTAX     Integer32
       UNITS      "degrees Centigrade"
       MAX-ACCESS read-only
       STATUS     current
       DESCRIPTION
               "The ambient temperature of the coffee within the pot"

      ::= { potMonitor 6 }

   END
```

## 5. Acknowledgements

Networked Appliance Management Working Group (not) of the IETF.

## 6. References

[1] Case, J., McCloghrie, K., Rose, M., and S. Waldbusser, "Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)", RFC 1442, April 1993.

[2] McCloghrie, K., and M. Rose, Editors, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II", STD 17, RFC 1213, March 1991.

[3] Galvin, J., and K. McCloghrie, "Administrative Model for version 2 of the Simple Network Management Protocol (SNMPv2)", RFC 1445, April 1993.

[4] Case, J., McCloghrie, K., Rose, M., and S. Waldbusser, "Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2)", RFC 1448, April 1993.

[5] McCloghrie, K., and F. Kastenholz, "Evolution of the Interfaces Group of MIB-II", RFC 1573, January 1994.

[6] Valdez, Juan, "Definitions of Columbian Objects for Coffee Pot Devices using SMIv2", Columbia, Inc., March 1998.

## 7. Security Considerations

Security issues are not discussed in this memo.

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