

CableHome CAP MIB Specification

CH-SP-MIB-CAP-C01-060728

Closed

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Work in Progress An incomplete document, designed to guide discussion and generate feedback, which may include several alternative requirements for consideration.

Draft A document in specification format considered largely complete, but lacking review by Members and vendors. Drafts are susceptible to substantial change during the review process.

Issued A stable document, which has undergone rigorous member and vendor review and is suitable for product design and development, cross-vendor interoperability, and for certification testing.

Closed A static document, reviewed, tested, validated, and closed to further engineering change requests to the specification through CableLabs.

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1 SCOPE

This specification describes CableHome Addressing Portal (CAP) MIB requirement.

2 REFERENCES

2.1 Normative References

In order to claim compliance with this specification, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this specification. Notwithstanding, intellectual property rights may be required to use or implement such normative references.

- [1] CableHome 1.0 Specification, CH-SP-CH1.0-C01-060728, July 28, 2006.
- [2] CableHome 1.1 Specification, CH-SP-CH1.1-C01-060728, July 28, 2006.
- [3] CableLabs® Definition MIB Specification, CL-SP-MIB-CLABDEF-I05-050408, April 8, 2005.

2.2 Reference Acquisition

CableLabs Specifications:

- Cable Television Laboratories, Inc., <http://www.cablelabs.com/>

3 ACRONYMS

This specification uses the following acronyms:

CAP	CableHome Addressing Portal
CDC	CableHome DHCP Client (component of CDP)
CDP	CableHome DHCP Portal
CDS	CableHome DHCP Server (component of CDP)
CMP	CableHome Management Portal
CTP	CableHome Test Portal
DHCP	Dynamic Host Configuration Protocol
NAPT	Network Address and Port Translation
NAT	Network Address Translation
PS	Portal Services

4 REQUIREMENTS

The CableHome CAP MIB MUST be implemented as defined below.

```

CABH-CAP-MIB DEFINITIONS ::= BEGIN
IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Unsigned32,
    Integer32             FROM SNMPv2-SMI
    TimeStamp,
    TruthValue,
    RowStatus,
    DateAndTime,
    PhysAddress          FROM SNMPv2-TC
    OBJECT-GROUP,
    MODULE-COMPLIANCE   FROM SNMPv2-CONF
    InetAddressType,
    InetAddress,
    InetPortNumber      FROM INET-ADDRESS-MIB
    clabProjCableHome   FROM CLAB-DEF-MIB
    SnmpAdminString     FROM SNMP-FRAMEWORK-MIB;

cabhCapMib MODULE-IDENTITY
    LAST-UPDATED      "200607280000Z" --July 28, 2006
    ORGANIZATION      "CableLabs Broadband Access Department"
    CONTACT-INFO
        "CableHome MIBs
        Postal: Cable Television Laboratories, Inc.
        858 Coal Creek Circle
        Louisville, Colorado 80027
        U.S.A.
        Phone:  +1 303-661-9100
        Fax:    +1 303-661-9199
        E-mail:  mibs@cablelabs.com"
    DESCRIPTION
        "This MIB module supplies the basic management objects
        for the CableHome Addressing Portal (CAP) portion of
        the PS."
    REVISION          "200607280000Z"
    DESCRIPTION
        "This revision updates the CONTACT-INFO in the
        MODULE-IDENTITY."
    ::= { clabProjCableHome 3 }

cabhCapObjects      OBJECT IDENTIFIER ::= { cabhCapMib 1 }
cabhCapBase         OBJECT IDENTIFIER ::= { cabhCapObjects 1 }
cabhCapMap          OBJECT IDENTIFIER ::= { cabhCapObjects 2 }

```

```

-----
--
--   General CAP Parameters
--
-----

```

```

cabhCapTcpTimeWait OBJECT-TYPE
    SYNTAX      Unsigned32
    UNITS       "seconds"

```

```

MAX-ACCESS read-write
STATUS current
DESCRIPTION
    "This object is the maximum inactivity time to wait before
    assuming TCP session is terminated. It has no relation to
    the TCP session TIME_WAIT state referred to in [RFC793]."
```

REFERENCE

```

    "CableHome 1.1 Specification, Packet Handling & Address
    Translation section."
```

```

DEFVAL { 300 }
 ::= { cabhCapBase 1 }
```

cabhCapUdpTimeWait OBJECT-TYPE

```

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
    "The inactivity time to wait before destroying
    CAP mappings for UDP."
```

REFERENCE

```

    "CableHome 1.1 Specification, Packet Handling & Address
    Translation section."
```

```

DEFVAL { 300 } -- 5 minutes
 ::= { cabhCapBase 2 }
```

cabhCapIcmpTimeWait OBJECT-TYPE

```

SYNTAX Unsigned32
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
    "The inactivity time to wait before destroying
    CAP mappings for ICMP."
```

REFERENCE

```

    "CableHome 1.1 Specification, Packet Handling & Address
    Translation section."
```

```

DEFVAL { 300 } -- 5 minutes
 ::= { cabhCapBase 3 }
```

cabhCapPrimaryMode OBJECT-TYPE

```

SYNTAX INTEGER {
    napt(1),          -- NAT with Port Translation Mode
    nat(2),          -- Traditional NAT Mode
    passthrough(3)  -- Passthrough/Bridging Mode
}
MAX-ACCESS read-write
STATUS current
DESCRIPTION
    "The Primary Packet-handling Mode of the Portal Services
    logical element (PS) of a CableHome compliant residential
    gateway device. This object configures operation of the PS
    packet handling functions.

    When the value of this object is napt(1), the PS is
    required to support the Network Address and Port
    Translation (NAPT) process in accordance with the NAPT
    requirements defined in IETF RFC 3022. When operating in
    NAPT Primary Packet Handling Mode, the PS supports the
    translation of multiple LAN-Trans IP addresses and their
    TCP/UDP ports into a single WAN-Data IP address and its
    TCP/UDP ports."
```

When the value of this object is nat(2), the PS is required to support the Network Address Translation (NAT) process in accordance with the NAT requirements defined in IETF RFC 3022. When operating in NAT Primary Packet Handling Mode, the PS supports the translation of multiple LAN-Trans IP addresses into the same number of unique WAN-Data IP addresses.

When the value of this object is passthrough(3), the PS is required to act as a transparent bridge in accordance with IEEE 802.1D. When operating in Passthrough Primary Packet Handling Mode, the PS does not translate network addresses, and bridges all traffic between its LAN and WAN interfaces.

The PS MUST delete dynamically-created row entries from the cabhCapMappingTable, i.e. those with cabhCapMappingMethod = dynamic(2), when the value of cabhCapPrimaryMode changes. The PS MUST NOT delete statically-created row entries from the cabhCapMappingTable where cabhCapMappingMethod = static(1), when the value of cabhCapPrimaryMode changes."

REFERENCE

"CableHome 1.1 Specification, Packet Handling & Address Translation section."

DEFVAL { napt }

::= { cabhCapBase 4 }

cabhCapSetToFactory OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Reading this object always returns false(2). When the cabhCapSetToFactory object is set to true(1), the PS must take the following actions:

1. Clear all entries in the cabhCapMappingTable and cabhCapPassthroughTable.
2. Reset the following objects to their factory default values:
 - cabhCapTcpTimeWait,
 - cabhCapUdpTimeWait,
 - cabhCapIcmpTimeWait,
 - cabhCapPrimaryMode"

REFERENCE

"CableHome 1.1 Specification, Packet Handling & Address Translation section."

::= { cabhCapBase 5 }

cabhCapLastSetToFactory OBJECT-TYPE

SYNTAX TimeStamp

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of sysUpTime when cabhCapSetToFactory was last set to true. Zero if never reset."

::= { cabhCapBase 6 }

cabhCapUpnpPortForwardingEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This MIB is effective only when the PS is performing NAPT. If this MIB object is set to false(2), the PS MUST disable the UPnP WANIpConnection Service in the CableHome PS. If this MIB object is set to true(1), the PS MUST enable the WANIpConnection service in the PS. When the primary packet handling mode of the PS is C-NAT (2) or Passthrough(3), setting this MIB to true(1) MUST return InconsistentValue error."

REFERENCE

"CableHome 1.1 Specification, Packet Handling & Address Translation section."

DEFVAL { 1 }

::= { cabhCapBase 7 }

cabhCapUpnpTimeWait OBJECT-TYPE

SYNTAX Unsigned32

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The inactivity time to wait before destroying CAP mappings created by UPnP control points. The value of 0 indicates inactivity time wait of infinity, i.e. a UPnP entry doesn't get destroyed based on inactivity period."

REFERENCE

"CableHome 1.1 Specification, Packet Handling & Address Translation section."

DEFVAL { 0 } -- 0 seconds, inactivity time wait of infinity.

::= { cabhCapBase 8 }

```

=====
--
-- cabhCapMappingTable (CAP Mapping Table)
--
-- The cabhCapMappingTable contains information pertaining to all
-- NAPT and NAT mappings in a CableHome(TM) compliant residential
-- gateway device.
--
=====

```

cabhCapMappingTable OBJECT-TYPE

SYNTAX SEQUENCE OF CabhCapMappingEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains IP address mappings between private network addresses, or network addresses and port numbers/ICMP Identifiers, assigned to devices on the subscriber's home LAN, and network addresses, or network addresses and port numbers/ICMP Identifiers on the WAN, presumed to be on a separate subnetwork than the private IP addresses. The CAP Mapping Table is used by the CableHome Address Portal (CAP) function of the PS to make packet forwarding decisions."

REFERENCE

"CableHome 1.1 Specification, Packet Handling & Address Translation section."

::= { cabhCapMap 1 }

cabhCapMappingEntry OBJECT-TYPE

```

SYNTAX      CabhCapMappingEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "List of the private IP (LAN) address - to - cable
    operator assigned IP (WAN) address mappings stored
    in the PS and used by the PS to make packet
    forwarding decisions."
INDEX { cabhCapMappingIndex }
 ::= { cabhCapMappingTable 1 }

CabhCapMappingEntry ::= SEQUENCE {
    cabhCapMappingIndex          INTEGER,
    cabhCapMappingWanAddrType    InetAddressType,
    cabhCapMappingWanAddr        InetAddress,
    cabhCapMappingWanPort        InetPortNumber,
    cabhCapMappingLanAddrType    InetAddressType,
    cabhCapMappingLanAddr        InetAddress,
    cabhCapMappingLanPort        InetPortNumber,
    cabhCapMappingMethod         INTEGER,
    cabhCapMappingProtocol       INTEGER,
    cabhCapMappingRowStatus      RowStatus,
    cabhCapMappingNumPorts       Unsigned32,
    cabhCapMappingRowDescr       SnmpAdminString,
    cabhCapMappingCreateTime     DateAndTime,
    cabhCapMappingLastUpdateTime DateAndTime,
    cabhCapMappingDuration       INTEGER32,
    cabhCapMappingRemoteHostAddrType InetAddressType,
    cabhCapMappingRemoteHostAddr InetAddress,
    cabhCapMappingEnable         TruthValue
}

cabhCapMappingIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..65535)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The Index into the CAP Mapping Table."
    ::= { cabhCapMappingEntry 1 }

cabhCapMappingWanAddrType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The IP address type assigned on the WAN side."
    DEFVAL { ipv4 }
    ::= { cabhCapMappingEntry 2 }

cabhCapMappingWanAddr OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The IP address assigned by the cable operator's address
        (DHCP) server, and comprising the WAN-side IP address
        of the CAP Mapping tuple. This object is populated
        either dynamically by LAN-to-WAN outbound traffic or
        statically by the cable operator."
    ::= { cabhCapMappingEntry 3 }

cabhCapMappingWanPort OBJECT-TYPE
    SYNTAX      InetPortNumber

```

```

MAX-ACCESS    read-create
STATUS        current
DESCRIPTION   "The TCP/UDP port number or ICMP Identifier
              on the WAN side. A port number/Identifier of
              0 indicates either a NAT or a DMZ mapping.
              A non-zero port number/Identifier indicates
              a NAPT mapping. If the value of
              cabhCapMappingNumPorts MIB object is non-zero
              this MIB represents a starting TCP/UDP port
              number on the WAN side for which a mapping
              entry is created."
DEFVAL { 0 }
 ::= { cabhCapMappingEntry 4 }

```

```

cabhCapMappingLanAddrType OBJECT-TYPE
SYNTAX        InetAddressType
MAX-ACCESS    read-create
STATUS        current
DESCRIPTION   "The IP address type assigned on the LAN side."
DEFVAL { ipv4 }
 ::= { cabhCapMappingEntry 5 }

```

```

cabhCapMappingLanAddr OBJECT-TYPE
SYNTAX        InetAddress
MAX-ACCESS    read-create
STATUS        current
DESCRIPTION   "The IP address of the LAN-Trans IP Device. This object is
              populated either dynamically as a result of LAN-to-WAN
              outbound traffic or statically by the cable operator."
 ::= { cabhCapMappingEntry 6 }

```

```

cabhCapMappingLanPort OBJECT-TYPE
SYNTAX        InetPortNumber
MAX-ACCESS    read-create
STATUS        current
DESCRIPTION   "The TCP/UDP port number or ICMP Identifier
              on the LAN side. A port number/Identifier
              of 0 indicates either a DMZ mapping or a NAT
              mapping. A non-zero port number/Identifier
              indicates a NAPT mapping. If the value of
              cabhCapMappingNumPorts MIB object is non-zero
              then this MIB represents a starting TCP/UDP port
              number on the LAN side for which a mapping
              entry is created."
DEFVAL { 0 }
 ::= { cabhCapMappingEntry 7 }

```

```

cabhCapMappingMethod OBJECT-TYPE
SYNTAX        INTEGER {
              static(1),
              dynamic(2),
              upnp(3)
              }
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION   "Indicates how this mapping was created. Static means
              that it was provisioned, and dynamic means that it
              was handled by the PS itself. upnp (3) means that the

```

CAP mapping entry was created by some UPnP compliant application."

```
 ::= { cabhCapMappingEntry 8 }
```

cabhCapMappingProtocol OBJECT-TYPE

```
SYNTAX      INTEGER {
                other(1),    -- any other protocol; e.g. IGMP
                icmp(2),
                udp(3),
                tcp(4),
                all(255)     -- covers all the protocols
            }
```

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The protocol for this mapping entry. The value of other(1) represents a protocol other than ICMP, TCP, and UDP. Thus, when the value other(1) is specified for the cabhCapMappingProtocol value of a CAP Mapping Table entry, TCP, UDP or ICMP packets MUST NOT be forwarded even if the WAN and LAN IP address and port tuple of the packet matches with mapping entry. The value of all(255) represents all protocol types. Thus, when the cabhCapMappingProtocol value all(255) is specified for an entry in the CAP Mapping Table, traffic of all protocol types MUST be forwarded accordingly if the WAN and LAN IP address and port tuple in the packet matches the mapping entry."

```
 ::= { cabhCapMappingEntry 9 }
```

cabhCapMappingRowStatus OBJECT-TYPE

```
SYNTAX      RowStatus
```

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The RowStatus interlock for the creation and deletion of a cabhCapMappingTable entry. Changing the value of the IP address or port number columns of the CAP Mapping Table may have an effect on active traffic, so the PS will prevent modification of this table's columns and return an inconsistentValue error when cabhCapMappingRowStatus object is active(1).

The PS must not allow RowStatus to be set to notInService(2) by a manager.

A newly created row cannot be set to active(1) until the corresponding instances of cabhCapMappingWanAddr, cabhCapMappingLanAddr, and cabhCapMappingProtocol have been set.

If the manager attempts to populate a row entry in the table with a non-unique value for the combination of cabhCapMappingWanAddr and range of WAN port(s) (identified by cabhCapMappingWanPort to cabhCapMappingWanPort + cabhCapMappingNumPorts - 1), or a non-unique value for the combination of cabhCapMappingLanAddr and range of LAN port(s) (identified by cabhCapMappingLanPort to cabhCapMappingLanPort + cabhCapMappingNumPorts - 1), the PS MUST prevent the creation of this row and return an inconsistentValue error. This prevents creation of

entries with overlapping port ranges in the CAP table.

If the manager attempts to populate a row entry with a zero value for cabhCapMappingWanPort and a non-zero value for cabhCapMappingLanPort or a row entry with a zero value for cabhCapMappingLanPort and a non-zero value for cabhCapMappingWanPort, the PS MUST prevent the creation of this row and return an inconsistentValue error. This prevents creation of invalid NAT or NAPT entries.

If the manager attempts to populate a row entry with non-zero values for both cabhCapMappingWanPort and cabhCapMappingLanPort, but a zero value for cabhCapMappingNumPorts, the PS MUST prevent the creation of this row and return an inconsistentValue error. This prevents creation of NAPT entries.

When Primary Packet-handling Mode is NAPT (cabhCapPrimaryMode is napt(1)), provisioned rows can be set to active(1) regardless of whether the value to which cabhCapMappingWanPort, cabhCapMappingLanPort, and cabhCapMappingNumPorts have been set is zero or nonzero.

When Primary Packet-handling Mode is NAT (cabhCapPrimaryMode is nat(2)), a newly created row can not be set to active(1) if a non-zero value have been set for cabhCapMappingWanPort, cabhCapMappingLanPort and cabhCapMappingNumPorts.

In NAPT Primary Packet-handling mode, a row entry with zero values for cabhCapMappingWanPort, cabhCapMappingLanPort, and cabhCapMappingNumPorts objects represents a DMZ entry."

```
::={ cabhCapMappingEntry 10 }
```

```
cabhCapMappingNumPorts OBJECT-TYPE
    SYNTAX      Unsigned32(1..65535)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
```

```
"This object represents number of ports
available for port translation
on both LAN and WAN side.
```

```
When both cabhCapMappingWanPort and
cabhCapMappingLanPort are set to zero,
the PS MUST ignore this MIB object, and
such a row entry represents either a DMZ entry
(when primary packet handling mode is NAPT) or
a NAT entry (when primary packet handling mode is
NAT).
```

```
When a row entry is created with non-zero
values for cabhCapMappingWanPort,
cabhCapMappingLanPort, and cabhCapMappingNumPorts
the PS MUST translate range of ports on
the WAN side (identified by cabhCapMappingWanPort
to cabhCapMappingWanPort + cabhCapMappingNumPorts-1)
to range of ports on the LAN side (identified by
cabhCapMappingLanPort to cabhCapMappingLanPort +
cabhCapMappingNumPorts-1).
```

The PS MUST ignore this MIB for a CAP mapping

```

        entry with the value of cabhCapMappingProtocol
        equal to icmp(2)."
DEFVAL { 1 }
 ::= { cabhCapMappingEntry 11 }

cabhCapMappingRowDescr OBJECT-TYPE
SYNTAX      SnmpAdminString (SIZE(0..32))
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "A string value that can be used to describe
    the purpose or attributes of the CAP Mapping
    entry."
DEFVAL { "" }
 ::= { cabhCapMappingEntry 12 }

cabhCapMappingCreateTime OBJECT-TYPE
SYNTAX      DateAndTime
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "For dynamic(2) and upnp(3) CAP mapping entries the PS MUST
    set this MIB with date and time when the entry is created.
    The PS MUST set the value of this MIB to zero valued
    11-byte string for static CAP mapping entries. This MIB
    object MUST NOT persist across the PS reboot."
 ::= { cabhCapMappingEntry 13 }

cabhCapMappingLastUpdateTime OBJECT-TYPE
SYNTAX      DateAndTime
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The PS MUST set the value of this MIB
    to zero valued 11 byte string for static
    CAP mapping entries. For dynamic(2) CAP
    Mapping entries, the PS MUST set the value
    of this MIB to the value of cabhCapMappingCreateTime
    For upnp(3) CAP mapping entries the PS MUST
    set this MIB with date and time when the entry
    is last updated. When the upnp(3)entry is first
    created the PS MUST set this MIB with the value
    of cabhCapMappingCreateTime MIB. This MIB object
    MUST NOT persist across the PS reboot."
 ::= { cabhCapMappingEntry 14 }

cabhCapMappingDuration OBJECT-TYPE
SYNTAX      Integer32 (-1|0..2147483647)
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "When a value greater than zero
    is assigned to this object, the PS MUST
    remove the CAP entry after the time
    duration, represented by
    this object, elapses starting from
    cabhCapMappingLastUpdateTime.

    When a value of 0 is assigned to this object,
    the PS MUST retain the CAP mapping entry
    until reboot or reset. The PS MUST retain
    a CAP mapping entry with cabhCapMappingDuration

```

MIB set to 0 and cabhCapMappingMethod set to static(1) across the reboots. The PS MUST NOT retain a CAP mapping entry with cabhCapMappingDuration MIB set to 0 and cabhCapMappingMethod set to upnp(3) across the reboots.

When a value of -1 is assigned for this MIB the PS MUST ignore this MIB and MUST remove the CAP mapping entries based on TCP, UDP and ICMP inactivity time-wait depending upon their protocol type.

When the cabhCapMappingMethod object is static(1), the default value for this object is 0.

When the cabhCapMappingMethod object is dynamic(2), the PS MUST set the value of this object to -1.

When the cabhCapMappingMethod object is upnp(3), the default value for this object is -1."

```
::= { cabhCapMappingEntry 15 }
```

cabhCapMappingRemoteHostAddrType OBJECT-TYPE

```
SYNTAX      InetAddressType
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The IP address type for a remote host on the WAN side."
DEFVAL { ipv4 }
::= { cabhCapMappingEntry 16 }
```

cabhCapMappingRemoteHostAddr OBJECT-TYPE

```
SYNTAX      InetAddress
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The IP address of the remote host for
    a CAP mapping entry. The packet traversing
    through the PS is either originated
    from or is destined to this remote host.
    The value of all zeros for this MIB object
    indicates any IP address for a remote host."
DEFVAL { '00000000'h }
::= { cabhCapMappingEntry 17 }
```

cabhCapMappingEnable OBJECT-TYPE

```
SYNTAX      TruthValue
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This MIB allows the PS to enable or disable
    a particular CAP mapping entry. When this MIB
    is set to true(1) for a CAP mapping entry, the
    PS MUST correctly route the traffic that
    matches this entry. When this MIB is set to
    false(2) for a CAP mapping entry, the PS MUST
    NOT route the traffic that matches this entry."
```

```

DEFVAL { true }
 ::= { cabhCapMappingEntry 18 }

-----
--
-- cabhCapPassthroughTable (CAP Passthrough Table)
--
-- The cabhCapPassthroughTable contains the hardware addresses
-- for all LAN IP Devices for which the PS will bridge traffic at
-- OSI Layer 2 when the PS's cabhCapPrimaryMode is set to forward
-- traffic at OSI Layer 3 (NAPT/NAT) for all other hardware
-- addresses.
--
-----

cabhCapPassthroughTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF CabhCapPassthroughEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains hardware addresses of LAN IP Devices
        for which the PS will bridge traffic at OSI Layer 2."
    REFERENCE
        "CableHome 1.1 Specification, Packet Handling & Address
        Translation section."
    ::= { cabhCapMap 2 }

cabhCapPassthroughEntry OBJECT-TYPE
    SYNTAX      CabhCapPassthroughEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "List of hardware addresses of LAN IP Devices for which
        the PS will bridge traffic at OSI Layer 2."
    INDEX { cabhCapPassthroughIndex }
    ::= { cabhCapPassthroughTable 1 }

CabhCapPassthroughEntry ::= SEQUENCE {
    cabhCapPassthroughIndex      INTEGER,
    cabhCapPassthroughMacAddr    PhysAddress,
    cabhCapPassthroughRowStatus  RowStatus
}

cabhCapPassthroughIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..65535)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The index into the CAP Passthrough Table."
    ::= { cabhCapPassthroughEntry 1 }

cabhCapPassthroughMacAddr OBJECT-TYPE
    SYNTAX      PhysAddress (SIZE(0..16))
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "Hardware address of the LAN IP Device for which the PS
        MUST bridge traffic at OSI Layer 2."
    ::= { cabhCapPassthroughEntry 2 }

cabhCapPassthroughRowStatus OBJECT-TYPE
    SYNTAX      RowStatus
    MAX-ACCESS  read-create

```

```

STATUS      current
DESCRIPTION
    "The RowStatus interlock for the creation and
    deletion of a cabhCapPassthroughTable entry.
    Any writable object in each row can be modified
    at any time while the row is active(1)."
```

::= { cabhCapPassthroughEntry 3 }

--

-- notification group is for future extension.

--

```

cabhCapNotification      OBJECT IDENTIFIER ::= {
    cabhCapMib 2 0 }
cabhCapConformance      OBJECT IDENTIFIER ::= {
    cabhCapMib 3 }
cabhCapCompliances      OBJECT IDENTIFIER ::= {
    cabhCapConformance 1 }
cabhCapGroups           OBJECT IDENTIFIER ::= {
    cabhCapConformance 2 }
```

--

-- Notification Group

--

-- compliance statements

```

cabhCapBasicCompliance MODULE-COMPLIANCE
STATUS      current
DESCRIPTION
    "The compliance statement for devices that implement
    the CableHome Portal Services functionality."
MODULE     --cabhCapMib
```

-- unconditionally mandatory groups

```

MANDATORY-GROUPS {
    cabhCapGroup
}
```

```

OBJECT cabhCapMappingProtocol
SYNTAX      INTEGER { icmp(2) }
WRITE-SYNTAX INTEGER { other(1), udp(3), tcp(4), all(255) }
DESCRIPTION
    "icmp(2) applies only to dynamic entries."

 ::= { cabhCapCompliances 1 }
```

```

cabhCapGroup OBJECT-GROUP
OBJECTS {
    cabhCapTcpTimeWait,
    cabhCapUdpTimeWait,
    cabhCapIcmpTimeWait,
    cabhCapPrimaryMode,
    cabhCapSetToFactory,
    cabhCapLastSetToFactory,
    cabhCapMappingWanAddrType,
    cabhCapMappingWanAddr,
    cabhCapMappingWanPort,
    cabhCapMappingLanAddrType,
    cabhCapMappingLanAddr,
    cabhCapMappingLanPort,
```

```
cabhCapMappingMethod,
cabhCapMappingProtocol,
cabhCapMappingRowStatus,
cabhCapPassthroughMacAddr,
cabhCapPassthroughRowStatus,
cabhCapMappingNumPorts,
cabhCapMappingRowDescr,
cabhCapMappingCreateTime,
cabhCapMappingLastUpdateTime,
cabhCapMappingDuration,
cabhCapUpnpPortForwardingEnable,
cabhCapUpnpTimeWait,
cabhCapMappingRemoteHostAddrType,
cabhCapMappingRemoteHostAddr,
cabhCapMappingEnable
}
STATUS      current
DESCRIPTION
    "Group of objects for CableHome CAP MIB."
 ::= { cabhCapGroups 1 }
```

END

5 ACKNOWLEDGEMENTS

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Appendix I Revision History

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I02-020920:

ECN Number	ECN Date	Summary
CH1-N-02007	6/20/02	Modify the default values of the CAP Mapping Table timeout values for UDP, TCP, and ICMP protocols.
CH1-N-02011	6/20/02	Eight technical/editorial changes.
CH1-N-02017	8/15/02	Four technical/editorial changes.
CH1-N-02019	8/15/02	Four technical/editorial changes.

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I03-030411:

ECN Number	ECN Date	Summary
CH1-N-02054	1/23/03	Provide more descriptive text in the CAP MIB for various tables and for Row Status of various tables.
CH1-N-03014	3/13/03	Clarify description of the cabhCapSetToFactory mib object.

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I04-030801:

ECN Number	ECN Date	Summary
CH1-N-03026	6/5/03	Define a Cap2MappingTable for CableHome 1.1, to support the static port forwarding feature.
CH-MIB-N-03052	7/3/03	Update CAP MIB to incorporate changes needed to align the CableLabs version with the version submitted to the IETF.

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I05-040129:

ECN Number	ECN Date	Summary
CH-MIB-N-03062	10/02/03	Update description related with change to ICMP sequence number.
MIB-CAP-N-03.0084-3	11/26/03	Removal of textual convention, CAP mapping table clarifications, and passthrough table clarifications.
MIB-CAP-N-03.0095-4	12/4/03	Add value of "all" for the protocol MIB in the CAP table.

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I06-040806:

ECN Number	ECN Date	Summary
MIB-CAP-N-04.0130-2	5/13/04	Define new Primary Packet Handling Mode option for CAP MIB: Disabled Mode
MIB-CAP-N-04.0136-3	5/20/04	CAP MIB changes to enable ports ranges and addition of other useful MIBs

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I07-041216

ECN Number	ECN Date	Summary
MIB-CAP-N-04.0191-2	11/11/04	CAP MIB changes to support corrections to CAP Mapping Table
MIB-CAP-N-04.0173-1	9/30/04	Remove 'disabled' option from cabhCapPrimaryMode object

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-I08-050211

ECN Number	ECN Date	Summary
MIB-CAP-N-04.0199-3	1/13/05	Changes to support UPnP WANIpConnectionService

The following Engineering Change Notices were incorporated into CH-SP-MIB-CAP-C01-060728

ECN Number	ECN Date	Summary
MIB-CAP-N-06.0255-1	6/8/2006	Update CableHome CAP MIB contact information