

Support for the NetCitizen SNMP MIB in HP StorageWorks Tape Libraries

This document provides technical details about a Simple Network Management Protocol (SNMP) Management Information Base (MIB) supported by many HP StorageWorks Tape Libraries. The MIB described in this document is known as the NetCitizen MIB, the SEMI 1.0 MIB, or the HP HTTP Manageable MIB. Tape libraries that support the NetCitizen MIB also support the standard MIB-II MIB and some support the HP Trap Destination MIB. Tape libraries that support one or more of these MIBs include:

- ESL 9000 series libraries, with an Interface Manager card installed
- ESL E-Series libraries
- EML E-Series libraries
- MSL 5000 and 6000 series libraries, with firmware 4.23 or greater
- VLS 6000 series virtual libraries

The NetCitizen MIB is pre-installed in many HP management applications, including System Insight Manager, and is primarily intended for LAN-based device discovery and alerts. Other applications may allow the MIB to be installed to decode traps received from supported storage devices. You should use applications like Command View and System Insight Manager to monitor, configure, and maintain your LAN-connected storage devices.

The NetCitizen MIB described in this document defines SNMP-readable fields and SNMP events or traps. The `hpHttpMgDeviceTable` contains the fields of greatest interest and the `hpHttpMgTraps` tree defines generic traps. Other fields are not guaranteed to be supported. Most fields are read-only. Fields listed as read-write may be changeable only by HP applications such as Command View for Tape Libraries or System Insight Manager. These fields may not be accessible directly through general SNMP query tools.



* 4 0 9 4 0 9 - 0 0 1 *

```

-- *****
--
-- HP-httpManageable-MIB
--
-- "Management information for HP devices. This MIB provides SNMP
-- systems asset and HTTP management information, as well as
-- entity relationship information for host based implementations."
--
-- (C) Copyright Hewlett-Packard Company 2000
-- All Rights Reserved.
--
-- Date:   April 5, 2001 10:16 a.m.           (Version 01.00) Release
-- *****
--
-- Context within the MIB object naming tree
--
--(1)   iso
--(1.3)  org
--(1.3.6)  dod
--(1.3.6.1)  internet
--(1.3.6.1.4)  private
--(1.3.6.1.4.1)  enterprises
--(1.3.6.1.4.1.11)  hp
--(1.3.6.1.4.1.11.2)  nm
--(1.3.6.1.4.1.11.2.36)  hpWebMgmt
--(1.3.6.1.4.1.11.2.36.1)  hpHttpMgMod
--(1.3.6.1.4.1.11.2.36.1.1)  hpHttpMgObjects
--(1.3.6.1.4.1.11.2.36.1.1.1)  hpHttpMgDefaults
--(1.3.6.1.4.1.11.2.36.1.1.1.1)  hpHttpMgDefaultURL
--(1.3.6.1.4.1.11.2.36.1.1.2)  hpHttpMgNetCitizen      (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.1)  hpHttpMgMgmtSrvrURL    (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.2)  hpHttpMgID              (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.3)  hpHttpMgHealth        (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.4)  hpHttpMgManufacturer  (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.5)  hpHttpMgProduct       (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.6)  hpHttpMgVersion       (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.7)  hpHttpMgHWVersion    (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.8)  hpHttpMgROMVersion   (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.9)  hpHttpMgSerialNumber (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.10) hpHttpMgAssetNumber  (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.2.11) hpHttpMgPhone        (deprecated)
--(1.3.6.1.4.1.11.2.36.1.1.3)  hpHttpMgEntityNetInfo
--(1.3.6.1.4.1.11.2.36.1.1.3.1)  hpHttpMgEntityNetInfoTable
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1) hpHttpMgEntityNetInfoEntry
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.1)  hpHttpMgEntityNetInfoIndex
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.2)  hpHttpMgEntityNetInfoSysObjID
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.3)  hpHttpMgEntityNetInfoRelationshipType
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.4)  hpHttpMgEntityNetInfoUniqueID
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.5)  hpHttpMgEntityNetInfoURL
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.6)  hpHttpMgEntityNetInfoURLLabel
--(1.3.6.1.4.1.11.2.36.1.1.3.1.1.7)  hpHttpMgEntityNetInfoIPAddress
--(1.3.6.1.4.1.11.2.36.1.1.4)  hpHttpMgCluster
--(1.3.6.1.4.1.11.2.36.1.1.4.1)  hpHttpMgClusterName
--(1.3.6.1.4.1.11.2.36.1.1.5)  hpHttpMgDeviceInfo
--(1.3.6.1.4.1.11.2.36.1.1.5.1)  hpHttpMgDeviceTable
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1)  hpHttpMgDeviceEntry
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.1)  hpHttpMgDeviceIndex
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.2)  hpHttpMgDeviceGlobalUniqueID
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.3)  hpHttpMgDeviceHealth

```

```

--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.4)    hpHttpMgDeviceSysObjID
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.5)    hpHttpMgDeviceManagementURL
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.6)    hpHttpMgDeviceManagementURLLabel
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.7)    hpHttpMgDeviceManufacturer
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.8)    hpHttpMgDeviceProductName
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.9)    hpHttpMgDeviceProductCaption
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.10)   hpHttpMgDeviceSerialNumber
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.11)   hpHttpMgDeviceVersion
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.12)   hpHttpMgDeviceHWVersion
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.13)   hpHttpMgDeviceROMVersion
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.14)   hpHttpMgDeviceAssetNumber
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.15)   hpHttpMgDeviceContactPerson
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.16)   hpHttpMgDeviceContactPhone
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.17)   hpHttpMgDeviceContactEmail
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.18)   hpHttpMgDeviceContactPagerNumber
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.19)   hpHttpMgDeviceLocation
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.20)   hpHttpMgDeviceRackId
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.21)   hpHttpMgDeviceRackPosition
--(1.3.6.1.4.1.11.2.36.1.1.5.1.1.22)   hpHttpMgDeviceRelationshipType
--(1.3.6.1.4.1.11.2.36.1.2)            hpHttpMgGroups
--(1.3.6.1.4.1.11.2.36.1.2.1)          hpHttpMgDefaultGroup
--(1.3.6.1.4.1.11.2.36.1.2.2)          hpHttpMgBasicNetCitizenGroup      (deprecated)
--(1.3.6.1.4.1.11.2.36.1.2.3)          hpHttpMgBasicNetCitizenTrapGroup  (deprecated)
--(1.3.6.1.4.1.11.2.36.1.2.4)          hpHttpMgExtendedNetCitizenGroup   (deprecated)
--(1.3.6.1.4.1.11.2.36.1.2.5)          hpHttpMgExtendedNetCitizenTrapGroup
--(1.3.6.1.4.1.11.2.36.1.2.6)          hpHttpMgEntityRelationshipGroup
--(1.3.6.1.4.1.11.2.36.1.2.7)          hpHttpMgClusterGroup
--(1.3.6.1.4.1.11.2.36.1.2.8)          hpHttpMgEnhancedNetCitizenGroup
--(1.3.6.1.4.1.11.2.36.1.2.9)          hpHttpMgEnhancedNetCitizenTrapGroup
--(1.3.6.1.4.1.11.2.36.1.3)            hpHttpMgCompliances
--(1.3.6.1.4.1.11.2.36.1.3.1)          hpHttpMgMinCompliance
--(1.3.6.1.4.1.11.2.36.1.3.2)          hpHttpMgBasicNetCitizenCompliance (deprecated)
--(1.3.6.1.4.1.11.2.36.1.3.3)          hpHttpMgEnhancedNetCitizenCompliance

--hpHttpMgTraps
--  hpHttpMgHealthTrap      (deprecated)
--  hpHttpMgShutdown        (deprecated)
--  hpHttpMgUnknownHealthTrap
--  hpHttpMgOKHealthTrap
--  hpHttpMgWarningHealthTrap
--  hpHttpMgCriticalHealthTrap
--  hpHttpMgNonRecoverableHealthTrap
--  hpHttpMgDeviceAddedTrap
--  hpHttpMgDeviceRemovedTrap

```

```

-- NOTE - For those who want to implement a trap destination table, we
-- recommend using the trap destination section of the ICF mib.

```

```

SEMI-MIB DEFINITIONS ::= BEGIN

```

```

-- =====
IMPORTS
    OBJECT-TYPE, MODULE-IDENTITY, NOTIFICATION-TYPE,
    enterprises, IpAddress
    FROM SNMPv2-SMI
    TEXTUAL-CONVENTION
    FROM SNMPv2-TC

```

OBJECT-GROUP, NOTIFICATION-GROUP, MODULE-COMPLIANCE
FROM SNMPv2-CONF;

```
-- =====  
--  
hp          OBJECT IDENTIFIER ::= { enterprises 11 }  
nm          OBJECT IDENTIFIER ::= { hp 2 }  
hpWebMgmt   OBJECT IDENTIFIER ::= { nm 36 }
```

```
-- =====  
-- Module Identity
```

```
hpHttpMgMod MODULE-IDENTITY  
  LAST-UPDATED "0104030000Z"  
  ORGANIZATION "Hewlett-Packard"  
  CONTACT-INFO "brian_harrison@hp.com"
```

```
DESCRIPTION  
  "Management information for HP devices. This MIB provides SNMP  
  systems asset and HTTP management information, as well as  
  entity relationship information for host based implementations.  
  This version contains additions for SEMI"
```

```
REVISION      "0010160000Z"  
DESCRIPTION    "Minor syntactic changes in notifications."
```

```
REVISION      "0010120000Z"  
DESCRIPTION    "Fixed semantic error, modified traps and included  
               changes from the review team."
```

```
REVISION      "0010040000Z"  
DESCRIPTION    "Moved Device asset information into a container model.  
               Modified traps and compliance definitions. Deprecated  
               previous device asset objects."
```

```
REVISION      "0001120000Z"  
DESCRIPTION    "Added cluster support"
```

```
REVISION      "9903170000Z"  
DESCRIPTION    "Corrected definition of hpHttpMgMod"
```

```
REVISION      "9812010000Z"  
DESCRIPTION    "Incorporated entity-relationship table"
```

```
REVISION      "9706260000Z"  
DESCRIPTION    "Incorporated NetCitizen definitions"
```

```
REVISION      "9606120000Z"  
DESCRIPTION    "Initial Version"  
               ::= { hpWebMgmt 1 }
```

```
-- =====  
-- Textual Conventions for this MIB
```

```
Utf8String ::= TEXTUAL-CONVENTION  
  DISPLAY-HINT "255a"  
  STATUS current  
  DESCRIPTION  
    "To facilitate internationalization, this TC
```

represents information taken from the ISO/IEC IS 10646-1 character set, encoded as an octet string using the UTF-8 character encoding scheme described in RFC 2044 [10]. For strings in 7-bit US-ASCII, there is no impact since the UTF-8 representation is identical to the US-ASCII encoding."

SYNTAX OCTET STRING (SIZE (0..255))

-- =====

--

hpHttpMgTraps OBJECT IDENTIFIER ::= { hpHttpMgMod 0 }
hpHttpMgObjects OBJECT IDENTIFIER ::= { hpHttpMgMod 1 }
hpHttpMgGroups OBJECT IDENTIFIER ::= { hpHttpMgMod 2 }
hpHttpMgCompliances OBJECT IDENTIFIER ::= { hpHttpMgMod 3 }

-- =====

-- Default attributes for managing via HTTP

hpHttpMgDefaults OBJECT IDENTIFIER ::= { hpHttpMgObjects 1 }

hpHttpMgDefaultURL OBJECT-TYPE

SYNTAX Utf8String

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"A Uniform Resource Locator (URL), as defined in RFC1738, for the default management information for this device. This URL is typically used by a HTTP browser to display management information for this device. This default page should contain links to any other management pages for this device."

::= { hpHttpMgDefaults 1 }

-- =====

-- HP NetCitizen attributes

hpHttpMgNetCitizen OBJECT IDENTIFIER ::= { hpHttpMgObjects 2 }

hpHttpMgMgmtSrvrURL OBJECT-TYPE

SYNTAX Utf8String

MAX-ACCESS read-write

STATUS deprecated

DESCRIPTION "URL of management server for this device. "

::= { hpHttpMgNetCitizen 1 }

hpHttpMgID OBJECT-TYPE

SYNTAX Utf8String

MAX-ACCESS read-only

STATUS deprecated

DESCRIPTION "Unique identifier for this entity. This ID must not change even if network address or removable cards are changed. For devices with fixed MAC addresses this may be the same as ifPhysAddress; for devices with fixed serial numbers this may be the same as hpHttpMgSerialNumber."

::= { hpHttpMgNetCitizen 2 }

hpHttpMgHealth OBJECT-TYPE

```

SYNTAX          INTEGER {
                    unknown(1),
                    information(2),
                    ok(3),
                    warning(4),
                    critical(5),
                    nonrecoverable(6)
                }
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Operating status of this entity."
 ::= { hpHttpMgNetCitizen 3}

hpHttpMgManufacturer OBJECT-TYPE
SYNTAX          Utf8String
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Manufacturer of the hardware for this entity
                e.g. 'Hewlett-Packard'."
 ::= { hpHttpMgNetCitizen 4}

hpHttpMgProduct OBJECT-TYPE
SYNTAX          Utf8String (SIZE(0..32))
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Manufacturer's product number for this entity,
                e.g. 'D1234A'."
 ::= { hpHttpMgNetCitizen 5}

hpHttpMgVersion OBJECT-TYPE
SYNTAX          Utf8String (SIZE(0..32))
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Version number of this entity, e.g. 'A.00.01'.
                Where several version numbers are available,
                this represents the software version."
 ::= { hpHttpMgNetCitizen 6}

hpHttpMgHWVersion OBJECT-TYPE
SYNTAX          Utf8String (SIZE(0..32))
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Version number of the hardware for this entity,
                e.g. 'A.00.01'."
 ::= { hpHttpMgNetCitizen 7}

hpHttpMgROMVersion OBJECT-TYPE
SYNTAX          Utf8String (SIZE(0..32))
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION     "Version number of ROM for this entity, e.g.
                'A.00.01'."
 ::= { hpHttpMgNetCitizen 8}

hpHttpMgSerialNumber OBJECT-TYPE
SYNTAX          Utf8String (SIZE(0..32))
MAX-ACCESS      read-write
STATUS          deprecated
DESCRIPTION     "Serial number of entity. It is recommended

```

```
        that this be factory set and read only; if not
        factory set, should initially be blank."
 ::= { hpHttpMgNetCitizen 9 }
```

```
hpHttpMgAssetNumber OBJECT-TYPE
    SYNTAX      Utf8String (SIZE(0..32))
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION "Asset number of entity. This is not normally
                modified once set."
 ::= { hpHttpMgNetCitizen 10 }
```

```
hpHttpMgPhone OBJECT-TYPE
    SYNTAX      Utf8String (SIZE(0..32))
    MAX-ACCESS  read-write
    STATUS      deprecated
    DESCRIPTION "Phone number of contact person for this
                entity."
 ::= { hpHttpMgNetCitizen 11 }
```

```
-- =====
-- Entity Relationships
```

```
hpHttpMgEntityNetInfo      OBJECT IDENTIFIER ::= { hpHttpMgObjects 3 }
```

```
hpHttpMgEntityNetInfoTable OBJECT-TYPE
    SYNTAX SEQUENCE OF HpHttpMgEntityNetInfoEntrySequence
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
    "A table of EntityRelationships, connection type, URLs, IPAddress etc.
    This table typcially contains relationships between devices that each
    have their own management agent. "
 ::= { hpHttpMgEntityNetInfo 1 }
```

```
hpHttpMgEntityNetInfoEntry OBJECT-TYPE
    SYNTAX HpHttpMgEntityNetInfoEntrySequence
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
    "Information describing EntityRelationships, URLs, IPAddresses etc."
    INDEX { hpHttpMgEntityNetInfoIndex }
 ::= { hpHttpMgEntityNetInfoTable 1 }
```

```
HpHttpMgEntityNetInfoEntrySequence ::= SEQUENCE {
    hpHttpMgEntityNetInfoIndex      INTEGER,
    hpHttpMgEntityNetInfoSysObjID   Utf8String,
    hpHttpMgEntityNetInfoRelationshipType  INTEGER,
    hpHttpMgEntityNetInfoUniqueID   Utf8String,
    hpHttpMgEntityNetInfoURL        Utf8String,
    hpHttpMgEntityNetInfoURLLabel   Utf8String,
    hpHttpMgEntityNetInfoIPAddress  Utf8String
}
```

```
hpHttpMgEntityNetInfoIndex OBJECT-TYPE
    SYNTAX INTEGER (0..65536)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
```

```

        "The EntityRelationship Entity Index."
 ::= { hpHttpMgEntityNetInfoEntry 1 }

hpHttpMgEntityNetInfoSysObjID OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Sys Object ID of this entity."
 ::= { hpHttpMgEntityNetInfoEntry 2 }

hpHttpMgEntityNetInfoRelationshipType OBJECT-TYPE
    SYNTAX INTEGER {
        self (0),
        containedEntity (1),
        containingEntity (2),
        externallyAttachedEntity (3),
        indirectlyAttachedEntity (4),
        clusterNode (5)
    }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies the type of relationship this entry has to this entity."
 ::= { hpHttpMgEntityNetInfoEntry 3 }

hpHttpMgEntityNetInfoUniqueID OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This represents a globally unique ID for the device.
        This MUST be the ordered combination of the Manufacturer,
        product name, AND any other text that is necessary to guarantee
        global uniqueness. This ID must not change even if the referenced
        entity is moved.
        e.g. HPD1234A9482882"
 ::= { hpHttpMgEntityNetInfoEntry 4 }

hpHttpMgEntityNetInfoURL OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Home Page URL of entity corresponding to this entry.
        This field may only contain the DNS name of a managed
        system, in which case the actual URL must be determined
        from this managed system."
 ::= { hpHttpMgEntityNetInfoEntry 5 }

hpHttpMgEntityNetInfoURLLabel OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Label that a managaement application should use for the hyperlink
        to the entity's URL."
 ::= { hpHttpMgEntityNetInfoEntry 6 }

```



```

hpHttpMgEntityNetInfoIPAddress OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Addressing information for one of the IP Addresses of the entity
        corresponding to this entry."
    ::= { hpHttpMgEntityNetInfoEntry 7 }

-- =====
-- Clustering information

hpHttpMgCluster OBJECT IDENTIFIER ::= { hpHttpMgObjects 4 }

hpHttpMgClusterName OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The name of the cluster that this system is a member of,
        or blank if this system is not a member of a cluster."
    ::= { hpHttpMgCluster 1}

-- =====
-- Device Table
--
-- NOTE: For agents that only support one device the table must only
--       have one row and the index value should always be 1.

hpHttpMgDeviceInfo OBJECT IDENTIFIER ::= { hpHttpMgObjects 5 }

hpHttpMgDeviceTable OBJECT-TYPE
    SYNTAX SEQUENCE OF HpHttpMgDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "A list of HP devices under a single SNMP agent."
    ::= { hpHttpMgDeviceInfo 1 }

hpHttpMgDeviceEntry OBJECT-TYPE
    SYNTAX HpHttpMgDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "A device entry containing objects for a particular device."
    INDEX { hpHttpMgDeviceIndex }
    ::= { hpHttpMgDeviceTable 1 }

HpHttpMgDeviceEntry ::=
    SEQUENCE {
        hpHttpMgDeviceIndex          INTEGER,
        hpHttpMgDeviceGlobalUniqueID  Utf8String,
        hpHttpMgDeviceHealth         INTEGER,
        hpHttpMgDeviceSysObjID       Utf8String,
        hpHttpMgDeviceManagementURL  Utf8String,
        hpHttpMgDeviceManagementURLLabel  Utf8String,
        hpHttpMgDeviceManufacturer   Utf8String,
        hpHttpMgDeviceProductName     Utf8String,
        hpHttpMgDeviceProductCaption  Utf8String,

```

```

    hpHttpMgDeviceSerialNumber      Utf8String,
    hpHttpMgDeviceVersion            Utf8String,
    hpHttpMgDeviceHWVersion          Utf8String,
    hpHttpMgDeviceROMVersion         Utf8String,
    hpHttpMgDeviceAssetNumber        Utf8String,
    hpHttpMgDeviceContactPerson      Utf8String,
    hpHttpMgDeviceContactPhone       Utf8String,
    hpHttpMgDeviceContactEmail       Utf8String,
    hpHttpMgDeviceContactPagerNumber Utf8String,
    hpHttpMgDeviceLocation            Utf8String,
    hpHttpMgDeviceRackId              Utf8String,
    hpHttpMgDeviceRackPosition        Utf8String,
    hpHttpMgDeviceRelationshipType    INTEGER
}

```

```

hpHttpMgDeviceIndex OBJECT-TYPE
    SYNTAX INTEGER (0..1000)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The unique device identification within the
        instance of this Mib."
    ::= { hpHttpMgDeviceEntry 1 }

```

```

hpHttpMgDeviceGlobalUniqueID OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This represents a globally unique ID for the device.
        This MUST be the ordered combination of the Manufacturer,
        product name, AND any other text that is necessary to guarantee
        global uniqueness. This value may not be null.
        e.g. HPD1234A9482882"
    ::= { hpHttpMgDeviceEntry 2 }

```

```

hpHttpMgDeviceHealth OBJECT-TYPE
    SYNTAX INTEGER {
        unknown          (1),
        unused           (2),
        ok               (3), -- available for meaningful work
        warning          (4), -- something needs attention
        critical         (5), -- something has failed
        nonrecoverable  (6)
    }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Overall health of the device. The goal of this object
        is to be the single poll point to check the status of the
        device."
    ::= { hpHttpMgDeviceEntry 3 }

```

```

hpHttpMgDeviceSysObjID OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "System Object ID for this Device entity. This should be an

```

```

        ASCII integer format. (i.e. 1.3.6.1.4.1.11.2.36.1.1)
        The value may not be null."
--
-- NOTE: For single device agents this field contains a value
--       similar to the MIB II/System/sysObjID
--
 ::= { hpHttpMgDeviceEntry 4 }

hpHttpMgDeviceManagementURL OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "This object contains the URL for the device's management
        software.  If it does not exist the value is empty string.
        If write is not supported, then return invalid. This value is
        retained across boots."
    ::= { hpHttpMgDeviceEntry 5 }

hpHttpMgDeviceManagementURLLabel OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "The label that a management application should use for the
        hyperlink to the entity's URL."
    ::= { hpHttpMgDeviceEntry 6 }

hpHttpMgDeviceManufacturer OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The device's manufacturer name. For Hewlett Packard branded
        equipment this value MUST be 'HP'"
    ::= { hpHttpMgDeviceEntry 7 }

hpHttpMgDeviceProductName OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The device's product name. Null is NOT a valid value.
        (i.e. D1234A)"
    ::= { hpHttpMgDeviceEntry 8 }

hpHttpMgDeviceProductCaption OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The device's product caption name.
        (i.e. HP Multi-stack Disk Array)"
    ::= { hpHttpMgDeviceEntry 9 }

hpHttpMgDeviceSerialNumber OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-only
    STATUS current

```

```

DESCRIPTION
    "The serial number for the device. This can return
    a NULL string."
 ::= { hpHttpMgDeviceEntry 10 }

hpHttpMgDeviceVersion OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Version number for this device."
 ::= { hpHttpMgDeviceEntry 11 }

hpHttpMgDeviceHWVersion OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Version number for this device's hardware."
 ::= { hpHttpMgDeviceEntry 12 }

hpHttpMgDeviceROMVersion OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Version number for this device's ROM."
 ::= { hpHttpMgDeviceEntry 13 }

hpHttpMgDeviceAssetNumber OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Asset number for the device."
 ::= { hpHttpMgDeviceEntry 14 }

hpHttpMgDeviceContactPerson OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Identifies the name of the person responsible for the
        operation of this device. If write is not
        supported then return invalid."
        --
        -- NOTE: For single device agents this field contains a value
        -- similar to the MIB II/System/sysContact
        --
 ::= { hpHttpMgDeviceEntry 15 }

hpHttpMgDeviceContactPhone OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Phone number of the contact person for this device."
 ::= { hpHttpMgDeviceEntry 16 }

```

```

hpHttpMgDeviceContactEmail OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "e-mail address of the contact person for this device."
    ::= { hpHttpMgDeviceEntry 17 }

hpHttpMgDeviceContactPagerNumber OBJECT-TYPE
    SYNTAX Utf8String (SIZE(0..32))
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Pager number of the contact person for this device."
    ::= { hpHttpMgDeviceEntry 18 }

hpHttpMgDeviceLocation OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Identifies the location for the this device. If
         write is not supported then return invalid."
        --
        -- NOTE: For single device agents this field contains a value
        -- similar to the MIB II/System/sysLocation
        --
    ::= { hpHttpMgDeviceEntry 19 }

hpHttpMgDeviceRackId OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Identifies the name given by the administrator to identify a
         particular rack such a rack 4a or SAP 2 for example."
    ::= { hpHttpMgDeviceEntry 20 }

hpHttpMgDeviceRackPosition OBJECT-TYPE
    SYNTAX Utf8String
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Identifies the location such as top, middle or bottom or a
         number such a 1st from top etc. to identify the placement
         of a device in a rack."
    ::= { hpHttpMgDeviceEntry 21 }

hpHttpMgDeviceRelationshipType OBJECT-TYPE
    SYNTAX INTEGER {
        host          (1),
        other         (2)
    }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Indicates the relationship of this device to the SNMP agent.
         Host indicates that this device owns the SNMP agent."
    ::= { hpHttpMgDeviceEntry 22 }

```

-- =====

-- Trap Definitions

```
hpHttpMgHealthTrap NOTIFICATION-TYPE
  OBJECTS      { hpHttpMgHealth }
  STATUS       deprecated
  DESCRIPTION  "Sent whenever hpHttpMgHealth changes state."
  ::= { hpHttpMgTraps 1 }
```

```
hpHttpMgShutdown NOTIFICATION-TYPE
  STATUS       deprecated
  DESCRIPTION  "Sent when the agent is about to shut down."
  ::= { hpHttpMgTraps 2 }
```

```
hpHttpMgUnknownHealthTrap NOTIFICATION-TYPE
  OBJECTS { hpHttpMgDeviceIndex,
            hpHttpMgDeviceSysObjID,
            hpHttpMgDeviceGlobalUniqueID,
            hpHttpMgDeviceManagementURL,
            hpHttpMgDeviceManagementURLLabel,
            hpHttpMgDeviceSpecificEventCode,
            hpHttpMgDeviceSpecificFRU
          }
  STATUS      current
  DESCRIPTION "The device's health has changed to unknown."
  ::= { hpHttpMgTraps 3 }
```

```
hpHttpMgOKHealthTrap NOTIFICATION-TYPE
  OBJECTS { hpHttpMgDeviceIndex,
            hpHttpMgDeviceSysObjID,
            hpHttpMgDeviceGlobalUniqueID,
            hpHttpMgDeviceManagementURL,
            hpHttpMgDeviceManagementURLLabel,
            hpHttpMgDeviceSpecificEventCode,
            hpHttpMgDeviceSpecificFRU
          }
  STATUS      current
  DESCRIPTION "The device's health has changed to OK."
  ::= { hpHttpMgTraps 4 }
```

```
hpHttpMgWarningHealthTrap NOTIFICATION-TYPE
  OBJECTS { hpHttpMgDeviceIndex,
            hpHttpMgDeviceSysObjID,
            hpHttpMgDeviceGlobalUniqueID,
            hpHttpMgDeviceManagementURL,
            hpHttpMgDeviceManagementURLLabel,
            hpHttpMgDeviceSpecificEventCode,
            hpHttpMgDeviceSpecificFRU
          }
  STATUS      current
  DESCRIPTION "The device's health has changed to warning."
  ::= { hpHttpMgTraps 5 }
```

```
hpHttpMgCriticalHealthTrap NOTIFICATION-TYPE
  OBJECTS { hpHttpMgDeviceIndex,
            hpHttpMgDeviceSysObjID,
```

```

        hpHttpMgDeviceGlobalUniqueID,
        hpHttpMgDeviceManagementURL,
        hpHttpMgDeviceManagementURLLabel,
        hpHttpMgDeviceSpecificEventCode,
        hpHttpMgDeviceSpecificFRU
    }
    STATUS          current
    DESCRIPTION     "The device's health has changed to critical."
    ::= { hpHttpMgTraps 6 }

hpHttpMgNonRecoverableHealthTrap NOTIFICATION-TYPE
    OBJECTS { hpHttpMgDeviceIndex,
              hpHttpMgDeviceSysObjID,
              hpHttpMgDeviceGlobalUniqueID,
              hpHttpMgDeviceManagementURL,
              hpHttpMgDeviceManagementURLLabel,
              hpHttpMgDeviceSpecificEventCode,
              hpHttpMgDeviceSpecificFRU
            }
    STATUS          current
    DESCRIPTION     "The device's health has changed to Non-Recoverable."
    ::= { hpHttpMgTraps 7 }

hpHttpMgDeviceAddedTrap NOTIFICATION-TYPE
    OBJECTS { hpHttpMgDeviceIndex,
              hpHttpMgDeviceSysObjID,
              hpHttpMgDeviceGlobalUniqueID,
              hpHttpMgDeviceManagementURL,
              hpHttpMgDeviceManagementURLLabel
            }
    STATUS          current
    DESCRIPTION     "Sent whenever a device is added to the mib."
    ::= { hpHttpMgTraps 8 }

hpHttpMgDeviceRemovedTrap NOTIFICATION-TYPE
    OBJECTS { hpHttpMgDeviceIndex,
              hpHttpMgDeviceSysObjID,
              hpHttpMgDeviceGlobalUniqueID
            }
    STATUS          current
    DESCRIPTION     "Sent whenever a device is removed from the mib."
    ::= { hpHttpMgTraps 9 }

hpHttpMgDeviceSpecificEventCode OBJECT-TYPE
    SYNTAX  Utf8String
    MAX-ACCESS read-write
    STATUS  current
    DESCRIPTION
        "Device specific event error code."
    ::= { hpHttpMgTraps 10 }

hpHttpMgDeviceSpecificFRU OBJECT-TYPE
    SYNTAX  Utf8String
    MAX-ACCESS read-write
    STATUS  current
    DESCRIPTION
        "Device specific FRU identifier"
    ::= { hpHttpMgTraps 11 }

```

```

-- =====
-- Compliance Statements

hpHttpMgMinCompliance MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        "The compliance statement for SNMP entities which
        are http manageable."

    MODULE -- this module
    MANDATORY-GROUPS { hpHttpMgDefaultGroup }

    ::= { hpHttpMgCompliances 1 }

hpHttpMgBasicNetCitizenCompliance MODULE-COMPLIANCE
    STATUS deprecated
    DESCRIPTION
        " The compliance statement for SNMP entities which
        meet basic NetCitizen crieria"
    MODULE -- this module
    MANDATORY-GROUPS { hpHttpMgDefaultGroup,
                        hpHttpMgBasicNetCitizenGroup,
                        hpHttpMgBasicNetCitizenTrapGroup }
    ::= { hpHttpMgCompliances 2 }

hpHttpMgEnhancedNetCitizenCompliance MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        " The compliance statement for SNMP entities which
        meet basic NetCitizen crieria"
    MODULE -- this module
    MANDATORY-GROUPS { hpHttpMgDefaultGroup,
                        hpHttpMgEnhancedNetCitizenGroup,
                        hpHttpMgEnhancedNetCitizenTrapGroup }
    ::= { hpHttpMgCompliances 3 }
-- =====
-- Units of conformance

hpHttpMgDefaultGroup OBJECT-GROUP
    OBJECTS { hpHttpMgDefaultURL }
    STATUS current
    DESCRIPTION
        "The objects providing information applicable to all
        http manageable systems"
    ::= { hpHttpMgGroups 1 }

hpHttpMgBasicNetCitizenGroup OBJECT-GROUP
    OBJECTS { hpHttpMgMgmtSrvrURL,
              hpHttpMgID,
              hpHttpMgHealth,
              hpHttpMgManufacturer,
              hpHttpMgProduct,
              hpHttpMgVersion }
    STATUS deprecated
    DESCRIPTION
        "Additional HP NetCitizen objects"
    ::= { hpHttpMgGroups 2 }

hpHttpMgBasicNetCitizenTrapGroup NOTIFICATION-GROUP

```



```

NOTIFICATIONS { hpHttpMgHealthTrap }
STATUS deprecated
DESCRIPTION
    "HP NetCitizen notifications"
    ::= { hpHttpMgGroups 3 }

hpHttpMgExtendedNetCitizenGroup OBJECT-GROUP
OBJECTS { hpHttpMgHWVersion,
          hpHttpMgROMVersion,
          hpHttpMgSerialNumber,
          hpHttpMgAssetNumber,
          hpHttpMgPhone }
STATUS deprecated
DESCRIPTION
    "Additional HP NetCitizen objects"
    ::= { hpHttpMgGroups 4 }

hpHttpMgExtendedNetCitizenTrapGroup NOTIFICATION-GROUP
NOTIFICATIONS { hpHttpMgShutdown }
STATUS current
DESCRIPTION
    "HP NetCitizen notifications"
    ::= { hpHttpMgGroups 5 }

hpHttpMgEntityRelationshipGroup OBJECT-GROUP
OBJECTS { hpHttpMgEntityNetInfoIndex,
          hpHttpMgEntityNetInfoSysObjID,
          hpHttpMgEntityNetInfoRelationshipType,
          hpHttpMgEntityNetInfoUniqueID,
          hpHttpMgEntityNetInfoURL,
          hpHttpMgEntityNetInfoURLLabel,
          hpHttpMgEntityNetInfoIPAddress }
STATUS current
DESCRIPTION
    "NetCitizen entity-relationship table"
    ::= { hpHttpMgGroups 6 }

hpHttpMgClusterGroup OBJECT-GROUP
OBJECTS { hpHttpMgClusterName }
STATUS current
DESCRIPTION
    "Cluster objects"
    ::= { hpHttpMgGroups 7 }

hpHttpMgEnhancedNetCitizenGroup OBJECT-GROUP
OBJECTS { hpHttpMgDeviceIndex,
          hpHttpMgDeviceGlobalUniqueID,
          hpHttpMgDeviceHealth,
          hpHttpMgDeviceSysObjID,
          hpHttpMgDeviceManagementURL,
          hpHttpMgDeviceManagementURLLabel,
          hpHttpMgDeviceManufacturer,
          hpHttpMgDeviceProductName,
          hpHttpMgDeviceProductCaption,
          hpHttpMgDeviceSerialNumber,
          hpHttpMgDeviceVersion,
          hpHttpMgDeviceHWVersion,
          hpHttpMgDeviceROMVersion,
          hpHttpMgDeviceAssetNumber,

```

```
        hpHttpMgDeviceContactPerson,  
        hpHttpMgDeviceContactPhone,  
        hpHttpMgDeviceContactEmail,  
        hpHttpMgDeviceContactPagerNumber,  
        hpHttpMgDeviceLocation,  
        hpHttpMgDeviceRackId,  
        hpHttpMgDeviceRackPosition,  
        hpHttpMgDeviceRelationshipType  
    }
```

```
STATUS current
```

```
DESCRIPTION
```

```
    "Additional HP NetCitizen objects"
```

```
    ::= { hpHttpMgGroups 8 }
```

```
hpHttpMgEnhancedNetCitizenTrapGroup NOTIFICATION-GROUP
```

```
    NOTIFICATIONS { hpHttpMgUnknownHealthTrap,  
                    hpHttpMgOKHealthTrap,  
                    hpHttpMgWarningHealthTrap,  
                    hpHttpMgCriticalHealthTrap,  
                    hpHttpMgNonRecoverableHealthTrap,  
                    hpHttpMgDeviceAddedTrap,  
                    hpHttpMgDeviceRemovedTrap  
    }
```

```
STATUS current
```

```
DESCRIPTION
```

```
    "HP NetCitizen notifications"
```

```
    ::= { hpHttpMgGroups 9 }
```

```
END
```