

ETSI TS 101 909-9 V1.1.1 (2001-07)

Technical Specification

**Access and Terminals (AT);
Digital Broadband Cable Access to the
Public Telecommunications Network;
IP Multimedia Time Critical Services;
Part 9: Network Call Signalling (NCS) MIB Requirements**



Reference

DTS/AT-020020-09

Keywords

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access and Terminals (AT).

The present document is part 9 of a multi-part deliverable supporting real-time multimedia services, as identified below:

- Part 1: "General";
- Part 2: "Architectural framework for the delivery of time critical services over cable Television networks using cable modems";
- Part 3: "Audio Codec Requirements for the Provision of Bi-Directional Audio Service over Cable Television Networks using Cable Modems";
- Part 4: "Network Call signalling Protocol";
- Part 5: "Dynamic Quality of Service for the Provision of Real Time Services over Cable Television Networks using Cable Modems";
- Part 6: "Media Terminal Adapter (MTA) device provisioning";
- Part 7: "Management Information Base (MIB) Framework";
- Part 8: "Media Terminal Adapter (MTA) Management Information Base (MIB)";
- Part 9: "Network Call Signalling (NCS) MIB Requirements";**
- Part 10: "Event Message Requirements for the Provision of Real Time Services over Cable Television Networks using Cable Modems";
- Part 11: "Security";
- Part 12: "Internet Signalling Transport Protocol";
- Part 13: "Trunking Gateway Control Protocol";
- Part 14: "Operation System Support".

NOTE 1: The above list is complete for the first version of this Technical Specification (TS) (V1.1.1 2001-07). Additional parts are being proposed and these will be added to the list in future versions.

The present part is part 9 of the above mentioned series of ETSI deliverables and describes the Network Call Signaling (NCS) MIB requirements.

NOTE 2: The choice of a multi-part format for this deliverable is to facilitate maintenance and future enhancements.

Introduction

The cable industry in Europe and across other Global regions have already deployed broadband cable television Hybrid Fibre/Coax (HFC) data networks running the Cable Modem Protocol. The cable industry is in the rapid stages of deploying IP Voice and other time critical multimedia services over these broadband cable television networks.

The cable industry has recognized the urgent need to develop ETSI Technical Specifications aimed at developing interoperable interface specifications and mechanisms for the delivery of end to end advanced real time IP multimedia time critical services over bi-directional broadband cable networks.

IPCablecom is a set of protocols and associated element functional requirements developed to deliver Quality of Service (QoS) enhanced secure IP multimedia time critical communications services using packetized data transmission technology to a consumer's home over the broadband cable television Hybrid Fibre/Coaxial (HFC) data network running the Cable Modem protocol. IPCablecom utilizes a network superstructure that overlays the two-way data-ready cable television network. While the initial service offerings in the IPCablecom product line are anticipated to be Packet Voice, the long-term project vision encompasses packet video and a large family of other packet-based services.

The cable industry is a global market and therefore the ETSI standards are developed to align with standards either already developed or under development in other regions. The ETSI Specifications are consistent with the CableLabs/PacketCable set of specifications as published by the SCTE. An agreement has been established between ETSI and SCTE in the US to ensure, where appropriate, that the release of PacketCable and IPCablecom set of specifications are aligned and to avoid unnecessary duplication. The set of IPCablecom ETSI specifications also refers to ITU-SG9 draft and published recommendations relating to IP Cable Communication.

The whole set of multi-part ETSI deliverables to which the present document belongs specify a Cable Communication Service for the delivery of IP Multimedia Time Critical Services over a HFC Broadband Cable Network to the consumers home cable telecom terminal. 'IPCablecom' also refers to the ETSI working group program that shall define and develop these ETSI deliverables.

1 Scope

The present set of documents specify IPCablecom, a set of protocols and associated element functional requirements. These have been developed to deliver Quality of Service (QoS), enhanced secure IP multimedia time critical communication services, using packetized data transmission technology to a consumer's home over a cable television Hybrid Fibre/Coaxial (HFC) data network.

NOTE 1: IPCablecom set of documents utilize a network superstructure that overlays the two-way data-ready cable television network, e.g. as specified within ES 201 488 and ES 200 800.

While the initial service offerings in the IPCablecom product line are anticipated to be Packet Voice and Packet Video, the long-term project vision encompasses a large family of packet-based services. This may require in the future, not only careful maintenance control, but also an extension of the present set of documents.

NOTE 2: The present set of documents aims for global acceptance and applicability. It is therefore developed in alignment with standards either already existing or under development in other regions and in International Telecommunications Union (ITU).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

ETSI TS 101 909-7: "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 7: Management Information Base (MIB) Framework".

ETSI TS 101 909-4: "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 4: Network Call signalling Protocol".

ETSI TS 101 909-6: "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 6: Media Terminal Adaptor device Provisioning".

ETSI ES 201 488: "Data-Over-Cable Service Interface Specifications Radio Frequency Interface Specification".

ETSI ES 200 800: "Digital Video Broadcasting (DVB); DVB interaction channel for Cable TV distribution systems (CATV)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following term and definition applies:

IPCablecom: ETSI working group project that includes an architecture and a series of Specification that enable the delivery of real time services (such as telephony) over the cable television networks using Cable Modems

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

HFC	Hybrid Fibre/Coaxial
QoS	Quality of Service
SNMP	Simple Network Management Protocol

4 Requirements

This clause defines the mandatory syntax of the IPCablecom MTA MIB. It follows the IETF Simple Network Management Protocol (SNMP) for defining the managed objects. The MIB is organized as follows:

- objects used for codecs;
- objects used for general signalling related definitions;
- objects used for endpoint-specific signalling information.

The syntax is given hereafter.

```
PKTC-SIG-MIB DEFINITIONS ::= BEGIN
IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
        Integer32,
        BITS
FROM SNMPv2-SMI
    TEXTUAL-CONVENTION,
        RowStatus,
        DisplayString,
        TruthValue
FROM SNMPv2-TC
    OBJECT-GROUP,
    MODULE-COMPLIANCE
FROM SNMPv2-CONF
    SnmpAdminString
FROM SNMP-FRAMEWORK-MIB
    clabProjIPCablecom
FROM CLAB-DEF-MIB
    ifIndex
FROM IF-MIB;
pktcSigMib MODULE-IDENTITY
    LAST-UPDATED "200006260000Z" -- June 26, 2000
    ORGANIZATION "IPCablecom OSS Group"
    CONTACT-INFO
    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."
    ::= { clabProjPacketCable 2 }
-- Textual Conventions
PktcCodecType ::= TEXTUAL-CONVENTION    STATUS current
    DESCRIPTION "These are the various types of codecs that
    May be supported."
    SYNTAX INTEGER {
        other (1),
        unknown (2),
        g729 (3),
        g729a(4),
        g729e(5),
        g711mu (6),
        g726 (7),
        g728 (8),
        g711a (9)
    }
PktcRingCadence ::= TEXTUAL-CONVENTION
    STATUS current
```

DESCRIPTION "These are the ring cadence durations that are supported. 200ms for each interval. Each interval is represented by one bit. 0 is no tone, 1 is tone."

```
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)
}
```

PktcSigType ::= 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 2543"

```
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 INTEGER,
    pktcSigDevCodecType    PktcCodecType
}

pktcSigDevCodecIndex OBJECT-TYPE
SYNTAX  INTEGER          (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 }

--
-- 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
    field) where each bit (least significant bit)
    represents a duration of 200 milliseconds (6 seconds
    total)."
 ::= { pktcSigDevConfigObjects 5 }

```

```

pktcSigDevR6Cadence OBJECT-TYPE
    SYNTAX PkctcRingCadence
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "This object specifies ring cadence 6 (a user defined
        field) where each bit (least significant bit)
        represents a duration of 200 milliseconds (6 seconds
        total)."

```

```

        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 mutiple
        entries."
INDEX { pktcSignalingIndex }
 ::= { pktcSigCapabilityTable 1 }

PktcSigCapabilityEntry ::= SEQUENCE {
    pktcSignalingIndex      INTEGER,
    pktcSignalingType       PktcSigType,
    pktcSignalingVersion    SnmpAdminString,
    pktcSignalingVendorExtension SnmpAdminString
}
pktcSignalingIndex OBJECT-TYPE
SYNTAX  INTEGER (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 indentifies 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. Exmaples
              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 }
--
-- The following Table will provide endpoint configuration
-- information that is common to all signaling Protocols.
-- Currently only the signaling index is present in an effort
-- not to deprecate any MIB objects.
--
pktcSigEndPntConfigTable OBJECT-TYPE
SYNTAX  SEQUENCE OF PktcSigEndPntConfigEntry
MAX-ACCESS  not-accessible
STATUS    current
DESCRIPTION " This table describes the packet cable
              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
              on the specific signaling tables such as
              pktcNcsEndPntConfigTable."
 ::= { pktcSigEndPntConfigObjects 1 }

pktcSigEndPntConfigEntry OBJECT-TYPE
SYNTAX  PktcSigEndPntConfigEntry
MAX-ACCESS  not-accessible
STATUS    current
DESCRIPTION " Entries in pktcSigEndPntConfigTable -
              Each entry describes what signaling type

```

```

        A particular endpoint uses."
INDEX { ifIndex }
 ::= { pktcSigEndPntConfigTable 1 }

pktcSigEndPntConfigEntry ::= SEQUENCE {
    pktcSigEndPntCapabilityIndex    INTEGER
}

pktcSigEndPntCapabilityIndex    OBJECT-TYPE
    SYNTAX    INTEGER (1..16383)
    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 packet cable NCS EndPoint
configuration. The number of entries in this table
represents the number of provisioned NCS end points."
    ::= { pktcNcsEndPntConfigObjects 1}

pktcNcsEndPntConfigEntry    OBJECT-TYPE
    SYNTAX    PktcNcsEndPntConfigEntry
    MAX-ACCESS    not-accessible
    STATUS    current
    DESCRIPTION
        "List of attributes for a single packet cable endpoint
interface."
    INDEX { ifIndex }
    ::= { pktcNcsEndPntConfigTable 1 }

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

pktcNcsEndPntConfigCallAgentId    OBJECT-TYPE
    SYNTAX    DisplayString(SIZE (0..255))
    MAX-ACCESS    read-create
    STATUS    current
    DESCRIPTION
        "This object contains a string indicating the call agent name.
The call agent name can be a fully qualified domain name or

```

```

        an IP address. Refer to RFC 821 for details. "
 ::= { pktcNcsEndPntConfigEntry 1 }

pktcNcsEndPntConfigCallAgentUdpPort      OBJECT-TYPE
SYNTAX  INTEGER (1025..65535)
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains the call agent User Datagram Protocol
    (UDP) port that is being used for this instance of call
    signaling."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 2427 }
 ::= { pktcNcsEndPntConfigEntry 2 }

pktcNcsEndPntConfigPartialDialTO OBJECT-TYPE
SYNTAX  INTEGER
UNITS   "seconds"
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains maximum value of the partial
    dial time out."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 16 }
 ::= { pktcNcsEndPntConfigEntry 3 }

pktcNcsEndPntConfigCriticalDialTO  OBJECT-TYPE
SYNTAX  INTEGER
UNITS   "seconds"
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains the maximum value of the critical
    dial time out."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 4 }
 ::= { pktcNcsEndPntConfigEntry 4 }

pktcNcsEndPntConfigBusyToneTO OBJECT-TYPE
SYNTAX  INTEGER
UNITS   "seconds"
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains the timeout value for busy tone."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 30 }
 ::= { pktcNcsEndPntConfigEntry 5 }

pktcNcsEndPntConfigDialToneTO OBJECT-TYPE
SYNTAX  INTEGER
UNITS   "seconds"
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains the timeout value for dial tone."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 16 }
 ::= { pktcNcsEndPntConfigEntry 6 }

pktcNcsEndPntConfigMessageWaitingTO  OBJECT-TYPE
SYNTAX  INTEGER
UNITS   "seconds"
MAX-ACCESS  read-create
STATUS  current
DESCRIPTION
    "This object contains the timeout value for message
    waiting indicator."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL  { 16 }

```

```

 ::= { pktcNcsEndPntConfigEntry 7 }

pktcNcsEndPntConfigOffHookWarnToneTO OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the timeout value for
        the off hook Warning tone."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04"
    DEFVAL { 0 }
    ::= { pktcNcsEndPntConfigEntry 8 }

pktcNcsEndPntConfigRingingTO OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the timeout value for ringing."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04"
    DEFVAL { 180 }
    ::= { pktcNcsEndPntConfigEntry 9 }

pktcNcsEndPntConfigRingBackTO OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the timeout value for ring back."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04"
    DEFVAL { 180 }
    ::= { pktcNcsEndPntConfigEntry 10 }

pktcNcsEndPntConfigReorderToneTO OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the timeout value for reorder tone."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04"
    DEFVAL { 30 }
    ::= { pktcNcsEndPntConfigEntry 11 }

pktcNcsEndPntConfigStutterDialToneTO OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the timeout value for stutter dial tone."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04
        Appendix A.1"
    DEFVAL { 16 }
    ::= { pktcNcsEndPntConfigEntry 12 }

pktcNcsEndPntConfigTSMMax OBJECT-TYPE
    SYNTAX INTEGER
    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 ETSI Specification TS 101 909-04"
    DEFVAL { 20 }
    ::= { pktcNcsEndPntConfigEntry 13 }

pktcNcsEndPntConfigMax1 OBJECT-TYPE

```

```

SYNTAX INTEGER
MAX-ACCESS read-create
STATUS current
DESCRIPTION
    "This object contains the suspicious error threshold
    for signaling messages."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
DEFVAL { 5 }
 ::= { pktcNcsEndPntConfigEntry 14 }

```

```

pktcNcsEndPntConfigMax2 OBJECT-TYPE
SYNTAX INTEGER
MAX-ACCESS read-create
STATUS current
DESCRIPTION
    "This object contains the disconnect error
    threshold for signaling messages."
REFERENCE
    "Refer to ETSI Specification TS 101 909-04"
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 INTEGER
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 ETSI Specification TS 101 909-04"
DEFVAL { 600 }
 ::= { pktcNcsEndPntConfigEntry 18 }

```

```

pktcNcsEndPntConfigTdinit OBJECT-TYPE
SYNTAX INTEGER
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 ETSI Specification TS 101 909-04"
DEFVAL { 15 }
 ::= { pktcNcsEndPntConfigEntry 19 }

```

```

pktcNcsEndPntConfigTdmin OBJECT-TYPE
SYNTAX INTEGER
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 ETSI Specification TS 101 909-04
    DEFVAL { 15 }
    ::= { pktcNcsEndPntConfigEntry 20 }

```

```

pktcNcsEndPntConfigTdmax OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    STATUS current
    DESCRIPTION
        "This object contains the maximum number of seconds
        a MTA waits after a disconnect."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04
    DEFVAL { 600 }
    ::= { pktcNcsEndPntConfigEntry 21 }

```

```

pktcNcsEndPntConfigRtoMax OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the maximum number of seconds
        for the retransmission timer."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04
    DEFVAL { 4 }
    ::= { pktcNcsEndPntConfigEntry 22 }

```

```

pktcNcsEndPntConfigRtoInit OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "milliseconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "This object contains the initial number of seconds
        for the retransmission timer."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04
    DEFVAL { 200 }
    ::= { pktcNcsEndPntConfigEntry 23 }

```

```

pktcNcsEndPntConfigLongDurationKeepAlive OBJECT-TYPE
    SYNTAX INTEGER
    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 PKT-SP-EC-MGCP-D02-990226 NCS
        specification Appendix A.1.1"
    DEFVAL { 60 }
    ::= { pktcNcsEndPntConfigEntry 24 }

```

```

pktcNcsEndPntConfigThist OBJECT-TYPE
    SYNTAX INTEGER
    UNITS "seconds"
    MAX-ACCESS read-create
    STATUS current
    DESCRIPTION
        "Timeout period in seconds before no response is declared."
    REFERENCE
        "Refer to ETSI Specification TS 101 909-04
    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 pktsNcsEndPntTable."
    ::= { pktcNcsEndPntConfigEntry 26 }

```

```
--
```



```

-- notification group is for future extension.
--
pktcSigNotification OBJECT IDENTIFIER ::= { pktcSigMib 2 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,
    pktcSigDevEchoCancellation,
    pktcSigDevSilenceSuppression,
    pktcSigDevConnectionMode,
    pktcSigDevR0Cadence,
    pktcSigDevR6Cadence,
    pktcSigDevR7Cadence,
    pktcSigDefCallSigTos,
    pktcSigDefMediaStreamTos,
    pktcSigTosFormatSelector,
    pktcSignalingType,
    pktcSignalingVersion,
    pktcSignalingVendorExtension,
    pktcSigEndPntCapabilityIndex
  }
  STATUS current
  DESCRIPTION
    "Group of objects for the common portion of the
    IPCablecom Signaling MIB."
    ::= { pktcSigGroups 1 }

pktcNcsGroup OBJECT-GROUP
  OBJECTS {
    pktcNcsEndPntConfigCallAgentId,
    pktcNcsEndPntConfigCallAgentUdpPort,
    pktcNcsEndPntConfigPartialDialTO,
    pktcNcsEndPntConfigCriticalDialTO,
    pktcNcsEndPntConfigBusyToneTO,
    pktcNcsEndPntConfigDialToneTO,
    pktcNcsEndPntConfigMessageWaitingTO,
    pktcNcsEndPntConfigOffHookWarnToneTO,
    pktcNcsEndPntConfigRingingTO,
    pktcNcsEndPntConfigRingBackTO,
    pktcNcsEndPntConfigReorderToneTO,
    pktcNcsEndPntConfigStutterDialToneTO,
    pktcNcsEndPntConfigTSMMax,
    pktcNcsEndPntConfigMax1,
    pktcNcsEndPntConfigMax2,
    pktcNcsEndPntConfigMax1QEnable,
    pktcNcsEndPntConfigMax2QEnable,
    pktcNcsEndPntConfigMWD,
    pktcNcsEndPntConfigTdinit,
    pktcNcsEndPntConfigTdmin,
    pktcNcsEndPntConfigTdmax,
    pktcNcsEndPntConfigRtoMax,
    pktcNcsEndPntConfigRtoInit,

```

```
pktcNcsEndPntConfigLongDurationKeepAlive,  
pktcNcsEndPntConfigThist,  
pktcNcsEndPntConfigStatus  
}  
STATUS current  
DESCRIPTION  
  "Group of objects for the NCS portion of the  
  IPCablecom Signaling MIB. This is mandatory for  
  NCS signaling."  
 ::= { pktcSigGroups 2 }
```

END

Annex A (informative): Bibliography

ETSI TS 101 909-2: "Access and Terminals (AT); Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 2: Architecture".

List of ITU-T Recommendations referring to IP Cablecom:

ITU-T Recommendation J.160: "Architectural framework for the delivery of time critical services over cable television networks using cable modems".

ITU-T Recommendation J.161: "Audio codec requirements for the provision of bi-directional audio service over cable television networks using cable modems".

ITU-T Recommendation J.162: "Network call signalling protocol for the delivery of time critical services over cable television networks using cable modems".

ITU-T Recommendation J.163: "Dynamic quality of service for the provision of real time services over cable television networks using cable modems".

ITU-T Recommendation J.164: "IPCablecom event messages".

ITU-T Recommendation J.165: "IPCablecom Internet Signalling Transport Protocol".

ITU-T Recommendation J.166: "IPCablecom management information base (MIB) framework".

ITU-T Recommendation J.167: "Media terminal adapter (MTA) device provisioning requirements for the delivery of real time services over cable television networks using cable modems".

ITU-T Recommendation J.168: "IPCablecom Media Terminal Adapter (MTA) MIB requirements".

ITU-T Recommendation J.169: "IPCablecom network call signalling (NCS) MIB requirements".

ITU-T Recommendation J.170: "IPCablecom Security specification".

ITU-T Recommendation J.171: "IPCablecom Trunking Gateway Control Protocol (TGCP)".

History

Document history		
V1.1.1	July 2001	Publication