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## S T A N D A R D S

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**Data Standards Subcommittee**

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**AMERICAN NATIONAL STANDARD**

**ANSI/SCTE 165-08 2019**

**IPCablecom 1.5 Part 8: Signaling MIB**

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## 1 SCOPE

This specification describes the IPCablecom Signaling (SIG) MIB requirements.

## 2 REFERENCES

The following documents contain provisions which, through reference in this text, constitute provisions of this standard. At the time of Subcommittee approval, the editions indicated were valid. All documents are subject to revision, and while parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents listed below, they are reminded that newer editions of those documents might not be compatible with the referenced version.

### 2.1 Normative References

In order to claim compliance with this standard, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this standard. Intellectual property rights may be required to implement these references.

- [1] ANSI/SCTE 165-06 2019, IPCablecom 1.5 Part 6: MIBs Framework Specification.
- [2] ANSI/SCTE 165-03 2016, IPCablecom 1.5 Part 3: Network-Based Call Signaling Protocol.
- [3] ANSI/SCTE 165-05 2019, IPCablecom 1.5 Part 5: MTA Device Provisioning.

### 2.2 Informative References

The following documents may provide valuable information to the reader but are not required when complying with this standard.

- [4] ANSI/SCTE 165-01 2019, IPCablecom 1.5 Part 1: Architecture Framework Technical Report.
- [5] IETF RFC 3261, SIP: Session Initiation Protocol, February 2002.

## 3 ABBREVIATIONS

There are no abbreviations used in this document.

## 4 REQUIREMENTS

The Signaling MIB MUST be implemented as defined below.

```

PKTC-SIG-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    Integer32,
    IpAddress,
    BITS
        FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,
    RowStatus,
    TruthValue
        FROM SNMPv2-TC
    OBJECT-GROUP,
    MODULE-COMPLIANCE
        FROM SNMPv2-CONF
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    clabProjPacketCable
        FROM CLAB-DEF-MIB
    ifIndex
        FROM IF-MIB;

pktcSigMib MODULE-IDENTITY
    LAST-UPDATED      "200501280000Z" -- January 28, 2005
    ORGANIZATION      "CableLabs -- PacketCable OSS Group"
    CONTACT-INFO
        "Sumanth Channabasappa
        Postal: CableLabs, Inc.
              858 Coal Creek Circle
              Louisville, CO 80027-9750
              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
    object for the PacketCable Signaling
    protocols. This version of the MIB includes
    common signaling and Network Call Signaling
    (NCS) related signaling objects.
    Acknowledgements:
    Angela Lyda      Arris Interactive
    Sasha Medvinsky Motorola
    Roy Spitzer     Telogy Networks, Inc.
    Rick Vetter     Motorola
    Itay Sherman    Texas Instruments
    Klaus Hermanns Cisco Systems
    Eugene Nechamkin Broadcom Corp.
    Satish Kumar    Texas Instruments
    Copyright 1999-2005 Cable Television Laboratories, Inc.
    All rights reserved."
    REVISION "200501280000Z"
    DESCRIPTION
        "This revision, published as part of the PacketCable
        1.5 Signaling MIB I01 Specification."
    ::= { clabProjPacketCable 2 }

```

```

PktcCodecType      ::= TEXTUAL-CONVENTION
STATUS             current
DESCRIPTION
    "Textual Convention defines various types of
    CODECs that MAY be supported.  The list of CODECs
    MUST be consistent with the Codec RTP MAP Parameters
    Table in the PacketCable CODEC specification.  In-line
    embedded comments below contain the Literal Codec Name
    for each CODEC.  The Literal Codec Name corresponds to
    the second column of the Codec RTP MAP Parameters Table.
    The Literal Codec Name Column contains the CODEC name
    that is used in the LCD of the NCS messages CRCX/MDCX,
    and is also used to identify the CODEC in the CMS
    Provisioning Specification.  The RTP Map Parameter
    Column of the Codec RTP MAP Parameters Table contains
    the string used in the media attribute line ('a=') of the
    SDP parameters in NCS messages."
REFERENCE
    "PacketCable CODEC Specification "
SYNTAX INTEGER {
    other      (1),
    unknown    (2),
    g729       (3), -- G729
    reserved   (4), -- reserved for future use
    g729E      (5), -- G729E
    pcmu       (6), -- PCMU
    g726at32   (7), -- G726-32
    g728       (8), -- G728
    pcma       (9), -- PCMA
    g726at16   (10), -- G726-16
    g726at24   (11), -- G726-24
    g726at40   (12), -- G726-40
    ilbc       (13), -- iLBC
    bv16       (14) -- BV16
}

PktcRingCadence   ::= TEXTUAL-CONVENTION
STATUS             current
DESCRIPTION
    "This object represents a ring cadence in bit string
    format.  The ring cadence representation starts with the
    first 1 in the pattern (the leading 0s in the MSB are
    padding and are to be ignored).  Each bit
    represents 100ms of tone; 1 is tone, 0 is no tone.  64
    bits MUST be used for cadence representation, LSB 4 bits
    are used for representing repeatable characteristics.
    0000 means repeatable, and 1000 means non repeatable.
    During SNMP SET operations 64 bits MUST be used,
    otherwise MTA MUST reject the value.  As an example, the
    hex representation of a ring cadence of 0.5 secs on; 4
    secs off; repeatable would be:0x0001F00000000000."
SYNTAX BITS {
    interval1  (0),
    interval2  (1),
    interval3  (2),
    interval4  (3),
    interval5  (4),
    interval6  (5),
    interval7  (6),
    interval8  (7),
    interval9  (8),
    interval10 (9),
    interval11 (10),

```

```
interval12 (11),
interval13 (12),
interval14 (13),
interval15 (14),
interval16 (15),
interval17 (16),
interval18 (17),
interval19 (18),
interval20 (19),
interval21 (20),
interval22 (21),
interval23 (22),
interval24 (23),
interval25 (24),
interval26 (25),
interval27 (26),
interval28 (27),
interval29 (28),
interval30 (29),
interval31 (30),
interval32 (31),
interval33 (32),
interval34 (33),
interval35 (34),
interval36 (35),
interval37 (36),
interval38 (37),
interval39 (38),
interval40 (39),
interval41 (40),
interval42 (41),
interval43 (42),
interval44 (43),
interval45 (44),
interval46 (45),
interval47 (46),
interval48 (47),
interval49 (48),
interval50 (49),
interval51 (50),
interval52 (51),
interval53 (52),
interval54 (53),
interval55 (54),
interval56 (55),
interval57 (56),
interval58 (57),
interval59 (58),
interval60 (59),
interval61 (60),
interval62 (61),
interval63 (62),
interval64 (63)
}
```

```
PktsigType ::= TEXTUAL-CONVENTION
STATUS current
DESCRIPTION
  "These are the various types of signaling that
  may be supported.
  ncs - network call signaling a derivation of MGCP
  (Media Gateway Control Protocol) version 1.0"
```



```
        dcs - distributed call signaling a derivation
        of SIP (Session Initiation Protocol) RFC 3261"
SYNTAX INTEGER {
    other(1),
    unknown(2),
    ncs(3),
    dcs(4)
}

pktcSigMibObjects          OBJECT IDENTIFIER
                           ::= { pktcSigMib 1 }
pktcSigDevConfigObjects   OBJECT IDENTIFIER
                           ::= { pktcSigMibObjects 1 }
pktcNcsEndPntConfigObjects OBJECT IDENTIFIER
                           ::= { pktcSigMibObjects 2 }
pktcSigEndPntConfigObjects OBJECT IDENTIFIER
                           ::= { pktcSigMibObjects 3 }
pktcDcsEndPntConfigObjects OBJECT IDENTIFIER
                           ::= { pktcSigMibObjects 4 }

--
--     The pktcSigDevCodecTable defines the codecs supported by this
--     Media Terminal Adapter (MTA).  There is one entry for each
--     codecs supported.
--

pktcSigDevCodecTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF PktcSigDevCodecEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This table describes the MTA supported codec types."
    ::= { pktcSigDevConfigObjects 1 }

pktcSigDevCodecEntry      OBJECT-TYPE
    SYNTAX      PktcSigDevCodecEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "List of supported codecs types for the MTA."
    INDEX { pktcSigDevCodecIndex }
    ::= { pktcSigDevCodecTable 1 }

PktcSigDevCodecEntry ::= SEQUENCE {
    pktcSigDevCodecIndex Integer32,
    pktcSigDevCodecType  PktcCodecType,
    pktcSigDevCodecMax   Integer32
}

pktcSigDevCodecIndex      OBJECT-TYPE
    SYNTAX      Integer32 (1..16383)
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "The index value which uniquely identifies an entry
        in the pktcSigDevCodecTable."
    ::= { pktcSigDevCodecEntry 1 }

pktcSigDevCodecType      OBJECT-TYPE
    SYNTAX      PktcCodecType
    MAX-ACCESS   read-only
    STATUS      current
```

```
DESCRIPTION
    "A codec type supported by this MTA."
 ::= { pktcSigDevCodecEntry 2 }

pktcSigDevCodecMax OBJECT-TYPE
SYNTAX      Integer32(1..16383)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The maximum number of simultaneous sessions of the
    specific codec that the MTA can support"
 ::= { pktcSigDevCodecEntry 3 }

--
-- These are the common signaling related definitions that affect
-- the entire MTA device.
--

pktcSigDevEchoCancellation OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This object specifies if the device is capable
    of echo cancellation."
 ::= { pktcSigDevConfigObjects 2 }

pktcSigDevSilenceSuppression OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This object specifies if the device is capable of
    silence suppression (Voice Activity Detection)."
 ::= { pktcSigDevConfigObjects 3 }

pktcSigDevConnectionMode OBJECT-TYPE
SYNTAX BITS {
    voice(0),
    fax(1),
    modem(2)
}
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "This object specifies the connection modes that the
    MTA device can support."
 ::= { pktcSigDevConfigObjects 4 }

--
-- In the United States Ring Cadences 0, 6, and 7 are custom
-- ring cadences definable by the user. The following three
-- objects are used for these definitions.
--

pktcSigDevR0Cadence OBJECT-TYPE
SYNTAX      PktcRingCadence
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "This object specifies ring cadence 0 (a user defined
```



```

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION

    "This object contains the default value used in the IP
    header for setting the Type of Service (TOS) for media
    stream packets. The MTA MUST NOT update this object with
    the value supplied by the CMS in the NCS messages (if
    present). When the value of this object is updated by
    SNMP, the MTA MUST use the new value as a default starting
    from the new connection. Existing connections are not
    affected by the value's update."

REFERENCE
    "Refer to NCS specification"
DEFVAL { 0 }
 ::= { pktcSigDevConfigObjects 9 }

pktcSigTosFormatSelector OBJECT-TYPE
SYNTAX        INTEGER {
    ipv4TOSOctet(1),
    dscpCodepoint(2)
}
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "The format of the default signaling and media
    Type of Service (TOS) values."
DEFVAL { ipv4TOSOctet }
 ::= { pktcSigDevConfigObjects 10 }

--
--    pktcSigCapabilityTable - This table defines the valid signaling
--    types supported by this MTA.
--

pktcSigCapabilityTable OBJECT-TYPE
SYNTAX        SEQUENCE OF PktcSigCapabilityEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This table describes the signaling types by this MTA."
 ::= { pktcSigDevConfigObjects 11 }

pktcSigCapabilityEntry OBJECT-TYPE
SYNTAX        PktcSigCapabilityEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "Entries in pktcMtaDevSigCapabilityTable - List of
    supported signaling types, versions and vendor extensions
    for this MTA. Each entry in the list provides for one
    signaling type and version combination. If the device
    supports multiple versions of the same signaling type -
    it will require multiple entries."
INDEX { pktcSignalingIndex }
 ::= { pktcSigCapabilityTable 1 }

PktcSigCapabilityEntry ::= SEQUENCE {
    pktcSignalingIndex      Integer32,
    pktcSignalingType       PktcSigType,
    pktcSignalingVersion    SnmpAdminString,
    pktcSignalingVendorExtension SnmpAdminString
}

```

```
pktcSignalingIndex          OBJECT-TYPE
    SYNTAX      Integer32 (1..16383)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The index value which uniquely identifies
         an entry in the pktcSigCapabilityTable."
    ::= { pktcSigCapabilityEntry 1 }

pktcSignalingType          OBJECT-TYPE
    SYNTAX      PktcSigType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The Type identifies the type of signaling
         used, this can be NCS, DCS, etc. This value
         has to be associated with a single signaling
         version - reference pktcMtaDevSignalingVersion."
    ::= { pktcSigCapabilityEntry 2 }

pktcSignalingVersion       OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Provides the version of the signaling type -
         reference pktcSignalingType. Examples
         would be 1.0 or 2.33 etc."
    ::= { pktcSigCapabilityEntry 3 }

pktcSignalingVendorExtension OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The vendor extension allows vendors to
         provide a list of additional capabilities,
         vendors can decide how to encode these
         Extensions, although space separated text is
         suggested."
    ::= { pktcSigCapabilityEntry 4 }

pktcSigDefNcsReceiveUdpPort OBJECT-TYPE
    SYNTAX      Integer32 (1025..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object contains the MTA User Datagram Protocol
         (UDP) receive port that is being used for NCS call
         signaling. This object should only be changed by the
         configuration file."
    REFERENCE
        "Refer to NCS specification"
    DEFVAL { 2427 }
    ::= { pktcSigDevConfigObjects 12 }

pktcSigServiceClassNameUS  OBJECT-TYPE
    SYNTAX      SnmpAdminString (SIZE (0..15))
    MAX-ACCESS  read-write
    STATUS      obsolete
    DESCRIPTION
        "This object contains a string indicating the Service
```

```

Class name to create an Upstream Service (US) Flow for
NCS. If the object has an empty string value then the
upstream NCS SF is not created and the best effort
SF is used for upstream NCS data. The creation of the NCS
SF primary occurs before Voice Communication Service is
activated on the device. If this object is set to a
non-empty (non-zero length) string, the MTA MUST create
the NCS SF if it does not currently exist and the
pktcSigServiceClassNameMask object has a non-zero value.
If this object is subsequently set to an empty
(zero-length)string , the MTA MUST delete the NCS SF
if it exists. Setting this object to a different value
does not cause the Upstream Service Flow to be
re-created. The string MUST contain printable ASCII
characters. The length of the string does not include a
terminating zero. The MTA MUST append a terminating zero
when the MTA creates the service flow. "
 ::= { pktcSigDevConfigObjects 13 }

pktcSigServiceClassNameDS OBJECT-TYPE
SYNTAX SnmpAdminString (SIZE (0..15))
MAX-ACCESS read-write
STATUS obsolete
DESCRIPTION
    "This object contains a string indicating the Service
    Class Name to create a Downstream Service Flow for NCS.
    If the object has an empty string value then the
    NCS SF is not created and the best effort primary SF is
    used for downstream NCS data. The creation of the NCS SF
    occurs before Voice Communication Service is activated on
    the device. If this object is set to a non-empty (non-zero
    length) string, the MTA MUST create the NCS SF if it does
    not currently exist and the pktcSigServiceClassNameMask
    object has a non-zero value. If this object is
    subsequently set to an empty (zero-length) string, the MTA
    MUST delete the NCS SF if it exists. Setting this object
    to a different value does not cause the Downstream Service
    Flow to be re-created. The string MUST contain printable
    ASCII characters. The length of the string does not include
    a terminating zero. The MTA MUST append a terminating
    zero when the MTA creates the service flow. "
 ::= { pktcSigDevConfigObjects 14 }

pktcSigServiceClassNameMask OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-write
STATUS obsolete
DESCRIPTION
    "This object contains a value for the Call Signaling
    Network Mask. The value is used as the NCS Call Signaling
    classifier mask. The object is used to delete the NCS SF
    when set to zero. When the object is set to a non-zero
    value by the SNMP Manager, the NCS SF are to be created."
DEFVAL { 0 }
 ::= { pktcSigDevConfigObjects 15 }

pktcSigNcsServiceFlowState OBJECT-TYPE
SYNTAX INTEGER {
    notactive (1),
    active (2),
    error (3)
}
MAX-ACCESS read-only

```

```

STATUS      obsolete
DESCRIPTION
    "This object contains a status value of the Call Signaling
    Service Flow.
    - 'notactive' indicates that the NCS SF is not being used,
    and has not tried to be created,
    - 'active' indicates that the NCS SF is in use,
    - 'error' indicates that the NCS SF creation resulted in
    an error and the best effort channel is used for NCS
    Signaling."
 ::= { pktcSigDevConfigObjects 16 }

pktcSigDevR1Cadence      OBJECT-TYPE
SYNTAX      PktcRingCadence
MAX-ACCESS      read-write
STATUS      current
DESCRIPTION
    "This object specifies ring cadence 1 (a user defined
    field) where each bit (least significant bit)
    represents a duration of 100 milliseconds (6 seconds
    total)."
```

```

DEFVAL { { interval1, interval2, interval3, interval4,
interval5, interval6, interval7, interval8, interval9,
interval10, interval11, interval12, interval13, interval14,
interval15, interval16, interval17, interval18, interval19,
interval20 } }
-- '111111111111111111110000000000000000000000000000000000000000000000000000'
-- 00000'
 ::= { pktcSigDevConfigObjects 17 }

pktcSigDevR2Cadence      OBJECT-TYPE
SYNTAX      PktcRingCadence
MAX-ACCESS      read-write
STATUS      current
DESCRIPTION
    "This object specifies ring cadence 2 (a user
    defined field) where each bit (least significant
    bit) represents a duration of 100 milliseconds
    (6 seconds total)."
```

```

DEFVAL { { interval1, interval2, interval3, interval4,
interval5, interval6, interval7, interval8, interval13,
interval14, interval15, interval16, interval17, interval18,
interval19, interval20 } }
-- '111111110000111111111000000000000000000000000000000000000000000000000000'
-- 00000'
 ::= { pktcSigDevConfigObjects 18 }

pktcSigDevR3Cadence      OBJECT-TYPE
SYNTAX      PktcRingCadence
MAX-ACCESS      read-write
STATUS      current
DESCRIPTION
    "This object specifies ring cadence 3 (a user
    defined field) where each bit (least significant
    bit) represents a duration of 100 milliseconds
    (6 seconds total)."
```

```

DEFVAL { { interval1, interval2, interval3, interval4,
interval7, interval8, interval9, interval10, interval13,
interval14, interval15, interval16, interval17, interval18,
interval19, interval20 } }

```







```

MAX-ACCESS      read-create
STATUS          current
DESCRIPTION
    "The associated index value in the pktcSigCapablityTable."
 ::= { pktcSigEndPntConfigEntry 1 }
--
-- The NCS End Point Config Table is used to define attributes that
-- are specific to connection EndPoints.
--
--

pktcNcsEndPntConfigTable OBJECT-TYPE
SYNTAX          SEQUENCE OF PktcNcsEndPntConfigEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
    "This table describes the PacketCable EndPoint selected
    signaling type. The number of entries in this table
    represents the number of provisioned end points.
    For each conceptual row of pktcSigEndPntConfigTable
    defined, an associated row MUST be defined in one of
    the specific signaling tables such as
    pktcNcsEndPntConfigTable."
 ::= { pktcNcsEndPntConfigObjects 1 }

pktcNcsEndPntConfigEntry OBJECT-TYPE
SYNTAX          PktcNcsEndPntConfigEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
    "Entries in pktcNcsEndPntConfigTable - Each entry
    describes what signaling type a particular endpoint uses."
INDEX { ifIndex }
 ::= { pktcNcsEndPntConfigTable 1 }

PktcNcsEndPntConfigEntry ::= SEQUENCE {
    pktcNcsEndPntConfigCallAgentId          SnmpAdminString,
    pktcNcsEndPntConfigCallAgentUdpPort    Integer32,
    pktcNcsEndPntConfigPartialDialTO       Integer32,
    pktcNcsEndPntConfigCriticalDialTO      Integer32,
    pktcNcsEndPntConfigBusyToneTO          Integer32,
    pktcNcsEndPntConfigDialToneTO          Integer32,
    pktcNcsEndPntConfigMessageWaitingTO    Integer32,
    pktcNcsEndPntConfigOffHookWarnToneTO   Integer32,
    pktcNcsEndPntConfigRingingTO           Integer32,
    pktcNcsEndPntConfigRingBackTO          Integer32,
    pktcNcsEndPntConfigReorderToneTO       Integer32,
    pktcNcsEndPntConfigStutterDialToneTO   Integer32,
    pktcNcsEndPntConfigTSMAX               Integer32,
    pktcNcsEndPntConfigMax1                 Integer32,
    pktcNcsEndPntConfigMax2                 Integer32,
    pktcNcsEndPntConfigMax1QEnable         TruthValue,
    pktcNcsEndPntConfigMax2QEnable         TruthValue,
    pktcNcsEndPntConfigMWD                  Integer32,
    pktcNcsEndPntConfigTdinit               Integer32,
    pktcNcsEndPntConfigTdmin                Integer32,
    pktcNcsEndPntConfigTdmax                Integer32,
    pktcNcsEndPntConfigRtoMax              Integer32,
    pktcNcsEndPntConfigRtoInit              Integer32,
    pktcNcsEndPntConfigLongDurationKeepAlive Integer32,
    pktcNcsEndPntConfigThist                Integer32,
    pktcNcsEndPntConfigStatus               RowStatus,
    pktcNcsEndPntConfigCallWaitingMaxRep    Integer32,

```

```

    pktcNcsEndPntConfigCallWaitingDelay      Integer32,
    pktcNcsEndPntStatusCallIpAddress         IPAddress,
    pktcNcsEndPntStatusError                 INTEGER
}

pktcNcsEndPntConfigCallAgentId      OBJECT-TYPE
SYNTAX      SnmpAdminString(SIZE (3..255))
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains a string indicating the call agent
    name(e.g.: ca@abc.def.com). The call agent name
    after the character '@', MUST be a fully qualified
    domain name and MUST have a corresponding
    pktcMtaDevCmsFqdn entry in the pktcMtaDevCmsTable. For
    each particular end-point, the MTA MUST use the current
    value of this object to communicate with the corresponding
    CMS. The MTA MUST update this object with the value of the
    'Notified Entity' parameter of the NCS message. If the
    Notified Entity parameter does not contain a CallAgent
    port, the MTA MUST update this object with default value
    of 2727. Because of the high importance of this object to
    the ability of the MTA to maintain reliable NCS
    communication with the CMS, it is highly recommended not
    to change this object's value through management station
    during normal operations."

 ::= { pktcNcsEndPntConfigEntry 1 }

pktcNcsEndPntConfigCallAgentUdpPort      OBJECT-TYPE
SYNTAX      Integer32 (1025..65535)
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the current value of the User
    Datagram Protocol (UDP) receive port on which the call
    agent will receive NCS signaling from the endpoint.
    For each particular end-point, the MTA MUST use
    the current value of this object to communicate with the
    corresponding CMS. The MTA MUST update this
    object with the value of the 'Notified Entity' parameter
    of the NCS message. If the Notified Entity
    parameter does not contain a CallAgent port, the MTA MUST
    update this object with default value of 2727.
    Because of the high importance of this object to the
    ability of the MTA to maintain reliable NCS communication
    with the CMS, it is highly recommended not to change this
    object's value through management station during normal
    operations."
REFERENCE
    "Refer to NCS specification"
DEFVAL      { 2727 }
 ::= { pktcNcsEndPntConfigEntry 2 }

pktcNcsEndPntConfigPartialDialTO      OBJECT-TYPE
SYNTAX      Integer32
UNITS      "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains maximum value of the partial
    dial time out."

```

## REFERENCE

"Refer to PacketCable NCS specification"

DEFVAL { 16 }

::= { pktcNcsEndPntConfigEntry 3 }

pktcNcsEndPntConfigCriticalDialTO OBJECT-TYPE

SYNTAX Integer32

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object contains the maximum value of the critical dial time out."

REFERENCE

"Refer NCS specification"

DEFVAL { 4 }

::= { pktcNcsEndPntConfigEntry 4 }

pktcNcsEndPntConfigBusyToneTO OBJECT-TYPE

SYNTAX Integer32

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object contains the default timeout value for busy tone. The MTA MUST NOT update this object with the value provided in the NCS Message (if present). If the value of the object is modified by the SNMP Management Station, the MTA MUST use the new value as a default only for a new signal requested by the NCS message."

REFERENCE

"Refer to NCS specification"

DEFVAL { 30 }

::= { pktcNcsEndPntConfigEntry 5 }

pktcNcsEndPntConfigDialToneTO OBJECT-TYPE

SYNTAX Integer32

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object contains the default timeout value for dial tone. The MTA MUST NOT update this object with the value provided in the NCS Message (if present). If the value of the object is modified by the SNMP Management Station, the MTA MUST use the new value as a default only for a new signal requested by the NCS message."

REFERENCE

"Refer to NCS specification "

DEFVAL { 16 }

::= { pktcNcsEndPntConfigEntry 6 }

```
pktcNcsEndPntConfigMessageWaitingTO      OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the default timeout value for
    message waiting indicator The MTA MUST NOT
    update this object with the value provided in the NCS
    Message (if present).  If the value of the object
    is modified by the SNMP Management Station, the MTA MUST
    use the new value as a default only for a new signal
    requested by the NCS message."
REFERENCE
    "Refer to NCS specification"
DEFVAL      { 16 }
 ::= { pktcNcsEndPntConfigEntry 7 }

pktcNcsEndPntConfigOffHookWarnToneTO     OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the default timeout value for the
    off hook Warning tone. The MTA MUST NOT update
    this object with the value provided in the NCS Message (if
    present).  If the value of the object is modified
    by the SNMP Management Station, the MTA MUST use the new
    value as a default only for a new signal requested by the
    NCS message. "
REFERENCE
    "Refer to NCS specification"
DEFVAL      { 0 }
 ::= { pktcNcsEndPntConfigEntry 8 }

pktcNcsEndPntConfigRingingTO             OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the default timeout value for
    ringing. The MTA MUST NOT update this object with
    the value provided in the NCS Message (if present).
    If the value of the object is modified by the
    SNMP Management Station, the MTA MUST use the new value
    as a default only for a new signal requested by the NCS
    message."
REFERENCE
    "Refer to NCS specification"
DEFVAL      { 180 }
 ::= { pktcNcsEndPntConfigEntry 9 }

pktcNcsEndPntConfigRingBackTO            OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the default timeout value for ring
    back. The MTA MUST NOT update this object with
    the value provided in the NCS Message (if present)."
```

If the value of the object is modified by the SNMP Management Station, the MTA MUST use the new value as a default only for a new signal requested by the NCS message."

## REFERENCE

"Refer to NCS specification"

DEFVAL { 180 }

::= { pktcNcsEndPntConfigEntry 10 }

pktcNcsEndPntConfigReorderToneTO OBJECT-TYPE

SYNTAX Integer32

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object contains the default timeout value for reorder tone. The MTA MUST NOT update this object with the value provided in the NCS Message (if present). If the value of the object is modified by the SNMP Management Station, the MTA MUST use the new value as a default only for a new signal requested by the NCS message."

## REFERENCE

"Refer to NCS specification"

DEFVAL { 30 }

::= { pktcNcsEndPntConfigEntry 11 }

pktcNcsEndPntConfigStutterDialToneTO OBJECT-TYPE

SYNTAX Integer32

UNITS "seconds"

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object contains the default timeout value for stutter dial tone. The MTA MUST NOT update this object with the value provided in the NCS Message (if present). If the value of the object is modified by the SNMP Management Station, the MTA MUST use the new value as a default only for a new signal requested by the NCS message."

## REFERENCE

"Refer to NCS specification"

DEFVAL { 16 }

::= { pktcNcsEndPntConfigEntry 12 }

pktcNcsEndPntConfigTSMMax OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object contains the max time in seconds since the sending of the initial datagram."

## REFERENCE

"Refer to NCS specification"

DEFVAL { 20 }

::= { pktcNcsEndPntConfigEntry 13 }

pktcNcsEndPntConfigMax1 OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-create

STATUS current

## DESCRIPTION

"This object contains the suspicious error threshold

```
        for signaling messages."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 5 }
::= { pktcNcsEndPntConfigEntry 14 }

pktcNcsEndPntConfigMax2      OBJECT-TYPE
SYNTAX      Integer32
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the disconnect error
    threshold for signaling messages."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 7 }
::= { pktcNcsEndPntConfigEntry 15 }

pktcNcsEndPntConfigMax1QEnable  OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object enables/disables the Max1 Domain Name
    Server (DNS) query operation when Max1 expires."
DEFVAL { true }
::= { pktcNcsEndPntConfigEntry 16 }

pktcNcsEndPntConfigMax2QEnable  OBJECT-TYPE
SYNTAX      TruthValue
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object enables/disables the Max2 DNS query
    operation when Max2 expires."
DEFVAL { true }
::= { pktcNcsEndPntConfigEntry 17 }

pktcNcsEndPntConfigMWD      OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "Maximum Waiting Delay (MWD) contains the maximum
    number of seconds a MTA waits after a restart."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 600 }
::= { pktcNcsEndPntConfigEntry 18 }

pktcNcsEndPntConfigTdinit     OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the initial number of seconds
    a MTA waits after a disconnect."
REFERENCE
    "Refer to NCS specification"
```

```
DEFVAL { 15 }
 ::= { pktcNcsEndPntConfigEntry 19 }

pktcNcsEndPntConfigTadmin      OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the minimum number of seconds a
    MTA waits after a disconnect."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 15 }
 ::= { pktcNcsEndPntConfigEntry 20 }

pktcNcsEndPntConfigTdmax      OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the maximum number of seconds
    a MTA waits after a disconnect."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 600 }
 ::= { pktcNcsEndPntConfigEntry 21 }

pktcNcsEndPntConfigRtoMax     OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the maximum number of seconds
    for the retransmission timer."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 4 }
 ::= { pktcNcsEndPntConfigEntry 22 }

pktcNcsEndPntConfigRtoInit    OBJECT-TYPE
SYNTAX      Integer32
UNITS       "milliseconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the initial number of seconds
    for the retransmission timer."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 200 }
 ::= { pktcNcsEndPntConfigEntry 23 }
```



```
pktcNcsEndPntConfigLongDurationKeepAlive    OBJECT-TYPE
SYNTAX      Integer32
UNITS       "minutes"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "Specifies a timeout value in minutes for sending
    long duration call notification message."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 60 }
 ::= { pktcNcsEndPntConfigEntry 24 }

pktcNcsEndPntConfigThist    OBJECT-TYPE
SYNTAX      Integer32
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "Timeout period in seconds before no response is
    declared."
REFERENCE
    "Refer to NCS specification"
DEFVAL { 30 }
 ::= { pktcNcsEndPntConfigEntry 25 }

pktcNcsEndPntConfigStatus    OBJECT-TYPE
SYNTAX      RowStatus
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the Row Status associated with
    the pktcNcsEndPntConfigTable."
 ::= { pktcNcsEndPntConfigEntry 26 }

pktcNcsEndPntConfigCallWaitingMaxRep    OBJECT-TYPE
SYNTAX      Integer32 (0..10)
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the default value of the maximum
    number of repetitions of the call waiting tone that the
    MTA will play from a single CMS request. The MTA
    MUST NOT update this object with the information provided
    in the NCS Message (if present). If the value of
    the object is modified by the SNMP Management Station,
    the MTA MUST use the new value as a default only for a new
    signal requested by the NCS message."
DEFVAL { 1 }
 ::= { pktcNcsEndPntConfigEntry 27 }

pktcNcsEndPntConfigCallWaitingDelay    OBJECT-TYPE
SYNTAX      Integer32 (1..100)
UNITS       "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "This object contains the delay between repetitions
    of the call waiting tone that the MTA will play from
    a single CMS request."
DEFVAL { 10 }
 ::= { pktcNcsEndPntConfigEntry 28 }
```

```

pktcNcsEndPntStatusCallIpAddress OBJECT-TYPE
    SYNTAX IpAddress
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This object contains the IP address of the CMS
        currently being used for this endpoint. This IP
        address is used to create the appropriate security
        association."
    ::= { pktcNcsEndPntConfigEntry 29 }

pktcNcsEndPntStatusError OBJECT-TYPE
    SYNTAX INTEGER {
        operational          (1),
        noSecurityAssociation (2),
        disconnected         (3)
    }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This object contains the error status for this interface.
        The operational state indicates that all operations
        necessary to put the line in service have occurred and CMS
        has acknowledged the RSIP message successfully.
        If 'pktcMtaDevCmsIpsecCtrl' is enabled for the associated
        Call Agent, the noSecurityAssociation status indicates
        that no Security Association (SA) yet exists for this
        endpoint. Otherwise, the state is unused.
        The disconnected status indicates one of the following two:
        1. If 'pktcMtaDevCmsIpsecCtrl' is disabled then no
        security association is involved with this endpoint: the
        NCS signaling Software is in process of establishing the
        NCS signaling Link via an RSIP exchange.
        2. Otherwise, pktcMtaDevCmsIpsecCtrl is enabled, the
        security Association has been established and the NCS
        signaling Software is in process of establishing the NCS
        signaling Link via an RSIP exchange."

    ::= { pktcNcsEndPntConfigEntry 30 }
--
-- notification group is for future extension.
--
pktcSigNotificationPrefix OBJECT IDENTIFIER ::= { pktcSigMib 2 }
pktcSigNotification OBJECT IDENTIFIER ::= {
    pktcSigNotificationPrefix 0 }
pktcSigConformance OBJECT IDENTIFIER ::= { pktcSigMib 3 }
pktcSigCompliances OBJECT IDENTIFIER ::= { pktcSigConformance 1 }
pktcSigGroups OBJECT IDENTIFIER ::= { pktcSigConformance 2 }

-- compliance statements

pktcSigBasicCompliance MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        "The compliance statement for devices that implement Signaling
        on the MTA."

MODULE -- pktcSigMib

-- unconditionally mandatory groups

MANDATORY-GROUPS {

```

```
pktcSigGroup
}
GROUP pktcNcsGroup
DESCRIPTION
    "This group is mandatory for any MTA implementing NCS
    signaling"
::={ pktcSigCompliances 1 }

-- units of conformance

pktcSigGroup OBJECT-GROUP
OBJECTS {
    pktcSigDevCodecType,
    pktcSigDevCodecMax,
    pktcSigDevEchoCancellation,
    pktcSigDevSilenceSuppression,
    pktcSigDevConnectionMode,
    pktcSigDevR0Cadence,
    pktcSigDevR6Cadence,
    pktcSigDevR7Cadence,
    pktcSigDefCallSigTos,
    pktcSigDefMediaStreamTos,
    pktcSigTosFormatSelector,
    pktcSignalingType,
    pktcSignalingVersion,
    pktcSignalingVendorExtension,
    pktcSigEndPntCapabilityIndex,
    pktcSigDefNcsReceiveUdpPort,
    pktcSigDevR1Cadence,
    pktcSigDevR2Cadence,
    pktcSigDevR3Cadence,
    pktcSigDevR4Cadence,
    pktcSigDevR5Cadence,
    pktcSigDevRgCadence,
    pktcSigDevRsCadence,
    pktcSigDevRtCadence
}
STATUS current
DESCRIPTION
    "Group of objects for the common portion of the
    PacketCable Signaling MIB."
::= { pktcSigGroups 1 }

pktcNcsGroup OBJECT-GROUP
OBJECTS {
    pktcNcsEndPntConfigCallAgentId,
    pktcNcsEndPntConfigCallAgentUdpPort,
    pktcNcsEndPntConfigPartialDialTO,
    pktcNcsEndPntConfigCriticalDialTO,
    pktcNcsEndPntConfigBusyToneTO,
    pktcNcsEndPntConfigDialToneTO,
    pktcNcsEndPntConfigMessageWaitingTO,
    pktcNcsEndPntConfigOffHookWarnToneTO,
    pktcNcsEndPntConfigRingingTO,
    pktcNcsEndPntConfigRingBackTO,
    pktcNcsEndPntConfigReorderToneTO,
    pktcNcsEndPntConfigStutterDialToneTO,
    pktcNcsEndPntConfigTSMAX,
    pktcNcsEndPntConfigMax1,
    pktcNcsEndPntConfigMax2,
    pktcNcsEndPntConfigMax1QEnable,
    pktcNcsEndPntConfigMax2QEnable,
    pktcNcsEndPntConfigMWD,
```

```
pktcNcsEndPntConfigTdinit,
pktcNcsEndPntConfigTdmin,
pktcNcsEndPntConfigTdmax,
pktcNcsEndPntConfigRtoMax,
pktcNcsEndPntConfigRtoInit,
pktcNcsEndPntConfigLongDurationKeepAlive,
pktcNcsEndPntConfigThist,
pktcNcsEndPntConfigStatus,
pktcNcsEndPntConfigCallWaitingMaxRep,
pktcNcsEndPntConfigCallWaitingDelay,
pktcNcsEndPntStatusCallIpAddress,
pktcNcsEndPntStatusError
}
STATUS current
DESCRIPTION
    "Group of objects for the NCS portion of the
    PacketCable Signaling MIB.
    This is mandatory for NCS signaling."
 ::= { pktcSigGroups 2 }

pktcSigObsoleteGroup OBJECT-GROUP
OBJECTS {
    pktcSigServiceClassNameUS,
    pktcSigServiceClassNameDS,
    pktcSigServiceClassNameMask,
    pktcSigNcsServiceFlowState
}
STATUS obsolete
DESCRIPTION
    " Collection of obsolete objects for PacketCable
    Signaling MIB."
 ::= { pktcSigGroups 3}

END
```