

# Superseded

## CableHome™ CAP MIB Specification

**CH-SP-MIB-CAP-I02-020920**

**Issued**

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## Document Status Sheet

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### Key to Document Status Codes:

<b>Work in Progress</b>	An incomplete document, designed to guide discussion and generate feedback, which may include several alternative requirements for consideration.
<b>Draft</b>	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.
<b>Issued</b>	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.
<b>Closed</b>	A static document, reviewed, tested, validated, and closed to further engineering change requests to the specification through CableLabs.

**CONTENTS**

**1 SCOPE..... 1**

**2 REFERENCES..... 1**

**2.1 Normative References..... 1**

**2.2 Informative Reference..... 1**

**2.3 Reference Acquisition..... 1**

**3 ACRONYMS ..... 1**

**4 REQUIREMENTS ..... 2**

**APPENDIX I REVISION HISTORY..... 9**

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## 1 SCOPE

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

## 2 REFERENCES

### 2.1 Normative Reference

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-I02-020920, September 20, 2002.

### 2.2 Informative Reference

There are no informative references required for this document.

### 2.3 Reference Acquisition

CableLabs Specifications:

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

## 3 ACRONYMS

This specification uses the following acronyms:

<b>CAP</b>	CableHome Addressing Portal
<b>CDC</b>	CableHome DHCP Client (component of CDP)
<b>CDP</b>	CableHome DHCP Portal
<b>CDS</b>	CableHome DHCP Server (component of CDP)
<b>CMP</b>	CableHome Management Portal
<b>CTP</b>	CableHome Test Portal
<b>DHCP</b>	Dynamic Host Configuration Protocol
<b>NAPT</b>	Network Address and Port Translation
<b>NAT</b>	Network Address Translation
<b>PS</b>	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
                                FROM SNMPv2-SMI
        TimeStamp,
        TruthValue,
        RowStatus,
        PhysAddress
                                FROM SNMPv2-TC
    OBJECT-GROUP,
    MODULE-COMPLIANCE
        FROM SNMPv2-CONF
    InetAddressType,
    InetAddress,
    InetAddressIPv4,
    InetAddressIPv6
        FROM INET-ADDRESS-MIB
    clabProjCableHome
        FROM CLAB-DEF-MIB;

-----
--
--      History:
--
--      Date          Modified by   Reason
--      04/05/02      [redacted]      Issued I01
--      09/20/02      [redacted]      Issued I02
--
-----

cabhCapMib MODULE-IDENTITY
    LAST-UPDATED      "0209200000Z" --September 20, 2002
    ORGANIZATION      "CableLabs Broadband Access Department"
    CONTACT-INFO
        "Kevin Luehrs
        Postal: Cable Television Laboratories, Inc.
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        Phone:  +1 303-661-9100
        Fax:    +1 303-661-9199
        E-mail: k.luehrs@cablelabs.com"
    DESCRIPTION
        "This MIB module supplies the basic management objects for the CableHome
        Addressing Portal (CAP) portion of the PS database.

        Acknowledgements:
        Roy Spitzer      -      Consultant to CableLabs
        Mike Mannette    -      Consultant to Cable Labs
        Randy Dunton     -      Intel
        Dmitrii Loukianov -      Intel
        Itay Sherman     -      Texas Instruments
        Chris Zacker     -      Broadcom
        Rick Vetter      -      Consultant to Cable Labs
        John Bevilacqua  -      YAS"
    ::= { clabProjCableHome 3 }

```

```

-- Textual conventions

CabhCapPacketMode ::= TEXTUAL-CONVENTION
    STATUS current
    DESCRIPTION
        "The data type established when
        a binding/mapping is established."
    SYNTAX INTEGER {
        napt          (1), -- NAT with port translation
        nat           (2), -- Basic NAT
        passthrough   (3)  -- Pass Through External Address
    }

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]"
    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."
    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."
    DEFVAL { 300 } -- 5 minutes
    ::= { cabhCapBase 3 }

cabhCapPrimaryMode OBJECT-TYPE

```

```

SYNTAX      CabhCapPacketMode
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The Primary Packet Handling Mode to be used."
DEFVAL { napt }
 ::= { cabhCapBase 4 }

cabhCapSetToFactory OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Setting this object to true(1) causes the all the tables in the CAP
    to be cleared, and all CAP objects with defaults to be reset back to
    their default values.

    The objects to set to factory default values when this object is set to
    'true' are
    listed below:
    cabhCapTcpTimeWait,
    cabhCapUdpTimeWait,
    cabhCapIcmpTimeWait,
    cabhCapPrimaryMode,
    cabhCapMappingWanAddrType,
    cabhCapMappingWanPort,
    cabhCapMappingLanAddrType,
    cabhCapMappingLanPort
    "
 ::= { cabhCapBase 5 }

-----
--
--      cabhCapMappingTable (CAP Mapping Table)
--
--      The cabhCapMappingTable contains the mappings for all CAP mappings.
--
-----

cabhCapMappingTable OBJECT-TYPE
SYNTAX      SEQUENCE OF CabhCapMappingEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This table contains IP address mapping for all CAP mappings."
 ::= { cabhCapMap 1 }

cabhCapMappingEntry OBJECT-TYPE
SYNTAX      CabhCapMappingEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "List of CAP IP mappings."
INDEX { cabhCapMappingIndex }
 ::= { cabhCapMappingTable 1 }

CabhCapMappingEntry ::= SEQUENCE {
    cabhCapMappingWanAddrType      InetAddressType,
    cabhCapMappingIndex            INTEGER,
    cabhCapMappingWanAddr          InetAddress,
    cabhCapMappingWanPort          INTEGER,
    cabhCapMappingLanAddrType      InetAddressType,

```

```

    cabhCapMappingLanAddr          InetAddress,
    cabhCapMappingLanPort          INTEGER,
    cabhCapMappingMethod          INTEGER,
    cabhCapMappingProtocol        INTEGER,
    cabhCapMappingRowStatus       RowStatus
    }

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.  IP version
         4 is typically used."
    DEFVAL { ipv4 }
    ::= { cabhCapMappingEntry 2 }

cabhCapMappingWanAddr    OBJECT-TYPE
    SYNTAX                InetAddress
    MAX-ACCESS             read-create
    STATUS                 current
    DESCRIPTION
        "The IP address assigned on the WAN side.  IP version 4
         is typically used."
    ::= { cabhCapMappingEntry 3 }

cabhCapMappingWanPort    OBJECT-TYPE
    SYNTAX                INTEGER (0..65535)
    MAX-ACCESS             read-create
    STATUS                 current
    DESCRIPTION
        "The TCP/UDP port number on the WAN side."
    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.  IP version
         4 is typically used."
    DEFVAL { ipv4 }
    ::= { cabhCapMappingEntry 5 }

cabhCapMappingLanAddr    OBJECT-TYPE
    SYNTAX                InetAddress
    MAX-ACCESS             read-create
    STATUS                 current
    DESCRIPTION
        "The IP address assigned on the LAN side.  IP version 4
         is typically used."
    ::= { cabhCapMappingEntry 6 }

```

```

cabhCapMappingLanPort OBJECT-TYPE
    SYNTAX      INTEGER (0..65535)
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The TCP/UDP port number on the LAN side."
    DEFVAL { 0 }
    ::= { cabhCapMappingEntry 7 }

cabhCapMappingMethod OBJECT-TYPE
    SYNTAX      INTEGER {
        static    (1),
        dynamic   (2)
    }
    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."
    ::= { cabhCapMappingEntry 8 }

cabhCapMappingProtocol OBJECT-TYPE
    SYNTAX      INTEGER {
        other     (1),  -- not specified
        icmp      (2),
        udp       (3),
        tcp       (4)
    }
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The protocol for this mapping."
    ::= { 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 CMP will prevent modification of this
table's columns when the cabhCapMappingRowStatus object is in the active state."
    ::= { cabhCapMappingEntry 10 }

-----
--
--      cabhCapPassthroughTable (CAP Passthrough Table)
--
--      The cabhCapPassthroughTable contains the MAC Addresses for all LAN-IP Devices
--      which will be configured as passthrough.
--
-----

cabhCapPassthroughTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF CabhCapPassthroughEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table contains MAC addresses for LAN-IP Devices which are configured
        as passthrough mode."

```

```

 ::= { cabhCapMap 2 }

cabhCapPassthroughEntry OBJECT-TYPE
    SYNTAX CabhCapPassthroughEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "List of hardware addresses of LAN IP Devices which are configured for
        passthrough mode."
    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
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "Hardware address of the LAN-IP Device to be configured as passthrough
        mode."
 ::= { 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.
        There are no restrictions on setting the read-create column of this table
        (i.e., cabhCapPassthroughMacAddr ) when the status of
        cabhCapPassthroughRowStatus is active."
 ::= { 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
        MTA feature."
    MODULE      --cabhCapMib

-- unconditionally mandatory groups

MANDATORY-GROUPS {
    cabhCapGroup
}

 ::= { cabhCapCompliances 1 }

cabhCapGroup OBJECT-GROUP
    OBJECTS {
        cabhCapTcpTimeWait,
        cabhCapUdpTimeWait,
        cabhCapIcmpTimeWait,
        cabhCapPrimaryMode,
        cabhCapMappingWanAddrType,
        cabhCapMappingWanAddr,
        cabhCapMappingWanPort,
        cabhCapMappingLanAddrType,
        cabhCapMappingLanAddr,
        cabhCapMappingLanPort,
        cabhCapMappingMethod,
        cabhCapMappingProtocol,
        cabhCapMappingRowStatus,
        cabhCapPassthroughMacAddr,
        cabhCapPassthroughRowStatus
    }
    STATUS      current
    DESCRIPTION
        "Group of objects for CableHome CAP MIB."
    ::= { cabhCapGroups 1 }

END
```

## Appendix I Revision History

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

<b>ECN Number</b>	<b>ECN Date</b>	<b>Summary</b>
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, see ECR for detailed description
CH1-N-02017	8/15/02	Four technical/editorial changes, see ECR for detailed description
CH1-N-02019	8/15/02	Four technical/editorial changes, see ECR for detailed description